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AIR QUALITY AND HEALTH RISK ASSESSMENT
FINAL TECHNICAL REPORT
AMENDMENT TO AIRPORT MASTER PLAN
MINETA SAN JOSE INTERNATIONAL AIRPORT
SAN JOSE, CALIFORNIA

RAMBOLL

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ACRONYMS AND ABBREVIATIONS

AB2588	California Air Toxics Hotspots Assessment and Information Act
ACC	Advanced Clean Cars
ACEIT	Airport Construction Emissions Inventory Tool
AEDT	Aviation Environmental Design Tool
AERMOD	Regulatory Model Improvement Committee Model
AF	adjustment factor
APU	Auxiliary Power Unit
ASF	age sensitivity factors
ATMC	Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BACT	best available control technology
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standard
CARB	California Air Resources Board
CalEEMod®	California Emissions Estimator Model
Cal/EPA	California Environmental Protection Agency
CAP	Criteria Air Pollutant
CAPCOA	California Air Pollution Control Officers Association
cREL	chronic reference exposure level
CCAR	California Climate Action Registry
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CO	carbon monoxide
CPF	cancer potency factor
µg/m^3	micrograms per cubic meter
DBR	daily breathing rate
DPM	diesel particulate matter
ED	exposure duration
EDMS	Emissions Dispersion and Modeling System
EF	exposure frequency
EIR	Environmental Impact Report
ET	exposure time
EMFAC	EMission FACtor model

ACRONYMS AND ABBREVIATIONS *(CONTINUED)*

CARE	Community Air Risk Evaluation
EVF	exposure value factor
FAA	Federal Aviation Administration
FIP	Federal Implementation Plan
g/hp-hr	gram per horsepower-hour
GHG	Greenhouse Gas
GDF	Gasoline Dispensing Facility
GSE	Ground support equipment
HAPs	hazardous air pollutants
HI	hazard index
HQ	hazard quotients
HRA	health risk assessment
I-	Interstate Highway
ICAO	International Civil Aviation Organization
IARC	International Agency for Research on Cancer
kg	kilogram
l	pound
L	liter
LTO	landing-takeoff cycles
MEISR	maximally exposed individual sensitive receptor
NAAQS	National Ambient Air Quality Standard
NEDs	National Elevation Datasets
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
O_3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
OFFROAD	Emissions Inventory Program model
Pb	lead
$PM_{2.5}$	particulate matter equal to or less than 2.5 microns in diameter
PM_{10}	particulate matter equal to or less than 10 microns in diameter
REL	reference exposure level
ROGs	reactive organic gases
SFBAAB	San Francisco Bay Area Air Basin

ACRONYMS AND ABBREVIATIONS *(CONTINUED)*

SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_x	oxides of sulfur
SR	State Route
TOG	total organic gas
TACs	toxics air contaminants
UFP	Ultrafine particles
USEPA	United States Environmental Protection Agency
USGS	United States Geologic Survey
VMT	vehicle miles traveled
VOC	volatile organic compound

1. INTRODUCTION

This technical report has been prepared to address the potential environmental impacts associated with the Amendment to the Norman Y. Mineta San Jose International Airport (the Airport or SJC) Master Plan[1] (the Proposed Project). In conformance with the California Environmental Quality Act (CEQA), this analysis identifies and assesses the potential individual and cumulative impacts that would result from the Proposed Project's emission of criteria air pollutants (CAPs) and toxic air contaminants (TACs).

The City of San Jose, as the proprietor of SJC, is the project proponent and Lead Agency. This analysis evaluates the potential air quality-related impacts of the Proposed Project, which would construct improvements to SJC's airside (e.g., runway and taxiway improvements, general aviation facilities) and landside (e.g., new parking garage, Terminal B expansion, new hotel) facilities; and accommodate the 2037 forecasted activity levels for air passenger, air cargo, and general aviation services.

In addition to the Proposed Project, this technical report also evaluates Existing/Baseline emissions for year 2018, two No Project scenarios and a mid-project scenario in 2027 at buildout of construction projects scheduled in Phase 1. These scenarios are described in **Sections 1.2 and 3.1** of this report.

This technical report describes the scope and methodology for evaluation of air quality and health risk from construction and operational sources. The results of these evaluations are compared to the standards of significance identified in Appendix G of the State CEQA Guidelines[2] and the Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines thresholds.[3]

1.1 Existing Conditions

The Airport is one of three primary airports that serve the San Francisco Bay Area of Northern California. The Airport is located on an approximately 1,000-acre site in Santa Clara County at the southernly end of San Francisco Bay, approximately two miles north of downtown San Jose. The Airport is generally bounded by U.S. 101 to the north, the Guadalupe River and State Route 87 to the east, Interstate 880 to the south, and Coleman Avenue and De la Cruz Boulevard to the west.

The Airport primarily serves Santa Clara, Alameda, Santa Cruz, Monterey, and San Benito counties, and is the primary airport serving Silicon Valley. The Airport accommodated 14.3 million passengers in 2018, which was 17 percent of the Bay Area's total air passenger volume in that calendar year.

The Airport has two passenger terminals, Terminal A with 16 gates and Terminal B with 14 gates. There are two 11,000 feet-long runways at the Airport, 12R/30L and 12L/30R. A third runway, 11/29 with a length of 4,600 feet, is presently used as a taxiway; when

[1] City of San Jose Airport Department. 2018. Airport Master Plan for Norman Y. Mineta San Jose International Airport, As Amended Through August 2018. Available at: https://www.flysanjose.com/sites/default/files/improvement/MasterPlan-Update2018.pdf. Accessed: April 2019.

[2] CNRA. 2018. Final Adopted Text of the 2018 Amendments and Additions to the State CEQA Guidelines. Available at: http://resources.ca.gov/ceqa/docs/2018_CEQA_FINAL_TEXT_122818.pdf. Accessed: April 2019.

[3] BAAQMD. 2017. California Environmental Quality Act Air Quality Guidelines, May. Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: April 2019.

operated as a runway, it was used by small general aviation aircraft. The Airport serves most major commercial airlines with statewide, national, and international destinations, as well as air cargo airlines. The Airport also serves 137 based general aviation aircraft, 36% of which are corporate jets.

The vicinity of the Airport and the general San Jose area is predominantly urban in character. A highway and local street system surround the Airport site. The Airport vicinity includes industrial, commercial, and residential land uses, as well as certain special purpose noise sensitive uses, such as churches and schools. A map showing the Airport is provided in **Figure 1**.

The existing/approved Airport Master Plan, as amended through 2018, consists of airside and landside facilities improvements to accommodate the 2027 forecasted demand for air passenger, air cargo, and general aviation services. Many of these capital improvement projects have been completed. The remaining (i.e., unbuilt/incomplete) Master Plan capital projects include several taxiway upgrades/extensions, new air cargo facilities on the east side of the Airport, construction of the South Concourse of Terminal B, upgrades and expansion of various support facilities (e.g., maintenance, flight kitchen), and the buildout of general aviation facilities on the west side of the Airport.

1.2 Proposed Project

As a result of the 2017 Runway Incursion Mitigation/Design Standards Analysis Study,[4] the City of San Jose is proposing to amend the approved Airport Master Plan as follows:

- Shift the planning horizon year from 2027 to 2037;
- Modify future facilities requirements at the Airport to reflect updated demand forecasts; and,
- Modify certain components of the airfield to reduce the potential for runway incursions.

The implementation of these amendments to the approved Airport Master Plan constitute "the Proposed Project," with full build-out of the proposed improvements anticipated in year 2037.

Air quality and health risk from construction of the Proposed Project are analyzed for Phase 1 Master Plan Projects in 2019-2027 and Phase 2 Master Plan Projects in 2028-2037.[5] The Phase 1 and Phase 2 Master Plan Projects include improvements to the airfield, terminals, parking garages, air cargo facilities, and general aviation and aviation support facilities. Proposed Project construction emissions are described in **Section 3.2.1** and evaluated for significance in **Section 5** of this technical report.

Air quality and health risk from operation of the Proposed Project are analyzed for the full build-out year of 2037. This operational scenario assumes that the construction of all Master Plan Projects are completed and the Airport is operating at the full forecasted aviation demand for year 2037. Forecasted aviation demand includes forecasted activity levels for air

[4] Typically referred to as the "RIM Study," this study was completed in 2017 as part of an FAA grant-funded program to reduce the risk of runway incursions, defined as the unauthorized presence of an aircraft, vehicle, or person on a surface designated for the landing and take-off of aircraft. The RIM Study provided aviation demand forecasts for year 2037 and recommended airfield configuration modifications.

[5] This phased approach to assessing construction air quality impacts takes into account that construction emissions can vary substantially from day to day, depending on the level of activity; the specific type of operation; and, for dust, the prevailing weather conditions.

passenger, air cargo, and general aviation services. Proposed Project operational emissions are described in **Section 3.2.2** and evaluated for significance in **Section 5** of this technical report.

In addition, two alternatives and a mid-project scenario are evaluated. The **No Project/Buildout under Existing Approved Master Plan** scenario assumes only those facilities approved in the existing 2018 Master Plan have been constructed. The **No Project/No New Facilities** scenario assumes no new facilities have been constructed, and only evaluates emissions from facilities existing in 2018. Both of the No Project scenarios assume the same forecasted aviation demand for year 2037 as the Proposed Project. Air quality impacts at the end of Phase 1 construction (termed "Mid-Project") is assessed by calculating operational emissions in 2027. This scenario assumes full accommodation of forecasted aviation demand for 2027 with completed construction of Phase 1 Master Plan Projects.

1.3 Project Design Features

The SJC Airport has on-going commitments to reduce its air emissions. Following are the measures that are already implemented or will be implemented at the Airport:

PDF-AQ-1 (LEED Design). Project T-13 calls, in relevant part, for the expansion of Terminal B's South Concourse. The expansion shall be designed to achieve LEED Silver certification or equivalent. Additionally, Project T-16 calls, in relevant part, for the construction of a 330-room hotel at the Airport. The hotel shall be designed to achieve LEED Silver certification or equivalent.[6]

PDF- AQ -2 (Electrified Airport Shuttle Fleet). On May 3, 2019, San Jose commissioned the San Jose Airports 10 battery-electric shuttle buses, which previously ran on compressed natural gas fuel. This is 15 years ahead of CARB's Proposed Zero-Emission Airport Shuttle Regulation, which requires airport shuttle fleets to be 100% zero-emission vehicles (battery electric or fuel cell) by 2035.[7]

PDF- AQ -3 (Airside Operations). Beginning in 1998, all airlines are encouraged to perform single or reduced engine taxiing in order to reduce emissions produced by the aircraft.

PDF- AQ -4 (Alternate-Fuel Maintenance Fleet). Since 2000, the Airport has adopted a policy to purchase only alternate-fuel vehicles for airport operations and maintenance fleet. Currently, 25% of the fleet is clean energy-powered as opposed to conventionally-powered vehicles.

PDF- AQ -5 (Construction Pollution Abatement). An ongoing effort of the Airport has been the implementation of a Construction Project Pollutant Emissions Abatement Program. This program requires measures to minimize emissions from vehicles and equipment to be included in all construction plans.

PDF- AQ -6 (Energy-efficient Lighting). All lightbulbs in Airport facilities and buildings will be energy-efficient, reducing emissions associated with the generation of electricity.

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[6] City of San Jose. 2019. Green Buildings. Available at: http://www.sanjoseca.gov/index.aspx?NID=1517. Accessed: June 2019.

[7] CARB. 2018. Proposed Regulation Order for the Proposed Zero-Emission Airport Shuttle Regulation. Available at: https://www.arb.ca.gov/regact/2019/asb/appa.pdf?_ga=2.255035912.1469842448.1555030954-893091953.1554304459. Accessed: April 2019.

PDF- AQ -7 (Green Cleaning). An ongoing policy of the Airport is to use green-seal-certified cleaning products which improves indoor air quality and reduces emissions.

PDF- AQ -8 (Clean Energy). Initiated in Fall 2018, the Airport adheres to the *San Jose Clean Energy* Program which designates that electricity purchased for Airport facilities will be 45% renewables and 80% carbon free.

PDF- AQ -9 (LEED Facilities). Construction of any building greater than 10,000 ft^2 is to achieve LEED standards with green features such as natural lighting, occupancy sensors for lighting, a programmable lighting control system, high efficiency programmable "smart" heating and cooling system, energy-conserving windows, a high-efficiency ventilation system, recycled construction materials, and water conservation measures that result in 75% less water used than in a conventional building.[8]

PDF- AQ -10 (Employee Transportation). Since 1998, the Airport has provided free bus/rail passes to employees which allows unlimited use of VTA's bus and light rail transit systems. By encouraging the 3,500+ of the airport to use transit systems reduces emissions of commuting and traffic in the area.

PDF- AQ -11 (Ground Transportation). The Airport provides a free shuttle bus service connecting to the Metro LRT Station and Santa Clara CalTrain Station, operating every 10-15 minutes to promote public transportation as a means of travel.

PDF- AQ -12 (Cell Phone Lot). A second cell phone waiting lot was completed in 2018 to encourage drivers picking up passengers to wait in the designated lot rather than circle the Airport.

PDF- AQ -13 (Electric Charging Stations). Construction of the initial station completed in 2001, progressively developing additional public electric vehicle stations to facility the use of EVs by drivers.

PDF- AQ -14 (Low- or Zero- Emission Taxis). Facilitated by a grant from the Airport and VTA, there is a requirement that at least 25% of all taxi/van trips to or from the Airport are to be by low- or zero-emission vehicles. Currently, 36% of the taxi fleet is alternate or clean-fuel powered vehicles.

PDF- AQ -15 (Commercial Vehicles). Implemented in the 1990s, a "Commercial Vehicle Trip Fee" which charges these types of vehicles for each trip they take to the Airport. This discourages unnecessary vehicles trips and endorses increased efficiency of each trip taken by the company.

PDF- AQ -16 (Taxi Dispatch). The Airport created a taxi dispatch system that requires taxis to park in designated areas until they are dispatched, which reduces engine idling and the emissions associated.

PDF- AQ -17 (Public Transport Education). Through the Airport's website and in the terminals, information on the public transit systems and information encourages usage of the transit systems which lowers emissions created by travelers.

PDF-AQ-18 (Support of Federal Aviation Regulation). Upon Project approval, the City of San Jose shall support regulatory efforts of the Federal Aviation Administration (FAA) to achieve air quality and/or greenhouse gas emission reductions from aircraft. For example,

[8] City of San Jose. 2019. Green Buildings. Available at: http://www.sanjoseca.gov/index.aspx?NID=1517. Accessed: June 2019.

the City shall support single/reduced engine taxiing procedures authorized by the FAA that beneficially reduce air quality and/or greenhouse gas impacts, and do not result in adverse noise impacts.

See **Table 1.3-1** for details related completed and on-going emissions reduction measures at the Airport.

1.4 Mitigation Measures

MM-AQ-1 (Electric Vehicle Charging Stations). Project T-4 calls, in relevant part, for the construction of a short-term parking garage with up to 5,000 spaces. Similarly, Project T-8 calls, in relevant part, for the construction of a long-term parking garage with up to 9,000 spaces. A minimum of 10 percent of the total number of spaces provided in the proposed parking garages (Projects T-4 and T-8) will be designed and constructed for electric vehicle charging capability. Installation of electric vehicle chargers in these spaces will occur over time as demand warrants and funding is available.

MM-AQ-2 (Construction Emissions Minimization). The Airport or the Airport's construction contractor shall comply with the following:

1) Engine Requirements.

a) All off-road equipment greater than 25 horsepower used in construction projects at the Airport shall have engines that meet Tier 4 Final off-road emission standards.

b) Diesel engines, whether for off-road or on-road equipment, shall not be left idling for more than two minutes, at any location, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions, safe operating conditions). The contractor shall post legible and visible signs in English, Spanish, and Chinese, in designated queuing areas and at the construction site to remind operators of the two-minute idling limit.

c) The contractor shall instruct construction workers and equipment operators on the maintenance and tuning of construction equipment and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer specifications.

2) Waivers.

a) The environmental review officer may waive the equipment requirements of Subsection (1)(a) if: a particular piece of off-road equipment with an engine meeting Tier 4 Final emission standards is not regionally available to the satisfaction of the environmental review officer.

3) *Construction Emissions Minimization Plan.* Before starting onsite ground disturbing, demolition, or construction activities, the contractor shall submit a Construction Emissions Minimization Plan to the environmental review officer for review and approval. The plan shall state, in reasonable detail, how the contractor will meet the requirements of Section 1, Engine Requirements.

a) The Construction Emissions Minimization Plan shall include estimates of the construction timeline, with a description of each piece of off-road equipment required. The description may include, but is not limited to: equipment type, equipment manufacturer, engine model year, engine certification (Tier rating), horsepower, and expected fuel usage and hours of operation. For off-road equipment

using alternative fuels, the description shall also specify the type of alternative fuel being used.

b) The Airport shall ensure that all applicable requirements of the Construction Emissions Minimization Plan have been incorporated into the contract specifications. The plan shall include a certification statement that the contractor agrees to comply fully with the plan.

c) The contractor shall make the Construction Emissions Minimization Plan available to the public for review onsite during working hours. The contractor shall post at the construction site a legible and visible sign summarizing the plan. The sign shall also state that the public may ask to inspect the plan for the project at any time during working hours and shall explain how to request to inspect the plan. The contractor shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way.

The results of implementation of this mitigation measure on construction emissions is presented in **Section 3.2** and **Section 5.1.1**.

2. ENVIRONMENTAL AND REGULATORY SETTING

2.1 Environmental Setting

The Proposed Project is located in Santa Clara County, which is part of the nine-county San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB does not achieve either federal or State ambient air quality standards for certain pollutants, as described in the analysis below. This subsection describes the existing conditions for air quality in the SFBAAB, including climate and meteorology, local air quality, and air pollutants of concern.

2.1.1 Climate and Meteorology

Ambient concentrations of air pollutants are determined by the amount of emissions released by sources and the atmosphere's ability to transport and dilute those emissions. Natural factors that affect transport, pollutant transformation, and dilution include terrain, wind, atmospheric stability, and sunlight. Existing air quality conditions within the Proposed Project corridor are determined by such natural factors as topography, meteorology, and climate, as well as the amount of emissions released by existing sources. The environmental factors that affect ambient air pollutant concentrations are discussed below.

2.1.1.1 Temperature Inversions

Temperature inversion layers, also called thermal inversions, are areas in which the normal decrease in air temperature with increasing altitude is reversed, i.e., air at higher altitudes is warmer than the air directly below it. The thickness of inversion layers varies considerably, from less than 100 feet to several thousands of feet. Thermal inversions limit the vertical dispersion of air pollutants and can trap pollutants close to the ground. These inversions occur most often when a warmer, less dense air mass flows over a colder, denser air mass close to the ground. The highest air pollutant concentrations in the San Francisco Bay Area (Bay Area) generally result from two types of such inversions:

- Subsidence inversions, a regional phenomenon that most commonly occurs in the Bay Area during summer and fall, when descending warmer air from the subtropical high-pressure cell centered over the Pacific Ocean caps the cooler marine air layer nearer the surface; and
- Radiation inversions, which are more localized and more typical of winter nights in interior parts of the Bay Area where air in contact with the ground cools more rapidly than the layer of air above it.

2.1.1.2 Topography and Its Effect on Wind Speeds and Patterns

Low-wind-speed conditions limit horizontal air dispersion and can result in the buildup of air pollutants. Poor air quality under low-wind-speed conditions can be especially pronounced in interior valleys, where the topography also contributes to the restriction of air movement and pollutant dispersion.

2.1.1.3 Solar Radiation and Its Impact on Photochemical Pollutants

The higher intensity and longer duration of solar radiation during the Bay Area's summer months provide ultraviolet light and warm temperatures that promote the formation of secondary photochemical pollutants (e.g., ozone). Because sunlight intensity and summer temperatures are much higher in many of the Bay Area's inland valleys than in coastal areas, the inland areas are especially prone to photochemical air pollution. In contrast, photochemical pollutants do not usually reach significant levels anywhere in the Bay Area during the winter, when temperatures are lower and daylight hours are shorter.

Consequently, the inland areas of the Bay Area, which experience higher temperatures in the summer and lower temperatures in the winter, and which are sheltered from the higher winds and frequent fog that affect the coastal areas, tend to have the highest air pollution potential. Furthermore, because air pollutant levels depend on the amount of pollutants emitted locally or from upwind sources, ambient air pollution levels in inland areas tend to be higher where they are subject to emissions transported by the prevailing winds from populous upwind areas.

2.1.1.4 Bay Area Climate

The Bay Area has a Mediterranean-type climate, which is influenced by a zone of high atmospheric pressure centered over the northeastern Pacific Ocean that lasts throughout much of the year This high-pressure zone keeps storms from affecting the Bay Area in the summer, then weakens and shifts southward in the winter, allowing the passage of winter storm systems. For most of the year, prevailing winds in the Bay Area are from the west.

2.1.1.5 Local Topography and Meteorology

The Santa Clara Valley is bounded by the Bay to the north and by mountains to the east, south and west. Temperatures are warm on summer days and cool on summer nights, and winter temperatures are fairly mild. At the northern end of the valley, mean maximum temperatures are in the low-80's during the summer and the high-50's during the winter, and mean minimum temperatures range from the high-50's in the summer to the low-40's in the winter. Further inland, where the moderating effect of the Bay is not as strong, temperature extremes are greater. For example, in San Martin, located 27 miles south of the San Jose Airport, temperatures can be more than 10 degrees warmer on summer afternoons and more than 10 degrees cooler on winter nights.

Winds in the valley are greatly influenced by the terrain, resulting in a prevailing flow that roughly parallels the valley's northwest-southeast axis. A north-northwesterly sea breeze flows through the valley during the afternoon and early evening, and a light south-southeasterly drainage flow occurs during the late evening and early morning. In the summer, the southern end of the valley sometimes becomes a "convergence zone," when air flowing from the Monterey Bay gets channeled northward into the southern end of the valley and meets with the prevailing north-northwesterly winds.

Wind speeds are greatest in the spring and summer and weakest in the fall and winter. Nighttime and early morning hours frequently have calm winds in all seasons, while summer afternoons and evenings are quite breezy. Strong winds are rare, associated mostly with the occasional winter storm.

The air pollution potential of the Santa Clara Valley is influenced by the geography surrounding the valley. High summer temperatures, stable air and mountains surrounding the valley combine to promote ozone formation. In addition to the many local sources of pollution, ozone precursors from San Francisco, San Mateo and Alameda Counties are carried by prevailing winds to the Santa Clara Valley. The valley tends to channel pollutants to the southeast. In addition, on summer days with low level inversions, ozone can be recirculated by southerly drainage flows in the late evening and early morning and by the prevailing northwesterly winds in the afternoon. A similar recirculation pattern occurs in the winter, affecting levels of carbon monoxide and particulate matter. This movement of the air up and down the valley increases the impact of the pollutants.

2.1.2 Air Pollutants and Local Air Quality

The United States Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established health-based ambient air quality standards for several different pollutants. [9, 10] The USEPA sets National Ambient Air Quality Standards (NAAQS) for the following six pollutants, known as criteria air pollutants (CAPs): ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (both particulate matter with an aerodynamic diameter of less than 10 microns (PM_{10}) and particulate matter with an aerodynamic diameter of less than 2.5 microns ($PM_{2.5}$)), and lead. In addition, the CARB has established California Ambient Air Quality Standards (CAAQS) standards for CAPs, as well as for sulfate, hydrogen sulfide, and vinyl chloride. The CAAQS are always equal to or stricter than the NAAQS.

Areas can be designated as (1) attainment, where criteria pollutant concentrations are below the standards; (2) nonattainment, where CAP levels exceed the standards; (3) marginal nonattainment, where pollutant concentrations exceed the standards by a small amount; and (4) unclassified or unclassified/attainment, where insufficient data have been collected to determine classification. The attainment statuses of the SFBAAB are presented in **Table 2.1-1**. Additional details regarding NAAQS and CAAQS are presented in **Section 2.2**.

Pollution sources are plentiful and complex in this subregion. The Santa Clara Valley has a high concentration of industry at the northern end, in the Silicon Valley. Some of these industries are sources of air toxics as well as criteria air pollutants. In addition, Santa Clara Valley's large population and many work-site destinations generate the highest mobile source emissions of any subregion in the SFBAAB.[11]

2.1.3 Local Air Quality Monitoring Data

As mentioned above, ambient concentrations of pollutants are determined by regional pollutant emissions, pollutant emissions in a given area, and wind patterns and meteorological conditions for that area. As a result, ambient concentrations can vary among different locations within an area.

The Proposed Project is located within the BAAQMD jurisdiction. The BAAQMD maintains ambient air quality monitoring stations throughout Santa Clara County. There are eight air quality monitoring stations in Santa Clara County: Gilroy, Los Gatos, Redwood City, Reid-Hillview Airport (San Jose), Palo Alto Airport, San Jose–Knox, San Martin, and San Jose–Jackson. The San Jose-Jackson air monitoring station is the station closest to the Proposed Project site. This station collects data for criteria air pollutants and toxic air contaminants.[12]

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[9] USEPA. NAAQS Table. Available at: https://www.epa.gov/criteria-air-pollutants/naaqs-table. Accessed: April 2019.

[10] CAAQS. Available at: http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm. Accessed: April 2019.

[11] BAAQMD. 2017. California Environmental Quality Act Air Quality Guidelines, Appendix C. Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: April 2019.

[12] BAAQMD. 2018. 2017 Air Monitoring Network Plan. Available at: http://www.baaqmd.gov/~/media/files/technical-services/2017_network_plan_20180701-pdf.pdf. Accessed: April 2019.

Table 2.1-2 lists the most recent three years of published data at the San Jose monitoring station. As seen from these data, some violations of the State and National Ozone, PM_{10}, and $PM_{2.5}$ AAQS occurred during this period.

2.1.4 Criteria Air Pollutants of Concern and Health Effects

The pollutants of concern in the study area are ozone, PM_{10}, $PM_{2.5}$, and CO. The SFBAAB does not meet the State ozone, PM_{10}, and $PM_{2.5}$ standards or the federal ozone and $PM_{2.5}$ standards.

While the Bay Area has met the NO_2 standards, oxides of nitrogen (NO_X) emissions are a concern because they are precursors to ozone. Similarly, reactive organic gases (ROGs) are not criteria pollutants, however, ROG emissions are consequential because they are also precursors to ozone.[13]

The SFBAAB is in attainment for both State and federal CO standards. CO can be a pollutant of concern if the number of motor vehicles and vehicle miles traveled (VMT) in the area continues to grow. However, due to substantial reductions in CO emissions from mobile sources since the introduction of catalytic converters in 1975, it is only under very unusual circumstances that the potential for elevated levels of CO remains.

SO_2 is no longer considered a pollutant of concern in the State because ambient levels are fairly low and the State has been in attainment for this standard for some time. SO_2 emissions have decreased substantially over the past 30 years due to improved industrial source controls and the use of natural gas instead of fuel oil for electricity generation. In addition, SO_2 emissions from mobile sources have decreased due to lower sulfur content in fuels.

Similar to SO_2, lead is no longer considered a pollutant of concern in the State because ambient levels are fairly low and the State has been in attainment for this standard for some time. The phase-out of leaded gasoline in California resulted in decreasing levels of atmospheric lead. Aviation gasoline is the only remaining lead-containing transportation fuel. However, the FAA, EPA and the general aviation industry are working to identify a replacement to aviation gasoline through the Piston Aviation Fuels Initiative ("PAFI")[14] and phase out the use of leaded aviation gasoline.

[13] To address organic chemicals that have photochemical reactivity, the BAAQMD has defined ROGs in its CEQA Air Quality Guidelines as "classes of organic compounds, especially olefins, substituted aromatics and aldehydes, that react rapidly in the atmosphere to form photochemical smog or ozone." The USEPA and BAAQMD have also defined ozone precursor gases under the term volatile organic compounds (VOCs). The USEPA formally defines VOCs in 40 CFR 51.100(s) as "any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions." The BAAQMD defines VOCs in Regulation 1 as "any organic compound, as described in Section 1-233, which would be emitted during use, processing, application, curing, or drying of a solvent, surface coating, or other material." Organic compound is defined in Section 1-233 of Regulation 1 as "any compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, or carbonates, and ammonium carbonate." Thus, the BAAQMD's definition of VOCs is more inclusive in that it does not require gases to participate in atmospheric photochemical reactions to be defined as a VOC. In practical terms, the BAAQMD's definition of ROGs is almost equivalent to the EPA's definition of VOCs. For purposes of this section, with certain exceptions, ROGs will be referred to in the impact analysis because the BAAQMD CEQA thresholds are based on ROGs.

[14] FAA PAFI Future Unleaded Aviation Gasoline, July 26, 2016. Available at: https://www.faa.gov/about/initiatives/avgas/media/media/pafi_airventure_2016.pdf. Accessed May 2019.

2.1.4.1 Oxides of Nitrogen

NO_X is a precursor to ozone and is primarily emitted through the combustion of fuel by mobile sources (e.g., passenger vehicles, buses, off-road equipment) and industrial sources (e.g., power plants). When inhaled at high concentrations, NO_2, one of the types of NO_x, can cause irritation in the respiratory system. Per the USEPA, acute exposure can aggravate existing respiratory conditions (e.g., asthma) while long-term exposure may contribute to the development of asthma and potentially increase susceptibility to respiratory infections.[15]

2.1.4.2 Reactive Organic Gases

ROGs are primarily emitted by industrial facilities, through combustion of fuel by mobile and stationary sources, and by use of chemical solvents and are a precursor to ozone formation. Per the USEPA, exposure to ROG emissions can cause irritation of the eyes, nose, and throat; headaches; loss of coordination; nausea; and damage to the liver, kidney, and central nervous system. Some ROGs are known to cause cancer.[16]

2.1.4.3 Ozone

Ozone, or smog, is not emitted directly; rather, it is formed in the atmosphere through complex chemical reactions between ROG and NO_X in the presence of sunlight. Ozone formation is greatest on warm, windless, sunny days. The main sources of NO_X and ROG, often referred to as ozone precursors, are (1) combustion processes (including motor vehicle and aircraft engines); (2) the evaporation of solvents, paints, and fuels; and (3) biogenic sources. Automobiles are the single largest source of ozone precursors in the SFBAAB.

Ozone levels usually build up during the day and typically peak in the afternoon. Short-term exposure can cause eye irritation and airway constriction. In addition to causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Chronic exposure to high ozone levels can permanently damage lung tissue. Ozone can also damage plants, trees, and materials such as rubber and fabrics.

2.1.4.4 Particulate Matter

PM encompasses a wide range of solid and liquid particles in the atmosphere, including smoke, dust, aerosols, and metallic oxides. In the SFBAAB, most PM stems from combustion, factories, construction, grading, demolition, agricultural activities, and motor vehicles. Motor vehicles are currently responsible for about half of all particulates in the SFBAAB. Wood burning in fireplaces and stoves is another large source of fine particulates. Some PM, such as pollen, is naturally occurring.

The USEPA currently regulates two types of PM emissions: PM_{10} and $PM_{2.5}$. PM_{10} (with particles less than or equal to 10 microns in diameter) is also referred to as respirable particulate matter. $PM_{2.5}$ (with particles less than or equal to 2.5 microns in diameter) is also referred to as fine particulate matter.

PM_{10} is of concern because it bypasses the body's natural filtration system more easily than larger particles and can lodge deep into the lungs. PM_{10} can be emitted directly or formed in the atmosphere through complex chemical reactions from precursor pollutants such as NO_x,

[15] USEPA. 2017. Basic Information about NO_2. Available at: https://www.epa.gov/no2-pollution/basic-information-about-no2#What%20is%20NO2. Accessed: April 2019.

[16] USEPA. 2017. Volatile Organic Compounds' Impact on Indoor Air Quality. Available at: https://www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality. Accessed: April 2019.

oxides of sulfur (SO_x), ROGs, and ammonia. $PM_{2.5}$ poses an increased health risk relative to PM_{10} because the particles can deposit more deeply in the lungs and they contain substances that are particularly harmful to human health. Exposure to PM can increase the risk of chronic respiratory disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, and decreased lung function.

2.1.4.5 Carbon Monoxide

CO is an odorless, colorless gas that is formed by the incomplete combustion of fuels. The single largest source of CO in the SFBAAB is motor vehicles. Emissions are highest during cold starts, hard acceleration, low speeds, and stop-and-go driving.

When inhaled at high concentrations, CO combines with hemoglobin in the blood and lowers its oxygen-carrying capacity, resulting in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses. Even healthy people exposed to high CO concentrations can experience headaches, dizziness, fatigue, unconsciousness, and even death.

2.1.4.6 Ultrafines

Ultrafine particles (UFP) are a subset of $PM_{2.5}$ with particle diameters typically less than 0.1 micrometers (100 nanometers). UFP is not purposefully manufactured nor necessarily of a constant composition or size. Rather, UFP is the result of combustion or friction processes or natural processes in the air or water.

There is currently no ambient air standard for UFP, though the USEPA and CARB have been conducting research on UFP by supporting centers that are established to study the role of airborne particulate matter in causing health problems.[17] Epidemiological studies have consistently found an association between small increases in urban particulates and health effects, including increased morbidity and mortality in people with respiratory and cardiac disease; the elderly are especially susceptible.[18] These health effects are associated with fine rather than coarse particles. Some other epidemiological studies have found that particle number reflecting ambient ultrafine particles correlated with increased symptoms in people with compromised respiratory and cardiovascular symptoms.[19]

2.1.5 Santa Clara County Emissions Inventory

Table 2.1-3 summarizes the emissions inventory for CAPs within Santa Clara County and within the entire Bay Area Basin for various source categories. According to Santa Clara County's 2015 emissions inventory, total stationary sources are the largest contributor to the estimated annual average air pollutant levels of ROG, accounting for approximately 38%, while total mobile sources (on-road and off-road) are the largest contributor to the estimated annual average air pollutant levels of CO and NO_X, accounting for approximately 84% and 77%, respectively, of the total inventory.

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[17] ARB. 2003. Fine and Ultrafine Particulate Matter Research. Available at: https://ww3.arb.ca.gov/research/pmr/pmr.htm. Accessed: April 2019.

[18] Ohlwein, S. et al. (2019). Health effects of ultrafine particles: a systematic literature review update of epidemiological evidence. Available at: https://link.springer.com/article/10.1007/s00038-019-01202-7. Accessed: October, 2019.

[19] University of Rochester Medical Center Department of Environmental Medicine. Available at: http://www2.envmed.rochester.edu/envmed/PMC/indexPMC.html. Accessed: April 2019.

Area-wide sources (e.g., solvent evaporation from equipment cleaning operations; on-site fuel combustion for space and water heating (e.g., hot water heaters); and landscape maintenance equipment such as lawnmowers and leaf blowers) account for approximately 87% of Santa Clara County's PM_{10} emissions and 72% of the County's $PM_{2.5}$ emissions.[20]

Although mobile source emissions constitute the majority of the 2015 criteria air pollutant inventory both statewide and in Santa Clara County, emissions from this source category have decreased greatly since the 1970s due to more stringent federal and state emission controls on mobile sources and fuels. Examples of vehicle emissions standards include CARB's low-emission vehicle standards, VARB's heavy-duty engine standards, and USEPA's corporate average fuel economy standards for passenger cars and light duty trucks. Examples of cleaner fuel standards include the elimination of lead from gasoline and lowering of sulfur content in fuels.

CAP emissions from mobile sources are projected to continue decreasing with vehicle fleet turnover to newer, cleaner models.[21] However, while emissions from gasoline- and diesel-fueled mobile sources are both decreasing, a greater reduction in emissions from gasoline-fueled vehicles relative to diesel-fueled vehicles has resulted in an increase in the relative contribution of diesel sources to CAP from mobile sources. As a result, current regulatory development is focusing on reducing emissions from diesel vehicles.

2.1.6 Toxic Air Contaminants

In California, toxic air contaminants (TACs) are defined by the CARB as air pollutants that "may cause or contribute to an increase in deaths or in serious illness, or which may pose a present or potential hazard to human health."[22] To date, the CARB has identified more than 21 TACs and adopted the USEPA's list of hazardous air pollutants (HAPs) as TACs.[23] The USEPA defines HAPs as "pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects." Currently, there are 187 identified HAPs.[24]

The nature and magnitude of the potential health effects of TACs depends on the substance, concentration, and period of exposure. Some TACs cause effects in response to short-term (acute) exposure, while others cause effects only after sustained exposures over weeks, months, or years. The effects of acute exposure may be minor, such as watery eyes or respiratory irritation, or they may involve major damage, e.g., to the reproductive or nervous system. If exposure to a sufficient concentration occurs for a sufficient period, individuals may have an increased risk of developing cancer or a greater likelihood of experiencing non-carcinogenic chronic adverse effects. Chronic non-carcinogenic health effects may be minor, e.g., nasal rhinitis or respiratory irritation, or they may be serious,

[20] ARB. 2013. Almanac Emission Projection Data. Available at: http://www.arb.ca.gov/app/emsinv/2013/emssumcat.php. Accessed April 2019.

[21] ARB. 2017. EMission FACtors Model, 2017 (EMFAC2017). Available online at: https://www.arb.ca.gov/emfac/2017/

[22] ARB. 2019. Glossary of Air Pollution Terms. Available at: http://www.arb.ca.gov/html/gloss.htm#T. Accessed: April 2019.

[23] ARB. 2011. Toxic Air Contaminant Identification List. Available at: http://www.arb.ca.gov/toxics/id/taclist.htm. Accessed: April 2019.

[24] USEPA. 2019. What are Hazardous Air Pollutants? Available at: https://www.epa.gov/haps/what-are-hazardous-air-pollutants. Accessed: April 2019.

involving long-term damage to the immune, neurological, reproductive, respiratory, or other systems.[25]

Significant sources of TACs in the environment include industrial processes such as petroleum refining, chemical manufacturing, electric utilities, metal mining/refining, and chrome plating; commercial operations such as gasoline stations and dry cleaners; and transportation activities, particularly diesel-powered vehicles, including trains, buses, and trucks.

Unlike criteria pollutants, the concentrations of individual TACs are not regulated directly; however, concentrations of TACs may be regulated indirectly based on results from a health risk assessment (HRA). An HRA is a scientifically based tool used to determine if exposure to chemical(s) pose a significant risk to human health.

According to the California Almanac of Emissions and Air Quality,[26] most of the estimated health risk from TACs in ambient air are attributed to relatively few compounds, predominantly PM exhaust from diesel-fueled engines. And, in 1998, the CARB identified PM from diesel-powered engines as a TAC. Diesel particulate matter (DPM) emissions are estimated to be responsible for about 70 percent of the total ambient air toxics risk. Statewide, the average potential cancer risk associated with these emissions is 500+ potential cases per million.[27]

DPM is a complex mixture of hydrocarbons, particulates, gases, and other compounds. DPM is emitted by diesel-fueled internal combustion engines, the composition of which varies depending on engine type, operating conditions, fuel composition, lubricating oil, and presence/absence of an emission control system.

Both the California Office of Environmental Health Hazard Assessment (OEHHA) and the USEPA consider DPM to be a carcinogen. The cancer potency factor derived by the California Environmental Protection Agency (Cal/EPA) for DPM is highly uncertain in both the estimation of response and the dose. In the past, due to inadequate animal test data and epidemiology data on diesel exhaust, the International Agency for Research on Cancer (IARC), a branch of the World Health Organization, had classified DPM as Probably Carcinogenic to Humans (Group 2); the USEPA had also concluded that the existing data did not provide an adequate basis for quantitative risk assessment.[28] However, based on two more recent scientific studies,[29, 30] the IARC has reclassified DPM as Carcinogenic to Humans,

[25] Ibid.

[26] Air Resources Board (ARB), 2009a. The California Almanac of Emissions and Air Quality, Chapter 4: Air Basin Trends and Forecasts – Criteria Air Pollutants. Available at: https://www.arb.ca.gov/aqd/almanac/almanac09/chap409.htm. Accessed: April 2019.

[27] Air Resources Board (ARB), 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. Stationary Source Division and Mobile Source Division. October.

[28] United States Environmental Protection Agency (EPA), 2002. Health Assessment Document for Diesel Engine Exhaust. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. EPA/600/8-90/057F. May.

[29] Silverman D.T., C.M. Samanic, J.H. Lubin, A.E. Blair, P.A. Stewart, R. Vermeulen, J.B. Coble, N. Rothman, P.L. Schleiff, W.D. Travis, R.G. Ziegler, S. Wacholder, M.D. Attfield, 2012. The Diesel Exhaust in Miners Study: A Nested Case-Control Study of Lung Cancer and Diesel Exhaust. J Natl Cancer Inst. October.

[30] Attfield, M.D., P.L. Schleiff, J.H. Lubin, A. Blair, P.A. Stewart, R. Vermeulen, J.B. Coble, and D.T. Silverman, 2011. The Diesel Exhaust in Miners Study: A Cohort Mortality Study With Emphasis on Lung Cancer. J Natl Cancer Inst. October 21.

placing it in Group 1.[31] This classification means that the IARC has determined that there is "sufficient evidence of carcinogenicity" of a substance in humans; it represents the strongest weight-of-evidence rating in the IARC's carcinogen classification scheme. The USEPA, OEHHA, and IARC also recognize that exposure to DPM may cause non-cancer effects such as changes in lung function and airway inflammation.[32, 33, 34] DPM is a component of PM, and recent scientific data have linked prolonged exposure to PM to premature mortality, respiratory effects, and cardiovascular disease.

In 2003, the BAAQMD estimated that the carcinogenic health risks from exposure to DPM in the Bay Area was about 500-in-1-million to 700-in-1-million.[35] More recently, as part of the effort to identify and update Community Air Risk Evaluation (CARE) communities, the BAAQMD prepared projected emissions and health risk estimates for 2015, which showed resulting cancer risks in the San Jose CARE area of 200-in-1-million to 300-in-1-million,[36] with DPM contributing more than 85 percent of the total carcinogenic potential of emissions.

Diesel trucks and buses are sources of DPM emissions within the Bay Area. Specifically, the California Department of Transportation estimated that, in 2016, up to 10 percent of the vehicles on highways around SJC were trucks with two or more axles.[37] Many of these trucks are diesel powered and thus contribute to DPM risks.

Based on available data, the other 10 TACs that pose the greatest risk from breathing ambient air in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, ethylbenzene, chloroform, formaldehyde, methylene chloride, and perchloroethylene.[38]

2.1.7 Odors

Odors are not generally regarded as a physical health risk. However, manifestations of a person's reaction to strong odors can range from irritation, anger, or anxiety to circulatory and respiratory system effects, nausea, vomiting, and headache.

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[31] International Agency for Research on Cancer (IARC), 2012. Press Release No. 213. IARC: Diesel Engine Exhaust Carcinogenic. June 12.

[32] Office of Environmental Health Hazard Assessment (OEHHA), 1998. Findings of the Scientific Review Panel on The Report on Diesel Exhaust, as adopted at the Panel's April 22, 1998, meeting. April 22.

[33] Office of Environmental Health Hazard Assessment (OEHHA), 2002. Air Toxics Hot Spots Program Risk Assessment Guidelines: Part II Technical Support Document for Describing Available Cancer Potency Factors. California Environmental Protection Agency. December.

[34] United States Environmental Protection Agency (EPA), 2011. Integrated Risk Information System (IRIS). Available at: http://www.epa.gov/iris/.

[35] Bay Area Air Quality Management District (BAAQMD), 2007. Toxic Air Contaminants 2003 Annual Report. August.

[36] Bay Area Air Quality Management District (BAAQMD). 2014. Improving Air Quality and Health in Bay Area Communities. Community Air Risk Evaluation Program Retrospective & Path Forward (2004–2013). Available online at: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CARE%20Program/Documents/CARE_Retrospective_April2014.ashx?la=en. Accessed: April 2019.

[37] California Department of Transportation (Caltrans). 2016. Annual Average Daily Truck Traffic on the California State Highway System. Available at: http://www.dot.ca.gov/trafficops/census/. Accessed: April 2019.

[38] California Air Resources Board (ARB). 2009. The California Almanac of Emissions and Air Quality, Chapter 4: Air Basin Trends and Forecasts – Criteria Air Pollutants. Available at: https://www.arb.ca.gov/aqd/almanac/almanac09/chap409.htm. Accessed: April 2019.

The ability to detect odors varies considerably among the population. Some individuals are able to smell very minute quantities of specific substances; others may not have the same sensitivity, but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; an odor that is offensive to one person may be acceptable to another (e.g., a fast food restaurant). It is important to also note that an unfamiliar odor is more easily detected and a transient odor is more likely to result in complaints than a constant one. This is caused by a phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Land uses that constitute odor sources include industrial facilities, such as asphalt batch plants, wastewater treatment facilities, and solid waste transfer facilities. Other examples of minor sources of odors include restaurants and auto body/paint shops. In general, odor dispersal occurs relatively quickly, with noticeable effects diminishing substantially with increasing distance from the source.

2.2 Regulatory Setting

2.2.1 Federal and State Standards

The Federal Clean Air Act (CAA) requires the adoption of national ambient air quality standards (NAAQS), which are periodically updated, to protect the public health and welfare from the effects of air pollution. Current federal standards are set for SO_2, CO, NO_2, O_3, PM_{10}, $PM_{2.5}$, and Lead (Pb).[39]

CARB also has established additional standards, CAAQS,[40] which are generally more restrictive than the NAAQS. The NAAQS and CAAQS are shown in **Table 2.1-1**.

Specific geographic areas are classified as either "attainment" or "non-attainment" areas for each pollutant based upon the comparison of measured data with the NAAQS and CAAQS. Those areas designated as “non-attainment” for purposes of NAAQS compliance are required to prepare regional air quality plans, which set forth a strategy for bringing an area into compliance with the standards. These regional air quality plans developed to meet federal requirements are included in an overall program referred to as the State Implementation Plan (SIP).

Whenever the USEPA revises or establishes a new NAAQS, the State and the USEPA have specific obligations to ensure that the NAAQS is met.[41] These are listed below:

- The USEPA must designate areas as meeting (attainment areas) or not meeting (non-attainment areas) the NAAQS within two years after its promulgation.

[39] USEPA. NAAQS Table. Available at: https://www.epa.gov/criteria-air-pollutants/naaqs-table. Accessed: April 2019.

[40] CAAQS. Available at: http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm. Accessed: April 2019.

[41] USEPA. 2018. NAAQS Implementation Process. Available at: https://www.epa.gov/criteria-air-pollutants/naaqs-implementation-process. Accessed: April 2019.

- States must submit "infrastructure SIPs" to show that they have the basic air quality management program components in place to implement the NAAQS within three years after its promulgation.
- States must submit non-attainment area SIPs that outline the strategies and emission control measures that will improve air quality and make the area meet the NAAQS within 18 to 36 months after designation.

The steps involved in the SIP process are described below.[42]

- SIPs must be developed with public input and be formally adopted by the State and submitted to the USEPA by the Governor's designee (CARB in California).
- The USEPA reviews each SIP and proposes to approve or disapprove all or part it. The public is then provided with an opportunity to comment on the USEPA's proposed action. The USEPA considers public input before taking final action on a state's plan.
- If the USEPA approves all or part of a SIP, those control measures are enforceable in federal court. In the event a state fails to submit an approvable SIP or if the USEPA disapproves a SIP, the USEPA is required to develop a Federal Implementation Plan (FIP).

Table 2.2-1, NAAQS and CAAQS Attainment Status, summarizes the attainment status of Santa Clara County for the pollutants regulated by the NAAQS and CAAQS.

2.2.2 Local Air Quality Management Programs

The BAAQMD has jurisdiction over air quality issues within the SFAAB. The BAAQMD's responsibilities include attaining and maintaining air quality standards in the SFBAAB through air quality planning, adoption of rules and regulations, enforcement, technical innovation, issuing permits for stationary sources of air pollution, and promoting the understanding of air quality issues. The BAAQMD also prepares air quality plans with control measures to attain the NAAQS in the SFBAAB. For example, the 1994 Carbon Monoxide Maintenance Plan was developed in coordination with the Association of Bay Area Governments to ensure continued attainment of the national CO standard.

The BAAQMD has prepared both federal and state air quality plans to bring the SFBAAB into attainment with the State and federal ozone standards; the Bay Area is currently nonattainment for ozone (both state and federal). Four air quality plans exist for the Bay Area, as follows:

- 2001 Ozone Attainment Plan, which describes the Bay Area's strategy for compliance with the federal 1-hour ozone standard. Although the USEPA revoked the federal 1-hour ozone standard on June 15, 2005, the emissions reduction commitments in the plan are still being carried out by the BAAQMD.[43]
- 2005 Bay Area Ozone Strategy, which reviews the region's progress reducing ozone levels. This plan describes current conditions and charts a course for future actions to

[42] Ibid.

[43] Bay Area Air Quality Management District (BAAQMD). 2001. Revised San Francisco Bay Area Ozone Attainment Plan for the 1-Hour National Ozone Standard. Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2001-ozone-attainment-plan/oap_2001.pdf. Accessed: April 2019.

further reduce ozone and ozone precursor levels in the Bay Area and to achieve compliance with the State 1-hour ozone standard.[44]

- 2010 Clean Air Plan, which provides control strategies to reduce ozone, PM, air toxics, and greenhouse gases (GHGs) from stationary and mobile sources, specifically addresses nonattainment of the State ozone standards in the SFBAAB.[45]
- 2017 Clean Air Plan, which provides control strategies for ozone, PM, TACs, and GHGs, and is aimed at reducing air pollution, protecting public health, and protecting the global climate. The 2017 Clean Air Plan includes the first ever Regional Climate Protection Strategy and has a total of 85 control measures, categorized among nine economic sectors.[46]

In addition to the 2010 and 2017 Clean Air Plans, in 2004, the BAAQMD initiated the Community Air Risk Evaluation (CARE) program. This program has helped identify communities in the Bay Area that are disproportionately impacted by local emission sources. The CARE program serves as a foundation for the BAAQMD's efforts to reduce population exposure to TACs, including DPM, in communities that experience higher than average pollution levels. These communities are generally located near sources of pollution (e.g., freeways, industrial facilities), and thus have higher levels of risk from TAC exposure. The CARE program goals are as follows: (1) identify areas where air pollution contributes most to health impacts and where populations are most vulnerable to air pollution; (2) apply sound scientific methods and strategies to reduce health impacts in these areas; and (3) engage community groups and other agencies to develop additional actions to reduce local health impacts.[47]

BAAQMD-designated CARE communities are located in Concord, Richmond/San Pablo, eastern San Francisco, western Alameda County, Vallejo, San Rafael, Pittsburg/Antioch, and San Jose. The CARE area in San Jose includes the Airport and its surrounding neighborhoods.

2.2.3 Toxic Air Contaminants

Air quality regulations also focus on TACs. In general, air toxics that may cause cancer have no threshold concentration below which risks do not occur. However, standards for carcinogenic air toxics are established to reflect increased risks of 1-in-1 million to 1-in-10,000, which are the values identified as de minimis by regulatory agencies. Both the USEPA's and CARB's regulation of HAPs and TACs typically reflect the de minimis risk levels

[44] Bay Area Air Quality Management District (BAAQMD). 2006. Bay Area 2005 Ozone Strategy. Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2005-ozone-strategy/adoptedfinal_vol1.pdf. Accessed: April 2019.

[45] Bay Area Air Quality Management District (BAAQMD) 2010. Bay Area 2010 Clean Air Plan. Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2010-clean-air-plan/cap-volume-i-appendices.pdf. Accessed: April 2019.

[46] BAAQMD. 2017. Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area, Final 2017 Clean Air Plan. Available online at: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed: April 2019.

[47] Bay Area Air Quality Management District (BAAQMD). 2014. Improving Air Quality and Health in Bay Area Communities. Community Air Risk Evaluation Program Retrospective & Path Forward (2004–2013). Available online at: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CARE%20Program/Documents/CARE_Retrospective_April2014.ashx?la=en. Accessed: April 2019.

noted above, while also generally requiring the use of either the maximum available control technology or best available control technology (BACT) to limit emissions. (Note: When BACT is applied to TACs, it is known as T-BACT.) These statutes and regulations, in conjunction with additional rules set forth by the BAAQMD, establish the regulatory framework for air toxics.[48]

(1) Federal

Title III of the CAA amendments requires the USEPA to promulgate National Emissions Standards For Hazardous Air Pollutants (NESHAPs) for the regulation of HAPs from stationary sources. Currently, there are over 125 different types of stationary sources regulated under NESHAPs.

The CAA amendments also required the USEPA to issue vehicle or fuel standards containing reasonable requirements to control HAP emissions, applying at a minimum to benzene and formaldehyde. Performance criteria were established to limit mobile source emissions of HAPs, including benzene, formaldehyde, and 1,3-butadiene. In addition, Section 219 of the CAA amendments also required the use of reformulated gasoline in selected U.S. cities (those with the most severe ozone nonattainment conditions) to further reduce mobile-source emissions, including the emissions of air toxics.[49]

(2) State

TACs in California are primarily regulated through the Tanner Air Toxics Act and the Air Toxics Hot Spots Information and Assessment Act of 1987, also known as the Hot Spots Act. The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. To date, the CARB has adopted the USEPA's list of HAPs as TACs, as well as identified more than 21 additional TACs.[50]

Once a TAC is identified, the CARB adopts an Airborne Toxic Control Measure (ATCM) for sources that emit that particular TAC. If there is a concentration below which health effects are not likely to occur, the ATCM must reduce exposure below that threshold. If there is no safe concentration below which adverse health effects are not likely to occur, the measure must incorporate T-BACT to minimize emissions.

The Hot Spots Act requires existing facilities that emit toxic substances above a specified level to prepare a toxic emissions inventory; conduct a risk assessment if emissions are significant; notify the public of significant risk levels; and prepare and implement risk reduction measures.

The CARB adopted a comprehensive Risk Reduction Plan in 2000 after identifying DPM as a TAC.[51] Pursuant to this plan, the CARB adopted diesel-exhaust control measures and stringent emissions standards for various on-road and off-road sources of diesel emissions. Rules include the Public Transit Bus Fleet Rule and Emissions Standards for New Urban

[48] HAPs include 187 pollutants as defined by the EPA. TACs may include additional pollutants identified by Cal/EPA and the BAAQMD beyond those specifically defined as HAPs.

[49] United States Code. Title 42. Chapter 85. Section 7554. Urban Bus Standards.

[50] California Air Resources Board (CARB), 2011. Toxic Air Contaminant Identification List. Available at: http://www.arb.ca.gov/toxics/id/taclist.htm. Accessed: April 2019.

[51] California Air Resources Board (CARB), 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. Stationary Source Division and Mobile Source Division. October.

Buses, the California Diesel Fuel Regulations, On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation, and the In-Use Off-Road Diesel Vehicle Regulation.

(3) Local

At the local level, air pollution control or management districts may adopt and enforce the CARB's control measures and adopt their own TAC regulations. The BAAQMD limits emissions and public exposure to TACs primarily through Regulation 2-5 (New Source Review of Toxic Air Contaminants) and other rules, which are described by source category below.

(a) Planning Healthy Places

The purpose of the BAAQMD's Planning Healthy Places guidelines is to promote efficient and sustainable land use development while ensuring clean and healthy air for residents. Planning Healthy Places was developed on the premise that regional ambient air emissions and health risk control programs do not account for localized impacts to communities located near busy roadways, factories, airports, and other sources of air pollution.

The BAAQMD prepared these guidelines outside the CEQA context to assist developers and land use planners in addressing potential land use compatibility issues associated with locating people close to localized sources of air pollution, specifically PM and TACs. The BAAQMD identifies a list of best practices to reduce emissions or exposure to sensitive receptors located near development projects. Through Planning Healthy Places, the BAAQMD denotes regions in the Bay Area near highways and busy roadways where best practices are recommended to reduce exposure and emissions, as well as regions situated close to large and complex emissions sources (e.g., ports, refineries, and gas stations) where further study is required to assess air pollution levels.

Based on the interactive map for Planning Healthy Places, there are several discrete areas within the study area where BAAQMD recommends further study.[52] Additionally, best practices are recommended for areas adjacent to I-880, US-101, CA-87, CA-82, and other major roadways within the study area. These recommendations are intended for development projects that will place future residential receptors near existing sources of PM and TAC emissions.

2.2.4 Source-Specific Standards

The USEPA, CARB, and the BAAQMD administer regulations that limit criteria air pollutant, HAP, and TAC emissions (including DPM) from specific sources. The following subsections describe the regulations applicable to emissions sources for both the construction and operations activities of the Proposed Project.

(1) Commercial Aircraft Engines

In addition to its authority to adopt, amend and enforce the NAAQS, Section 233 of the Clean Air Act exclusively vests the authority to promulgate emission standards for aircraft or aircraft engines with the USEPA. States and other municipalities are preempted from

[52] Bay Area Air Quality Management District (BAAQMD), 2016. Planning Healthy Places. Interactive Map of Location of Communities and Places Estimated to Have Elevated Levels of Fine Particulates and/or Toxic Air Contaminants. Available at: https://www.arcgis.com/home/webmap/viewer.html?webmap=9b240e706e6545e0996be9df227a5b8c&extent=-122.5158,37.5806,-122.0087,37.8427. Accessed: April 2019.

adopting or enforcing any standard respecting aircraft engine emissions unless such standard is identical to USEPA's standards.[53]

To date, the USEPA has adopted NO_x emission standards for aircraft gas turbine engines with rated thrusts greater than 26.7 kilonewtons. (These types of engines are used primarily on commercial passenger and freight aircraft.) The requirements were previously adopted by the International Civil Aviation Organization (ICAO). Included in the rule are two new tiers of more stringent emission standards for NO_x. These are referred to as Tier 6 standards and Tier 8 standards. The Tier 6 standards became effective for newly-manufactured aircraft engines beginning in 2013.[54] In addition, the USEPA has aircraft exhaust standards for NO_x, HC, CO, and smoke.[55]

(2) Airport Shuttles

CARB has approved a regulation to accelerate the deployment of zero-emission airport shuttle fleets at large, medium, and small hub airports, including SJC. The Zero-Emission Airport Shuttle Regulation would require the following percentages of airport shuttle fleets to be zero-emission vehicles (battery electric or fuel cell): 33 percent by the end of 2027, 66 percent by the end of 2031, and 100 percent by the end of 2035.[56]

Of note, in May 2019, the Airport completed the conversion of its City-owned/operated airport shuttle fleet to zero-emission vehicles.

(3) Mobile Off-Road Engines (Construction Phase)

Construction emissions generated from off-road construction equipment such as loaders, graders, and cranes are subject to federal and State regulations, as described below.

(a) Federal Emission Standards for Nonroad Diesel Engines

This program applies to nonroad diesel-powered engines, such as found in construction, general industrial, and port terminal equipment. The USEPA established a series of emissions standards, called Tiers, for new nonroad diesel engines, culminating in the 2004 Nonroad Tier 4 Final Rule.[57, 58] The tiers require progressively more stringent emissions limits over time in which each tier is phased in over several years by engine power category—Tier 1: 1996-2005; Tier 2: 2001-2006; Tier 3: 2006-2008; Tier 4: 2008-2015.

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[53] 42 U.S. Code § 7573 – State Standards and Controls.

[54] USEPA. 2017. Regulations for Nitrogen Oxide Emissions from Aircraft. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-nitrogen-oxide-emissions-aircraft. Accessed: April 2019.

[55] USEPA. 2016. Aircraft: Exhaust Emission Standards. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100OA04.pdf. Accessed: April 2019.

[56] CARB. 2018. Proposed Regulation Order for the Proposed Zero-Emission Airport Shuttle Regulation. Available at: https://www.arb.ca.gov/regact/2019/asb/appa.pdf?_ga=2.255035912.1469842448.1555030954-893091953.1554304459. Accessed: April 2019.

[57] United States Environmental Protection Agency (EPA), 1998. Control of Emissions of Air Pollution from Nonroad Diesel Engines, Final Rule. Title 40 Code of Federal Regulations, Parts 9, 86, and 89. October.

[58] United States Environmental Protection Agency (EPA), 2004. Control of Emissions of Air Pollution from Nonroad Diesel Engines and Fuel, Final Rule. Title 40 Code of Federal Regulations, Parts 9, 69, 80, 86, 89, 94, 1039, 1048, 1051, 1065, and 1068. June.

(b) CARB Off-Road Emissions Regulation for Compression-Ignition Engines and Equipment

Similar to the USEPA Nonroad Diesel Rule, the CARB Off-Road Emissions Regulation for Compression-Ignition Engines and Equipment applies to diesel engines such as those found in construction, general industrial, and port terminal equipment.[59, 60] Initially adopted in 2000 and amended in 2004, the regulation establishes Tier emissions standards, test procedures, and warranty and certification requirements. For some model years and engine sizes, the CARB Tier emissions standards are more stringent than the USEPA standards.

(c) State In-Use Off-Road Diesel Vehicle Regulation

In July 2007, the CARB adopted the In-Use Off-Road Diesel Vehicle Regulation and amended it in December 2011.[61, 62] The regulation requires owners of off-road mobile equipment powered by diesel engines 25 horsepower or larger to meet the fleet average or BACT requirements for NO_X and PM emissions by January 1 of each year. The regulation also establishes idling restrictions, limitations on buying/selling of older off-road diesel vehicles (Tier 0), reporting requirements, and retrofit and replacement requirements. The requirements and compliance dates vary by fleet size, with performance requirements for large fleets beginning in 2014, medium fleets in 2017, and small fleets in 2019.

(4) Mobile On-Road Engines

Construction can generate air emissions from on-road heavy-duty trucks such as haul trucks and vendor trucks. The operation of buses, maintenance trucks, and the shuttle van also generate air emissions. These sources are subject to federal and State regulations.

(a) Federal Emissions Standards for Heavy-Duty Engines and Vehicles

The USEPA established a series of increasingly strict emissions standards for new engines, starting in 1988, culminating with the 2001 Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements Rule, more commonly known as the 2007 Highway Rule.[63] This rule integrated engine and fuel controls to gain emission reductions and established a PM emissions standard of 0.01 gram per horsepower-hour (g/hp-hr) for new vehicles beginning with model year 2007. NO_X and non-methane hydrocarbon standards of 0.20 g/hp-hr and 0.14 g/hp-hr, respectively, were phased in between 2007 and 2010 on a percent-of-sales basis: 50 percent from 2007 to 2009 and 100 percent in 2010.

(b) State Heavy-Duty Diesel Truck Idling Regulation

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[59] California Air Resources Board (CARB), 2004a. Off-Road Compression-Ignition Engines and Equipment. 13 CCR Section 2420 & Section 2425.1. December.

[60] California Air Resources Board (CARB), 2012. New Off-Road Compression-Ignition (Diesel) Engines and Equipment. Available at: http://arb.ca.gov/msprog/offroad/orcomp/orcomp.htm. Accessed: April 2019.

[61] Air Resources Board (ARB). 2011. Regulation for In-Use Off-Road Diesel-Fueled Fleets. Title 13, California Code of Regulations, Section 2449.

[62] Air Resources Board (ARB). 2019. In-Use Off-Road Diesel Vehicle Regulation. Available at: http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm. Accessed: April 2019.

[63] United States Environmental Protection Agency (EPA). 2001. Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements, Final Rule ("2007 Highway Rule"). Title 40 Code of Federal Regulations, Parts 80 and 86. January 18.

CARB adopted the in-use heavy-duty diesel truck idling ATCM in July 2004. CARB approved the Heavy-Duty Diesel Truck Idling regulation in February 2005.[64, 65] The regulation requires in-state and out-of-state registered sleeper-berth-equipped trucks to shut down their engines if idling for longer than 5 minutes, except in the case of queuing (if the queue is located more than 100 feet from any homes or schools). Under the regulation, 2008 and newer model year heavy-duty diesel engines need to be equipped with a non-programmable engine shutdown system that automatically shuts down the engine after 5 minutes of idling or optionally meet a stringent oxides of nitrogen idling emission standard. Trucks with engines of model year 2006 or older may use any California or federally certified diesel-fueled auxiliary power system or fuel-fired heaters.

(c) Statewide Truck and Bus Regulation

In addition to the 2007 Highway Rule described above, diesel buses are also subject to the CARB Statewide Truck and Bus Regulation adopted in December 2008 and amended in September 2011 and November 2014.[66, 67, 68] The regulation requires heavy-duty vehicles to be retrofitted with PM filters beginning on January 1, 2012, and requires older vehicles to be replaced starting on January 1, 2015. By January 1, 2023, nearly all trucks and buses are required to have 2010-model-year engines or the equivalent. The 2014 amendment extended the timeline to retrofit PM filters for certain categories.

(d) Pavley Clean Car Standards

Assembly Bill 1493 ("the Pavley Standard" or AB 1493) required CARB to adopt regulations by January 1, 2005, to reduce GHG emissions from non-commercial passenger vehicles and light-duty trucks of model year 2009 through 2016. AB 1493 also required the California Climate Action Registry (CCAR) to develop and adopt protocols for the reporting and certification of GHG emissions reductions from mobile sources for use by CARB in granting emission reduction credits. AB 1493 further authorized CARB to grant emission reduction credits for reductions of GHG emissions prior to the date of enforcement of regulations, using model year 2000 as the baseline for reduction.

In 2004, CARB applied to the USEPA for a waiver under the federal Clean Air Act to authorize implementation of the AB 1493 regulations. Subsequently, on June 30, 2009, the USEPA granted the waiver to California for its GHG emission standards for motor vehicles. As part of this waiver, USEPA specified the following provision: CARB may not hold a manufacturer liable or responsible for any noncompliance caused by emission debits generated by a manufacturer for the 2009 model year.

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[64] California Air Resources Board (CARB). 2004. Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Title 13 California Code of Regulations, Chapter 10, Section 2485. July.

[65] California Air Resources Board (CARB). 2016. Heavy-Duty Vehicle Idling Emission Reduction Program. Available at: http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm. Accessed: April 2019.

[66] California Air Resources Board (CARB). 2018. Truck and Bus Regulation: On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation. Available at: http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm. Accessed: April 2019.

[67] California Air Resources Board (CARB). 2011. Amendments to the Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants from in-Use On-Road Diesel-Fueled Vehicles. Title 13 California Code of Regulations, Chapter 1, Section 2025. September.

[68] California Air Resources Board (CARB). 2014. Amendments to the Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants from in-Use On-Road Diesel-Fueled Vehicles. Title 13 California Code of Regulations, Chapter 1, Section 2025. November.

ARB's approach to passenger vehicles (cars and light trucks), under AB 1493, combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. This new approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emission vehicles in California. These standards will apply to all passenger and light duty trucks used by customers, employees of and deliveries to the Proposed Project. While AB 1493 focuses on the reduction of GHG emissions, it is anticipated that this regulation would also help reduce criteria air pollutants.

(e) Advanced Clean Cars

In January 2012, CARB approved the Advanced Clean Cars (ACC) program,[69] a new emissions-control program for model year 2017 through 2025. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of zero-emission vehicles. By 2025, when the rules will be fully implemented, the new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions. While ACC focuses on the reduction of GHG emissions, it is anticipated that this regulation would also help reduce criteria air pollutants.

(5) Diesel Fuel Requirements

In addition to the source-specific standards that are typically met through emissions control technologies, the USEPA and the CARB also directly regulate the diesel fuel used in many project emission sources.

(a) Federal Highway Diesel Fuel Sulfur Requirements

The 2007 Highway Rule also required refineries to begin producing highway diesel fuel that meets a maximum sulfur standard of 15 ppm, known as ultra-low-sulfur diesel, by June 2006. All 2007 and later model year diesel-fueled vehicles must be refueled with ultra-low-sulfur diesel.

(b) Federal Nonroad Diesel Fuel Sulfur Requirements

This rule required low-sulfur (500 ppm) diesel fuel to be phased in starting in 2007, and required ultra-low-sulfur diesel (15 ppm) to be phased in over the 2010–2012 period for nonroad, locomotive, and marine engines.[70] The California Diesel Fuel Regulations (described below) generally preempt this rule for other sources such as construction equipment and require ultra-low-sulfur diesel at an earlier date.

(c) California Diesel Fuel Regulations

In 1988, the CARB proposed an initial diesel fuel regulation limiting the sulfur content and aromatic hydrocarbon content of diesel fuel for motor vehicles and identified particulate emissions from diesel-fueled engines as a TAC. The 1988 initial diesel fuel regulation was subsequently amended and additional regulations regarding diesel fuel were passed. Current standards for the sale of diesel fuel in California require a sulfur limit of 15 ppm,[71] an

[69] Advanced Clean Cars Program. Available at: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program. Accessed: April 2019.

[70] This applies only to diesel fuel, as opposed to marine residual fuel, which is more typically used for very large ocean-going vessels.

[71] California Air Resources Board (CARB). 2004. Amendments to the California Diesel Fuel Regulations, Sulfur Content of Diesel Fuel. 13 CCR §2281. August.

aromatic hydrocarbon limit of 10 percent by volume,[72] and a minimum lubricity level of a maximum wear scar diameter of 520 microns based on ASTM International test method D6079-02, Standard Test Method for Evaluating Lubricity of Diesel Fuels by the High Frequency Reciprocating Rig.[73, 74]

These State regulations establish the same fuel sulfur content limits as the federal diesel fuel regulations described above (15 ppm or 0.0015 percent); however, the State fuel regulations accelerate the effective dates of the requirements for non-highway applications within California by 3 to 5 years.

2.2.5 Odors

Because odors are typically considered a local air quality problem, the USEPA has not established any odor regulations. Instead, the BAAQMD enforces rules that pertain to odors in the SFBAAB. Although offensive odors rarely cause physical harm, they can be unpleasant and generate citizen complaints. The BAAQMD's Regulation 7 (Odorous Substances) places general limitations on odorous substances and specific emission limitations on certain odorous compounds. This regulation does not apply until the air pollution control officer receives, within a 90-day period, 10 or more odor complaints alleging that a person or entity has caused odors, at or beyond the source's property line, that are perceived to be objectionable by the complainants in the normal course of their work, travel, or residence. At this point, the limits in the regulation become effective until such time as no complaints have been received by the air pollution control officer for 1 year. The limits in the regulation become applicable again if the air pollution control officer receives odor complaints from five or more complainants within a 90-day period.

[72] California Air Resources Board (CARB). 2004. Amendments to the California Diesel Fuel Regulations, Aromatic Hydrocarbon Content of Diesel Fuel. 13 CCR Section 2282. August.

[73] California Air Resources Board (CARB). 2004. Amendments to the California Diesel Fuel Regulations, Lubricity of Diesel Fuel. 13 CCR §2284. August.

[74] California Code of Regulations, Title 13, Sections 2281, 2282, and 2284.

3. METHODOLOGY AND INVENTORY

The steps conducted in performing this air quality analysis are as follows: (1) develop emissions inventories for the Existing/Baseline scenario (2018) and Proposed Project scenario (2037); (2) perform air dispersion modeling for pollutant concentrations; and (3) assess the Proposed Project's impact relative to the BAAQMD's numeric thresholds and the Appendix G criteria of the State CEQA Guidelines[75].

3.1 Scenarios Evaluated

3.1.1 Construction Scenarios Evaluated

Ramboll evaluated criteria air pollutant emissions associated with the construction of the Proposed Project. The Proposed Project would construct new development as defined in Project Phasing for Proposed Major Amendment to Airport Master Plan. These projects aim to improve SJC's airfield, terminals, parking garages, air cargo facilities, and general aviation and aviation support facilities. List of landside and airside projects proposed under the amended Master Plan are provided in **Table 3.1-1** and **Table 3.1-2**, respectively. Construction activities would take place from 2019 through 2037. Construction emissions depend on the activity levels of heavy-duty construction equipment, truck haul trips, and vehicle trips made by construction workers and vendors traveling to and from the Proposed Project site.

Additionally, Ramboll also calculated emissions associated with the construction of projects under the Existing Approved Master Plan, as shown in **Table 3.1-3**.

3.1.2 Operational Scenarios Evaluated

Ramboll evaluated emissions for the following operational scenarios in this technical report:

1. Existing/Baseline – calculated existing Airport emissions in year 2018
2. Proposed Project (2037) – calculated Airport emissions in year 2037, after completion of all Master Plan Projects
3. No Project/No New Facilities – calculated Airport emissions in year 2037, assuming no new facilities have been constructed
4. No Project/Buildout under Existing Approved Master Plan – calculated Airport emissions in year 2037, assuming only those facilities approved in the existing 2018 Master Plan have been constructed

Scenarios 3 and 4 are considered Project Alternatives. Operational emissions depend on airport activity levels (forecasted number of air passengers, tons of air cargo, and general aviation activity), and facilities operations. Activity levels for each scenario are shown in **Table 3.1-4**. As shown, the activity levels at the Airport under Scenarios 2, 3, and 4 (all for year 2037) will be identical. Airport-related emissions will vary between these Scenarios, however, because of differences in the facilities that are assumed to be in place under each Scenario.

[75] California Natural Resources Agency. CEQ Appendix G: Environmental Checklist Form. Available online: http://resources.ca.gov/ceqa/guidelines/Appendix_G.html. Accessed on: May 20, 2019.

3.1.3 Mid-Project Scenario

The Mid-Project scenario provides a snapshot of the Airport's emission impacts in 2027, which includes Airport Operational emissions in year 2027, after completion of Phase 1 Master Plan Projects as well as emissions from construction activities taking place in 2027.

3.2 Emission Inventory Development

This section describes the methodology that Ramboll used to develop the construction and operational emissions inventories for the Proposed Project. This analysis evaluates criteria pollutants as well as TACs identified by Office of Environmental Health Hazard Assessment (OEHHA). For this analysis, the following criteria pollutants were considered: ozone, CO, PM_{10}, $PM_{2.5}$ and Pb. Because ozone is a secondary pollutant (i.e., it is not directly emitted but is formed in the atmosphere), emissions of VOCs and NO_x, which react in the presence of sunlight to form ozone, were used to assess impacts on ozone levels.

To estimate the CAP and TAC emissions from the Proposed Project, Ramboll directly or indirectly relied primarily on emissions estimation guidance from government-sponsored organizations, Project specific studies (e.g., aircraft and traffic studies), and emission estimation software.

3.2.1 Construction Emissions Inventory

Proposed Project construction would generate CAP emissions from heavy-duty construction equipment activity, architectural coating and asphalt paving off-gassing, truck haul trips, and construction workers and vendor truck trips to and from the Proposed Project site. Mobile source emissions would be generated from on-road vehicles and construction equipment, including but not limited to dump trucks, excavators, bulldozers, compactors, forklifts, and cranes. CAP emissions would include emissions of NO_x, ROG, PM_{10}, and $PM_{2.5}$. Diesel-powered off-road construction equipment and traffic to and from the construction site would also generate TACs. The assessment of construction air quality impacts considers each of these sources and recognizes that construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions.

3.2.1.1 California Emissions Estimator Model

To quantify emissions from landside construction improvements (e.g., new parking garage, terminal expansion, and hotel), Ramboll utilized the California Emissions Estimator Model version 2016.3.2 (CalEEMod®)[76]. The major construction phases included in this analysis are:

- Demolition: involves demolishing/removing existing buildings.
- Site Preparation: involves clearing vegetation (grubbing and tree/stump removal) and stones prior to grading.
- Grading: involves the cut and fill of land to ensure the proper base and slope for the construction foundation.
- Paving: involves the laying of concrete or asphalt such as in parking lots or roads.
- Building Construction: involves the construction of structures and buildings.

[76] CAPCOA. California Emissions Estimator Model® version 2016.3.2. Available at: http://www.caleemod.com/. Accessed: April 2019.

- Architectural Coating: involves the application of coatings to both the interior and exterior of buildings or structures.

CalEEMod® calculates emissions for projects located in California and was developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California Air Districts. CalEEMod® utilizes widely accepted models for emissions estimates combined with appropriate default data that can be used if site-specific information is not available. For example, CalEEMod® incorporates the USEPA AP-42 emission factors,[77] CARB's on-road and off-road equipment emission models such as EMission FACtor model (EMFAC) 2014 model and OFFROAD2011, and studies commissioned by California agencies, such as the California Energy Commission and CalRecycle. OFFROAD is an emission factor model used to calculate emission rates from off-road mobile sources (e.g., construction equipment, agricultural equipment).[78] EMFAC is an emission factor model used to calculate emissions rates from on-road vehicles (e.g., passenger vehicles).[79] CARB released EMFAC2017 version in March 2018, however these factors were not incorporated for construction related on-road emissions in order to facilitate use of CalEEMod®.

As for the CalEEMod® default values and existing regulation methodologies, the program is set to be customized for use in each specific local air district region. Appropriate statewide default values also can be utilized if regional default values are not defined. Here, Ramboll used default factors for the Santa Clara County area that is within the BAAQMD jurisdiction for the emission inventory, unless otherwise noted in the methodology descriptions below. Details regarding the specific methodologies used by CalEEMod® can be found in the CalEEMod® User's Guide and associated appendices.[80]

The CalEEMod® output files are provided for reference in **Appendix A** to this report.

3.2.1.2 Airport Construction Emissions Inventory Tool

To calculate emissions from the construction of airside (i.e., runway and taxiway) improvements, Ramboll utilized the Airport Construction Emissions Inventory Tool (ACEIT) developed by the Airport Cooperative Research Program of the Transportation Research Board.[81] ACEIT models emissions from demolition, site preparation, building, asphalt and concrete paving work and batching, material delivery, construction employee work commute, and painting/striping. Activity data for off-road construction equipment and on-road vehicles (i.e., equipment type, equipment counts, average rated horsepower, load factor, hours of activity, vehicle trips and VMT) for airside projects are obtained from ACEIT.

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[77] The USEPA maintains a compilation of Air Pollutant Emission Factors and process information for several air pollution source categories. The data is based on source test data, material balance studies, and engineering estimates. Available at: https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors. Accessed: April 2019.

[78] CARB. 2017. Mobile Source Emissions Inventory – Off-Road Diesel Vehicles. Available at: http://www.arb.ca.gov/msei/msei.htm. Accessed: April 2019.

[79] CARB. 2017. Mobile Source Emissions Inventory – On-Road Motor Vehicles. Available at: http://www.arb.ca.gov/msei/modeling.htm. Accessed: April 2019.

[80] CAPCOA. California Emissions Estimator Model®, User's Guide for CalEEMod® Version 2016.3.2. Available at: http://www.caleemod.com/. Accessed: April 2019.

[81] Transportation Research Board. Transportation Research Board. Guidance for Estimating Airport Construction Emissions. Available at: http://www.trb.org/main/blurbs/170234.aspx. Accessed: May 2019.

ACEIT default emission factors for non-road (off-road) equipment and on-road vehicles are from the NONROAD and MOVES models, respectively.[82] For the Air Quality Technical Report analysis, Ramboll replaced these default emission factors for mobile sources with California-specific emission factors from CARB's OFFROAD2017 model (same as OFFROAD2011) for off-road equipment and from CalEEMod® for on-road vehicles (based on EMFAC2014), when available. ACEIT default emission factors were used for certain off-road equipment types when OFFROAD2017 emission factors were unavailable. Additionally, volatile organic compound (VOC) evaporative emissions from off-road equipment were conservatively calculated using default emissions factors from ACEIT because OFFROAD2017 assumes zero VOC evaporative emissions from diesel equipment. For all airside projects, construction is conservatively assumed to start in CY 2020 for the purposes of calculating emissions. All airside construction projects were evaluated assuming a 6-month duration in ACEIT.

Fugitive emissions from all source types except asphalt drying are obtained from ACEIT. Fugitive VOC emissions from asphalt drying are calculated using the default ACEIT formula for mass of asphalt loaded and CARB recommended emission factor for TOG emissions per ton of asphalt applied, assuming that 15% of taxiway and runway projects would be constructed using asphalt. The other 85% is assumed to be concrete.

3.2.1.3 Construction Emissions Inventory Summary

Table 3.2-1a and **Table 3.2-2a** present the unmitigated CAP emissions associated with construction of landside and airside projects, respectively. Mitigated CAP emissions associated with construction of landside and airside projects after applying mitigation measure MM-AQ-2 (Construction Emissions Minimization) are shown in **Table 3.2-1b** and **Table 3.2-2b**, respectively. **Table 3.2-3** presents unmitigated CAP emissions associated with the construction of projects under the Existing Approved Master Plan.

3.2.2 Operational Emissions Inventory

Operation of the Proposed Project and each of the Scenarios would result in air emissions from a variety of sources, including aircraft, auxiliary power units (APUs), ground support equipment (GSE), airside equipment, on-road mobile sources including airport shuttle buses, stationary sources such as jet fuel tanks and boilers, and new built environment attributes (e.g., hotel, parking garages, expansion of terminal buildings and other airport facilities). Additionally, there are air emissions associated with architectural coating and consumer product used on the Airport property. This section describes the methodologies used to quantify operational emissions from these sources.

3.2.2.1 Aviation Environmental Design Tool

Ramboll primarily used the Aviation Environmental Design Tool (AEDT, version 2d) to assist in quantifying operational emissions for the Airport. AEDT is a combined emissions and dispersion modeling software for assessing air quality at civilian airports and military air bases.[83,84] The model was developed by the FAA in cooperation with the United States Air Force. The model is used to produce an inventory of emissions generated by sources on and

[82] Transportation Research Board. Guidance for Estimating Airport Construction Emissions. Available at: http://www.trb.org/main/blurbs/170234.aspx. Accessed: April 2019.

[83] Federal Aviation Administration. Aviation Environmental Design Tool (AEDT). Available at: https://aedt.faa.gov/. Accessed: April 2019.

[84] AEDT replaced the FAA's Emissions and Dispersion Modeling System (EDMS) as of May 2015.

around the airport or air base, and to calculate pollutant concentrations in these environments. AEDT is also used to perform noise analyses.

AEDT performs two primary air quality functions: generating emissions inventories and performing dispersion analyses. AEDT calculates emissions for several types of airport sources, based on aircraft engine performance, times in mode, and landing-takeoff cycles (LTOs), by engine type, for each inventory. AEDT incorporates both USEPA-approved emissions inventory methodologies and a dispersion model to ensure that analyses performed with the application conform to USEPA guidelines. The AEDT setup used to calculate CAP emissions is consistent with the model setup that was used to assess noise impacts for the Existing/Baseline and Proposed Project scenarios and is based on the same set of inputs to AEDT such as the number of modeled operations, aircraft types and other operational parameters. **Table 3.2-4** contains a listing of aircraft types, category and engine assignments modeled in AEDT, while **Tables 3.2-5 and 3.2-6** contains operational parameters input to AEDT.

Ramboll utilized AEDT to quantify CAP emissions from aircraft, APUs, and ground support equipment (GSE). To incorporate the benefits of electrification of GSE, additional post-processing of the AEDT outputs was performed. Emissions from GSE are likely conservative, since AEDT calculates GSE emissions using USEPA NONROAD emission factors which may not capture stricter regulation on off-road vehicles and equipment implemented by CARB.

3.2.2.2 Aircraft

Aircraft operational emissions are based on Project-specific projections of aircraft landings and takeoffs. [85] The potential aircraft types operating at SJC are shown in **Table 3.2-7** for the Existing/Baseline (2018), Mid-Project (2027) and Proposed Project (2037) years.

Ramboll specifically utilized AEDT to quantify CAP emissions from aircraft. **Table 3.2-4** identifies aircraft classifications and engine types included in the technical report's AEDT inventories. Given the length of this planning timeframe (i.e., through 2037), it is assumed that there will be some fleet turnover and introduction of newer and next generation aircraft. **Table 3.2-5** shows the aircraft fleet mix for the Existing/Baseline scenario and **Table 3.2-6** shows the assumed aircraft fleet mix forecasted for the Proposed Project scenario. Note that this analysis does not explicitly account for ICAO and USEPA programs to reduce aircraft emissions. While it is expected that these will help reduce emissions, these programs are still being developed and details of implementation are not known yet. Therefore, the analysis conservatively does not quantify the benefits of these at this time.

Emissions were calculated based on AEDT default emission factors by aircraft type and AEDT default aircraft performance and times-in-mode (i.e., ground roll, takeoff, climbout, and approach). Stage length (a range of trip lengths/distances for departure profiles) is a required input for departing aircraft operations as it influences the weight of the aircraft at takeoff and affects takeoff and climbout performance (and, consequently, emissions produced from these operations). Assumptions on stage length for departing aircraft are tabulated in **Table 3.2-5** and **Table 3.2-6** and are based on actual operations in 2018 and are consistent with those used in the noise analysis. Taxi time for all arriving aircraft (taxi-in time) was set to 4 minutes and 35 seconds; taxi time for departing aircraft (taxi-out time)

[85] The aircraft fleet mix is based on mapping for SJC using forecasts from Mineta-San Jose International Airport Master Plan Demand Forecast Update Technical Report, HNTB Corporation, June 2, 2017 prepared for the FAA's 2017 RIM study.

was set to 13 minutes and 43 seconds. Taxi-in and -out times were obtained from the Federal Aviation Administration's Aviation System Performance Metric (ASPM) database for average of actual operations at SJC in 2018. The taxi times for the Proposed Project scenario were assumed to be the same as those in the Existing/Baseline scenario.

While lead (a CAP) is not quantified by AEDT, it is generated during the combustion of avgas (a fuel used by propeller aircraft). For this analysis, lead is quantified using the following methodology. The avgas lead content is assumed to be 2.12 grams per gallon (based on the ASTM standard for 100LL fuel), and 5% of lead is assumed to be retained in the engine, engine oil and/or exhaust system following USEPA methodology.[86]

In order to quantify emissions for the Mid-Project (2027) scenario, emissions from operations in 2018 and 2037 were scaled based on Existing/Baseline (2018) and Proposed Project (2037) aircraft activity. For each aircraft type projected to operate in 2027, emissions from the closest matching aircraft modeled in AEDT were scaled based on projected operations of that aircraft type in 2027. When an exact match did not exist, aircraft types were grouped by aircraft category and fuel. For all aircraft projected to operate in both 2027 and 2018, emissions were scaled using 2018 emissions; for aircraft projected to operate in 2037 and 2027 but not in 2018, emissions were scaled using 2037 emissions.

Aircraft-related CAP emissions for each of the Scenarios are provided in **Table 3.2-8**. **Appendix B** lists CAP and lead emissions by aircraft type for 2018 and 2037. Aircraft CAP emissions increase between the Existing/Baseline (2018) and Proposed Project (2037) years, except for lead from aviation gasoline consumption, which decreases into the future as a result of fewer piston-powered general aviation aircraft and helicopter activity.

TAC emissions are calculated using speciation factors for VOCs and particulate matter from USEPA and CARB,[87,88,89] which are shown in **Table 3.2-9** and **Table 3.2-10**.

3.2.2.3 Auxiliary Power Units

Ramboll calculated emissions from APUs by utilizing AEDT default APU assignments (engine type/horsepower) by aircraft class. In addition, Ramboll used SJC-specific taxi time data for APU run time for each LTO. APUs were assumed to not operate while aircraft are at the gate due to gate power and preconditioned air provided to the aircraft while at the gates.

Emissions for the mid-project (2027) scenario were scaled from 2018 emissions or 2037 emissions using the same methodology as is described in **Section 3.2.2.2.**

Table 3.2-11 summarizes APU-related CAP emissions for each of the Scenarios while TACs from VOC emissions from APUs are calculated according to the speciation profile listed in **Table 3.2-9**.

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[86] USEPA, 2013. Calculating Piston-Engine Aircraft Airport Inventories for Lead for the 2011 National Emissions Inventory. EPA-420-B-13-040. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi/P100LFGL.PDF?Dockey=P100LFGL.PDF. Accessed: January 2019

[87] CARB PM Speciation Profiles for Commercial Aircraft – Jet Fuel (PM1412). Available at: https://www.arb.ca.gov/ei/speciate/profilereference/Aircraft_PM1411-14.pdf. Accessed: April, 2019.

[88] CARB OG speciation profile for aircraft - jet fuel (OG5861). Available at: https://www.arb.ca.gov/ei/speciate/profilereference/Aircraft_OG5861.pdf. Accessed: April, 2019.

[89] EPA Speciate 4.5 database – Profile 5565 and Profile 1099. Available at: https://www.epa.gov/air-emissions-modeling/speciate-version-45-through-40. Accessed: April, 2019.

3.2.2.4 Ground Support Equipment

Emissions from GSE equipment, including air conditioners, air starts, aircraft tractors, baggage tractors, belt loaders, cabin service trucks, cargo loaders, catering trucks, forklifts, fuel trucks, hydrant trucks, lavatory trucks, service trucks and water service equipment, were calculated based on AEDT defaults for each aircraft class. AEDT defaults include fuel type, operating time, horsepower, and load factor. However, Ramboll utilized information on actual GSE fuel types, in order to estimate emission reductions from electrification for specific GSE types.[90]

GSE-related CAP emissions are from gasoline fuel and diesel fuel are presented in **Table 3.2-12a** and **Table 3.2-12b**, respectively, for each of the Scenarios. This table reflects emissions adjustments that account for the actual percent electrification for each GSE equipment type. TACs from gasoline VOC emissions are calculated according to CARB guidance for speciation of VOCs from gasoline-powered off-road equipment, as shown in **Table 3.2-13**.[91]

Emissions from GSE in 2027 were scaled based on change in flight activity associated with their respective aircraft types, as is described in **Section 3.2.2.2.** Changes to equipment emission factors were accounted for by additionally scaling GSE emissions by the ratio of the USEPA NONROAD emission factor between 2027 and 2018 (or 2037, if the associated aircraft type was not modeled in the 2018 run).

3.2.2.5 Mobile Sources

Mobile sources associated with the Airport's day-to-day operations include landside and airside vehicles owned and operated by the Airport and by third parties, such as on-site maintenance trucks, shuttle services, employee and passenger transportation, and other off-road equipment not included in GSE above. Calculation methodologies for these sources are described in the following sections below.

3.2.2.6 Passenger and Employee Traffic

Ramboll calculated emissions from traffic by utilizing trip generation rates and vehicle miles traveled for airport-related vehicle traffic for each scenario (Existing/Baseline, Mid-Project, and Proposed Project). Ramboll utilized EMFAC2017 emission factors and average EMFAC2017 fleet mixes for each scenario. The traffic related emissions are based on the trip generation and vehicle miles travelled (see **Table 3.2-14)**, the default fleet mix for each scenario year (see **Table 3.2-15**), the EMFAC2017 emission factors (see **Table 3.2-16**), and the entrained dust emission factors (see **Table 3.2-17**). **Table 3.2-18** summarizes the terminal traffic-related CAP emissions for each scenario.

On June 27, 2019, CARB approved the Zero-Emission Airport Shuttle rule that will require fixed route airport shuttles serving the Airport to transition to zero-emission vehicles by 2035. Emission calculations for SJC-owned shuttles reflect airport actions towards electrifying their fleet, as discussed in **Section 3.2.2.7** below. However, emissions from other shuttles not owned/operated by SJC are conservatively assumed to be non-electrified, as the modeling was completed while the regulation was still in draft, un-adopted form.

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[90] Airlines provided an estimate of the fraction of equipment that was electric. A scaling factor was applied to emissions to reflect the updated electric equipment fraction. It was conservatively assumed that this fraction would not change over time.

[91] Speciation Profiles Used in CARB Modeling, speciation Profile 816 (Utility equipment - gasoline - 4 cycle - CalPoly 1991). Available at: https://www.arb.ca.gov/ei/speciate/speciate.htm#specprof. Accessed: April, 2019.

Therefore, emissions from non-SJC owned/operated airport shuttles are conservative in the Proposed Project scenario.

3.2.2.7 SJC-Owned Airport Shuttle Buses

At the time that the Notice of Preparation for the Proposed Project's Environmental Impact Report (EIR) was circulated, SJC had 10 shuttle buses running on compressed natural gas (CNG) fuel. **Table 3.5-19** summarizes the airport shuttle bus CAP emissions for Existing/Baseline scenario based on actual fuel usage and emission factors from EMFAC2017. As discussed above, in May 2019, the Airport electrified its shuttle bus fleet. Therefore, in the Proposed Project scenario, airport shuttle buses would result in no direct CAP emissions.

3.2.2.8 SJC-Owned Airside Equipment

Ramboll calculated CAP emissions from SJC owned and operated (non-GSE) off-road equipment by utilizing fuel consumption data for SJC and OFFROAD2017 emission factors. The same list of equipment is assumed to be in service in Mid-Project and Proposed Project scenarios (2027 and 2037), while fuel consumption was scaled based on million annual passengers. Model-year aggregated emission factors are used to account for fleet turnover over time. **Table 3.2-20** presents the emissions factors used[92] and **Table 3.2-21** presents the CAP emission calculations for this source type. TACs from VOC emissions due to gasoline-powered vehicles are calculated using CARB's speciation of VOCs from gasoline-powered off-road equipment, as shown in **Table 3.2-13**.

3.2.2.9 Stationary Sources

Ramboll calculated emissions for stationary source equipment, including heaters/boilers, emergency generators, and gasoline and diesel dispensing facilities including the fuel farm which dispenses Jet A fuel and fuel tanks which dispense Jet A fuel and avgas.

Boilers

The majority of natural gas consumption at the Airport is in three natural gas-fired boilers in the Central Plant. Two boilers are rated at 8.0 million British Thermal Units per hours (MMBtu/hour) and one boiler is rated at 5.2 MMBtu/hour. Natural gas usage at the Central Plant was based on utility readings for 2018. CAP and benzene, formaldehyde and toluene TAC emissions were calculated based on USEPA's AP-42 emission factors,[93] with the exception of NOx which was calculated assuming BAAQMD's permitted limit of 15 ppm at 3% O_2. Fuel usage for 2027 and 2037 was scaled by the change in annual passengers at the airport. **Table 3.2-22** summarizes the emissions from the boilers.

Miscellaneous Natural Gas Combustion

A small portion of natural gas consumption occurs in miscellaneous sources at the Airport. These could include sources such as small water heaters and kitchens. Natural gas usage for non-Central Plant uses was based on utility readings for 2018. CAP and benzene, formaldehyde and toluene TAC emissions were calculated based on emission factors from

[92] CARB. Mobile Source Emissions Inventory, Off-Road Diesel Vehicles. Available at: https://ww3.arb.ca.gov/msei/ordiesel.htm. Accessed: April 2019.

[93] USEPA AP-42, Chapter 1, Section 4, Natural Gas Combustion. Available at: https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors. Accessed: April 2019.

USEPA's AP-42 database.[94] Fuel usage for 2027 and 2037 was scaled by the change in annual passengers at the airport. **Table 3.2-23** summarizes the emissions from this source.

Emergency Generators

There are 20 diesel-fired emergency generators and fire pumps in operation at the Airport.[95] Operating hours and horsepower for each generator in 2018 was used for the emission calculations. CAP emissions were calculated based on a combination of manufacturer specifications, off-road equipment certification and USEPA's AP-42 database[96] where specific data was not available. It is expected that emergency generator operations will not increase with the Proposed Project as additional aircraft activity and passengers would not warrant additional emergency operations. Therefore, emissions in 2027 and 2037 are assumed to be the same as in 2018. **Table 3.2-24** lists the emission factors for emergency generator emissions, while **Table 3.2-25** summarizes annual emissions from emergency generators.

Fuel tank-related emissions

Tables 3.2-26, **3.2-27**, and **3.2-28** summarize tank-related emissions from jet fuel tanks, aviation gasoline tanks, and the gasoline dispensing facility. The Airport also operates a renewable diesel storage tank at its facility. However, given that working and breathing losses from diesel tanks are very small, emissions were not calculated for the diesel storage tank.

Fugitive VOC emissions due to working and breathing losses from 11 existing jet fuel tanks at SJC in 2018, and three additional jet fuel tanks in 2037 were calculated using USEPA AP-42 emission factors[97]. Fuel throughput in 2018 reflects actual fuel consumption at the airport in 2018. The calculations assume an 85% control efficiency for fugitive VOC emissions based on CARB's areawide source methodologies.[98] Commercial jet fuel throughput for 2027 and 2037 was scaled by the growth in annual passenger forecasts at SJC, while general aviation jet fuel was scaled according to the number of flight activities.

Fugitive VOC emissions from aviation gasoline tanks was calculated based on aviation gasoline throughput at the Airport for 2018 and using emission factors from SCAQMD[99],

[94] USEPA AP-42, Chapter 1, Section 4, Natural Gas Combustion. Available at: https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors. Accessed: April 2019.

[95] The Airport has 21 permitted emergency generators, however S-13 is no longer in operation.

[96] USEPA AP-42, Chapter 3, Section 3, Gasoline and Diesel Industrial Engines. Available at: https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors. Accessed: April 2019.

[97] USEPA AP-42, Chapter 7.1, Organic Liquid Storage Tanks. Available at: http://www.epa.gov/ttn/chief/ap42/ch07/final/c07s01.pdf Accessed: April 2019.

[98] CARB Area-wide source methodologies, Attachment H: Petroleum Marketing (methodology developed by Sonoma Technology, Inc. (STI) for the Central California Ozone Study (CCOS)). Available at https://www.arb.ca.gov/ei/areasrc/ccosmeth/att_h_petroleum_marketing.doc

[99] Wherever possible, BAAQMD-specific guidance was used in the analysis. However, methodologies from other air districts (e.g., SCAQMD) and sources were used in cases where BAAQMD does not provide analogous guidance, and there is no reason that different guidance would be needed in the Bay Area.

CARB and CAPCOA guidance,[100,101,102] for loading, breathing, refueling, hose permeation and spillage. Fuel throughput for 2027 and 2037 was scaled based on the number of flight activities.

VOC emissions from the gasoline dispensing station were based on gasoline usage at the airport in 2018, and emission factors per the BAAQMD Permit Handbook,[103] assuming a 95% control efficiency based on a Phase II recovery system. Gasoline usage for 2027 and 2037 was scaled based on the number of passengers forecasted for the Mid-Project and Proposed Project years.

TACs from fugitive VOC emissions from for jet fuel and aviation gasoline storage tanks are calculated per SCAQMD guidance for liquid organic storage tanks,[104] while those from the gasoline dispensing facility followed BAAQMD guidance for gasoline dispensing facilities.[105] These profiles are shown in **Table 3.2-29**.

3.2.2.10 Consumer Products

Consumer products are various solvents used in non-industrial applications, which emit VOCs during product use. These typically include cleaning supplies, kitchen aerosols, cosmetics, and toiletries. CalEEMod uses a default emission factor based on the total of all building square footage for both residential and non-residential buildings.[106] The default emission factor is based on the 2008 CARB Consumer Product Emission Inventory, updated to account for more recent rulemaking in California to reduce VOC emissions. An updated VOC inventory for 2017 was taken from the ARB and 2017 population estimates based on the State of California's Department of Finance demographic projections were used to estimate a statewide VOC EF for 2017. Consumer product VOC emissions are shown in **Table 3.2-30**.

3.2.2.11 Architectural Coating

Operational architectural coatings account for the reapplication of paint and coatings on interior and exterior surfaces, which result in emissions of VOCs. Architectural coating VOCs were calculated for new facilities and parking lots that would be constructed by the Proposed Project. The VOC content of paints was assumed to be 100 g/L for indoor applications and

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[100] SCAQMD Supplemental Instructions for Liquid Organic Storage Tanks (2017). Available at: http://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/supplemental-instructions-for-liquid-organic-storage-tanks.pdf Accessed April 2019.

[101] CARB Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities. Available at: https://www.arb.ca.gov/vapor/gdf-emisfactor/gdf%20umbrella%20document%20-%2020%20nov%202013.pdf. Accessed: January 2019.

[102] CAPCOA Gasoline Service Station Risk Assessment Guidelines. Available at: https://www.arb.ca.gov/ab2588/rrap-iwra/GasIWRA.pdf. Accessed: January 2019.

[103] BAAQMD Permit Handbook Section 3.2 Gasoline Dispensing Facilities, available at: http://www.baaqmd.gov/~/media/files/engineering/permit-handbook/baaqmd-permit-handbook.pdf?la=en. Accessed: April 2019.

[104] SCAQMD Supplemental Instructions for Liquid Organic Storage, available at: http://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/supplemental-instructions-for-liquid-organic-storage-tanks.pdf. Accessed April, 2019.

[105] BAAQMD Permit Handbook Section 3.2 Gasoline Dispensing Facilities, available at: http://www.baaqmd.gov/~/media/files/engineering/permit-handbook/baaqmd-permit-handbook.pdf?la=en. Accessed: April 2019.

[106] CAPCOA. California Emissions Estimator Model®, User's Guide for CalEEMod® Version 2016.3.2., Section 4.5.2 Consumer Products. Available at: http://www.caleemod.com/. Accessed: April 2019.

150 g/L for outdoor application, consistent with BAAQMD regulations.[107] CalEEMod® default parameters and equations were used to calculate VOC emission factors and annual emissions based on painted areas of non-residential buildings and parking lots.[108] These emissions are shown in **Table 3.2-31**.

3.2.2.12 Operational Emissions from Hotel Land Use

Since the new hotel is a new land use type that is not already a part of the Airport's property, emissions associated with the operations of hotel were calculated separately using CalEEMod® defaults. CAP emissions for area, energy, and mobile sources associated with the hotel's operation are provided in **Table 3.2-32**.

3.3 Health Risk Assessment

The purpose of the human health risk assessment (HRA) is to analyze potential health impacts that would result from construction and operation of the Proposed Project. The HRA was conducted in accordance with CARB's Air Toxics Hot Spots Program Risk Assessment Guidelines and is consistent with risk assessment guidance documents issued by the Cal/EPA Office of Environmental Health Hazard Assessment (OEHHA) [109] and the BAAQMD.[110] TAC modeled concentrations were used to calculate cancer risk, chronic hazard index (HI) and $PM_{2.5}$ concentrations at each sensitive receptor as well as acute HI at all receptors. Additionally, cancer risk, chronic HI and PM2.5 concentrations from nearby non-airport related activities (e.g., stationary sources, highways/freeways, other construction activities) are added to Proposed Project impacts and evaluated against BAAQMD cumulative impact thresholds.

Air Dispersion Modeling

The American Meteorological Society/USEPA Regulatory Model Improvement Committee Model (AERMOD) was used to evaluate the air dispersion of pollutants from the Proposed Project site in order to evaluate concentrations of TACs and $PM_{2.5}$ for evaluation against health risk thresholds. As of December 9, 2006, USEPA promulgated AERMOD as a replacement for ISCST3 as the recommended dispersion model.

AERMOD (Version 18081) was used to estimate offsite ambient air concentrations. This model, which has been approved for use by USEPA, CARB, and BAAQMD, incorporates multiple variables in its algorithms including:

- Meteorological data representative of surface and upper air conditions;
- Local terrain data to account for elevation changes;

[107] BAAQMD, 2009. Regulation 8 Organic Compounds, Rule 3 Architectural Coatings. Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/rules-and-regs/reg-08/rg0803_1101.pdf. Accessed: May 2019.

[108] CAPCOA. California Emissions Estimator Model®, User's Guide for CalEEMod® Version 2016.3.2., Appendix A Section 6.3 Architectural Coatings. Available at: http://www.caleemod.com/. Accessed: April 2019.

[109] Office of Environmental Health Hazard Assessment (OEHHA). 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines. Guidance Manual for the Preparation of Health Risk Assessments. Available at: http://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0. Accessed: April 2019.

[110] BAAQMD. 2016. Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines. Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/rules-and-regs/workshops/2016/reg-2-5/hra-guidelines_clean_jan_2016-pdf.pdf?la=en. Accessed: April 2019.

- Physical specification of emission sources including information such as:
  - Location;
  - Release height; and
  - Source dimensions.

Dispersion model averaging times are specified based on the target health endpoint to be assessed. Annual averaged concentrations are used to evaluate cancer risks, chronic hazard index (HI) and $PM_{2.5}$ concentrations at each sensitive receptor, while 1-hour average values are used to assess acute HI from operational sources. Dispersion modeling was performed using the complete 6-year meteorological data set for the San Jose International Airport weather station, thereby ensuring that all likely meteorological conditions are considered.

The following other options in AERMOD were also selected for use in this analysis:

- BAAQMD recommends that the regulatory default option in AERMOD be used, which established the settings for variables such as building downwash, urban modeling dispersion option, receptor heights, off-site receptor grid spacing, and project boundary receptor spacing.[111] Building dimensions used to process building downwash may be found in **Appendix C**.
- The air dispersion model was run using a unit emission factor approach.
- The model output was used in a post-processing calculation with actual emission rates to estimate the air concentrations at each receptor.

The air dispersion model files are listed in **Appendix C** and included electronically.

3.3.1.1 Source Characterization

Three different types of emission sources are used in the air dispersion model: area sources, volume sources, and point sources. **Table 3.3-1a** lists the sources and associated modeled source groups that are used in this study for the Existing/Baseline 2018 scenario, while **Table 3.3-1b** lists those used for the Proposed Project 2037 analysis.

Sources that can be reasonably represented as emitting at a uniform rate over a two-dimensional surface are modeled as area sources. Area sources modeled include aircraft landing and take-off ground roll on the runways, aircraft taxi in and out, GSE, APU at terminals and ramp areas, and other airport-owned off-road vehicles operating on the airside areas of the airport.

Sources that can be reasonably represented as emitting at a uniform rate from a three-dimensional space are modeled as volume sources. Operational volume sources modeled include the gasoline dispensing facility and fuel tanks. In addition, volume sources covering the planned construction area were used to model construction equipment emissions consistent with SCAQMD guidance.[112]

[111] BAAQMD. 2011. Recommended Methods for Screening and Modeling Local Risks and Hazards. Available at: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20Modeling%20Approach.ashx. Accessed: April 2019.

[112] SCAQMD Localized Significance Threshold Methodology. Available online at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf. Accessed: May 2019.

Sources that emit from stacks are modeled as point sources. The boiler stacks are the only point source.

Emissions from emergency generators and miscellaneous natural gas combustion sources were not modeled since they have minimal or no increase in emissions from Existing/Baseline conditions. Further, emissions from Proposed Project traffic (including those from the hotel) was not modeled given that the increase in average daily traffic volume on any segment is lower than 10,000 vehicles/day, the traffic screening threshold used by BAAQMD CEQA guidelines.[113]

It should be noted that helicopter operations are expected to decrease in the future as shown in **Table 3.2-7**. However, the modeling analysis conservatively assumes that helicopter operations remain static (i.e., equivalent to Existing/Baseline conditions). If helicopter activities were included in the air dispersion modeling analysis, the Proposed Project impacts would be lower than that calculated due to the resulting decrease in emissions related to helicopter operations.

Source Locations

Figure 2a shows the locations of all construction projects included in the Proposed Project, while **Figure 2b** shows the locations of those projects for which emissions were calculated and that were modeled in the air dispersion model. Emissions were only calculated for projects with new construction under the Amended Master Plan, with negligible emissions assumed for the other projects (e.g., those labeled as "no new construction" in **Table 3.1-2**). These projects were not modeled in the air dispersion model and therefore are not shown in **Figure 2b**. **Figures 3a** and **3b** show the locations of modeled operational sources in the Existing/Baseline and Proposed Project scenarios, respectively. The surrounding buildings near the boiler stacks are modeled such that the building downwash effects would be appropriately represented. The Building Profile Input Program (BPIP) was used to model building downwash effects on the dispersion of pollutants from point sources. **Figures 3c** and **3d** show the modeled arrival and departure flight tracks.

Source Configuration

Ramboll followed the AEDT Technical Manual and AEDT User Guide for default guidance on aircraft LTO modeling.[114,115] Taxiway and runway locations are based on the aerial photo and the airport layout map. The flight tracks modeled are based on the existing flight tracks at SJC, as documented by the Airport Noise and Monitoring System (ANOMS).".[116] The refined representation of the flight tracks was required to manage the calculation modeling time required and was developed to conservatively evaluate potential impacts by concentrating flights on more defined flight paths. Airborne emissions are allocated to the runways and

[113] BAAQMD California Environmental Quality Act Air Quality Guidelines. Available online at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: May 2019.

[114] Federal Aviation Administration (FAA). 2016. Aviation Environmental Design Tool (AEDT) Technical Manual Version 2d. Available at: https://aedt.faa.gov/documents/aedt2d_techmanual.pdf. Accessed: April 2019.

[115] FAA. 2016. AEDT User Guide Version 2c. Available at: https://aedt.faa.gov/Documents/AEDT2c_UserGuide.pdf. Accessed: April 2019.

[116] San Jose International Airport Master Plan Update Environmental Impact Report, State Clearinghouse #95073066, December 1997.

flight tracks based on utilization information presented in SJC's 1997 EIR noise study (Existing/Baseline) and SJC forecasts for 2037.

The model includes taxi-out and taxi-in emissions along the airport taxiways. Based on operational patterns at SJC, commercial and commuter taxi emissions were allocated to the taxiways on the East of the Airport, taxi emissions from general aviation and business jets were allocated to the Western taxiways, and military taxi emissions were allocated equally across all taxiways.

The emission sources are extended along the runway center line to a point where the aircraft reaches the mixing height (3,000 ft). The altitude profile, which shows the change of altitude between 0 and 3,000 ft with the distance along the flight path, is calculated based on the typical aircraft flight paths by aircraft category (i.e., commercial, business, commuter, general aviation and military aircraft). Departure flight paths were obtained from AEDT for each aircraft category, while a single approach altitude profile was used for all flights given that the approach profiles for each category were similar. The change of altitude between 0 and 1,000 ft, and then 1,000 ft and 3,000 ft, is assumed to be linear when setting up the sources, consistent with AEDT methodology.

There are six aircraft LTO modes modeled by AEDT:

- The Approach mode is modeled as a series of airborne area sources from the mixing height (3,000 ft) to touchdown on the runway.
- The Taxi In mode includes the landing ground roll attributed to the runway and the taxi in attributed to the taxiway.
- The Startup mode at SJC occurs at terminal and ramp areas.
- The Taxi Out mode is attributed to the taxiway area.
- The Takeoff is mode includes everything from ground roll on the runway, through wheels off, and the airborne portion of the ascent up to cutback during which the aircraft operates at maximum thrust (up to 1,000-ft altitude). The ground roll to wheels off sources are attributed to the runway, while the airborne portion is attributed to a vertical 2-dimensional grid of area sources extending along the runway center line starting at the runway end representing the airborne departure path, from the runway up to 1,000 ft.
- The Climb Out mode is modeled as a series of airborne area sources from 1,000 to 3,000 ft after takeoff.

Aircraft startup, APU and GSE emissions are modeled as area sources in the terminal and ramp areas. Based on operational patterns at SJC, commercial and commuter APU and GSE emissions were allocated to the terminal and ramp areas on the east of the Airport, APU and GSE emissions from general aviation and business jets were allocated to the western hangar and ramp areas, and military GSE emissions were allocated equally to both ramp and terminal areas. Aircraft taxi in and out are modeled as area sources on the taxiways. SJC owned and operated (non-GSE) off-road equipment are modeled as area sources in the airside area. Gasoline dispensing facility and tanks area modeled as volume sources. The boiler stacks are modeled as point sources.

Tables 3.3-2, 3.3-3, and 3.3-4 summarize AERMOD source parameters utilized in this analysis.

Temporal Factors

Temporal changes of emissions during the day are modeled using hourly operation profiles as scaling factors, as shown in **Table 3.3-5**. The aircraft (and associated GSE/APU) hourly profiles are based on aircraft average operations per as reported in the 1997 noise study for the Existing/Baseline year analysis. For the Proposed Project 2037 analysis, the hourly profiles are based on airport forecasts. Other operational sources (e.g., tanks, boilers, airside vehicles) are assumed to emit uniformly throughout the day. Construction emissions are assumed to occur during the work day which is assumed to occur between 7am to 4pm.

Emission Rates

The emission rates for modeled sources were based on the emission inventory described above. The AERMOD run was set up to obtain the dispersion factors and thus the emission rates are derived for the area sources as 1 g/s per source group and for the point source as 1 g/s per stack. The emission rates were converted from the emission inventory for each source group and used to estimate the concentrations of $PM_{2.5}$ and TACs at varies receptor locations. **Table 3.3-6** and **Table 3.3-7** show the modeled TAC emission rates for the Existing/Baseline (2018) and the Proposed Project (2037), respectively. A list of all TACs that are calculated for the operational emission inventory summarized by source group is included in **Appendix D**. The annual and hourly maximum emission rates were assumed to be the same for this analysis.

3.3.1.2 Meteorology

Air dispersion modeling applications require the use of meteorological data that are spatially and temporally representative of conditions in the immediate vicinity of the site under consideration. For this analysis, meteorological data was processed in AERMET (version 16216) from the San Jose International Airport weather station (KSJC, WBAN number 23293). This station was selected based on the geographic proximity to the Proposed Project site. Meteorological data from January 1, 2012 through December 31, 2017 was used for the analysis. The data set included ambient temperature, wind speed, wind direction, atmospheric stability, and mixing height parameters. Calm wind conditions were included in the modeling analysis consistent with guidance provided by BAAQMD. **Figure 4** depicts the wind rose for these data.

3.3.1.3 Land Use

The land uses in the Proposed Project vicinity include residential uses to the south, east and west and industrial uses surrounding the site. The closest residential land uses are located adjacent to the Proposed Project site along the southeastern boundary. AERMOD offers the option of using either rural or urban dispersion characteristics. Selection of rural or urban dispersion characteristics depends on the predominant land use within a three-kilometer radius of the site. BAAQMD recommends that the urban land use option be chosen for this area.[117]

Data specifying terrain elevations of sources and receptors are imported into the model. Elevations are based on National Elevation Datasets (NEDs) and consist of an array of regularly spaced points on a horizontal plane for which an elevation is specified. NEDs used

[117] BAAQMD. 2011. Recommended Methods for Screening and Modeling Local Risks and Hazards. Available at: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20Modeling%20Approach.ashx. Accessed: April 2019.

in this analysis were obtained from the United States Geologic Survey (USGS) and are spaced at 10 meters by 10 meters.[118]

3.3.1.4 Receptors

The following receptors are included in the AERMOD run:

- Fine grid approximately 80 m x 80 m up to 1,000 ft from the Proposed Project boundary;
- Coarse grid approximately 160 m x 160 m from 1,000 ft to 1,000 m from the Proposed Project boundary; and
- Sensitive receptors are gridded receptors in residential areas as well as discrete receptors, including long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, child care centers, and within 1,000 m of the Proposed Project boundary.

Sensitive receptors refer to those segments of the population most susceptible to impacts from air pollution emissions (e.g., children, the elderly, and people with pre-existing serious health problems affected by air quality). For this analysis, sensitive receptors that could be affected by the operation of the Proposed Project include all identified residential communities, public and private K-12 schools, public and private day care centers, convalescent homes and elderly residential facilities, overnight hospitals, and long-term care facilities within 1,000 meters feet of the Proposed Project site. Residential communities that could be affected by the operation of the Proposed Project include residents of San Jose whose homes are within 1,000 meters of the Proposed Project site. Sensitive receptors other than residential communities within 1,000 meters of the Proposed Project site are listed in **Table 3.3-8**.

Sensitive receptor locations were identified using a search performed by Environmental Data Resources (EDR), as shown in **Appendix E**. The EDR report identified 7 unique sensitive receptors near the Proposed Project. These locations were modeled as discrete locations. Twenty-six hospitals were also identified in the EDR report but were not included in the model because they were not long-term care facilities. The locations of all modeled receptors are illustrated on **Figure 5**. Receptor heights were assumed to be 1.8 m based on currently available documentation from BAAQMD and Office of OEHHA.[119]

3.3.2 Hazard Assessment

In February 2015, OEHHA released the updated Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments,[120] which combines information from previously-released and adopted technical support documents to delineate OEHHA's revised risk assessment methodologies based on current science. This updated Guidance Manual

[118] United States Geological Survey (USGS). National Elevation Dataset (NED) 1-arc second. Available at: https://www.mrlc.gov/viewerjs/. Accessed: April 2019.

[119] Cal/EPA. 2003. The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. Office of Environmental Health Hazard Assessment. August.

[120] OEHHA. 2015. The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. Office of Environmental Health Hazard Assessment. Available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed: April 2019.

supersedes the 2003 Guidance Manual[121] that previously provided methodologies for conducting health risk assessments under the Air Toxics Hot Spots Program (AB2588). The BAAQMD has issued Guidelines on adopting the OEHHA 2015 Guidance Manual.[122] This evaluation utilized the 2015 methodology. Details of this methodology are discussed below.

In addition, identification of chemicals of potential concern and specification of their toxicities are described below.

3.3.2.1 Toxic Air Contaminants (TACs)

The TACs were identified based on the TAC emission inventory for the onsite, aircraft-related operational emissions of the Proposed Project. The methodology used to create this emissions inventory is discussed above in **Section 3.2**.

Aircraft

Aircraft emissions calculated in AEDT were speciated into TACs based on fuel-specific speciation profiles.

For aircraft assumed to consume jet fuel (i.e., aircraft belonging to the following categories: Business jets, Commercial aircraft, Commuter aircraft, General Aviation Turboprops, and Military), $PM_{2.5}$ and VOC were speciated into metallic and gaseous TACs, respectively. Specific weight fractions used for speciating TACs from jet fuel are summarized in **Table 3.2-9**. The speciation profile for $PM_{2.5}$ TACs from jet fuel is based on the CARB PM speciation profile for commercial aircraft.[123] TACs speciated from VOCs were calculated based on CARB and EPA speciation profiles for jet fuel aircraft.[124,125] Because there is no current VOC speciation profile for jet fuel startup emissions, the speciation profile for jet fuel running exhaust was used as a surrogate.

For aircraft assumed to consume AvGas (Piston General Aviation and Helicopter), VOCs were speciated into gaseous TACs based on the specific weight fractions summarized in **Table 3.2-7**. The speciation profile used for speciating VOC emissions for AvGas were obtained from EPA SPECIATE for AvGas.[126] Additionally, lead emissions from AvGas were calculated based on the average lead content of AvGas. An average fuel lead mass of 2.12

[121] OEHHA. 2003. The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. Office of Environmental Health Hazard Assessment. August. Available at: https://oehha.ca.gov/media/downloads/crnr/hrafinalnoapp.pdf. Accessed: April 2019.

[122] BAAQMD. 2016. Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines. Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/rules-and-regs/workshops/2016/reg-2-5/hra-guidelines_clean_jan_2016-pdf.pdf?la=en. Accessed: April 2019.

[123] CARB. 2012. PM Speciation Profiles for Commercial Aircraft – Jet Fuel (PM1411-1414). Available at: https://www.arb.ca.gov/ei/speciate/profilereference/Aircraft_PM1411-14.pdf. Accessed: April 2019.

[124] EPA. 2016. SPECIATE Version 4.5. Profile 5565. Available at: https://www.epa.gov/air-emissions-modeling/speciate-version-45-through-40. Accessed: April 2019

[125] CARB. 2012. OG Speciation Profile for Aircraft – Jet Fuel (OG5861). Available at: https://www.arb.ca.gov/ei/speciate/profilereference/Aircraft_OG5861.pdf. Accessed: April 2019.

[126] EPA. 2016. SPECIATE Version 4.5. Profile 1099. Available at: https://www.epa.gov/air-emissions-modeling/speciate-version-45-through-40. Accessed: April 2019

g/gal and engine retention rate of 5% were used to calculate lead emissions from AvGas fuel consumption calculated by AEDT.[127]

Mobile Sources

Mobile sources including traffic, shuttle buses, and airside equipment generate TAC emissions during fuel combustion. The HRA only included TAC emissions from airside equipment, given that the increase in average daily traffic volume is lower than the BAAQMD CEQA guidelines traffic screening threshold of 10,000 vehicles/day on the nearby roadways.[128]

Airside vehicles fueled by diesel emit DPM, which were assumed to be equivalent to PM_{10} emissions from diesel-powered mobile sources. VOCs from gasoline-fueled off-road vehicles were speciated into TACs following CARB guidance for speciation of VOCs from gasoline-powered off-road equipment.[129]

Heaters/Boilers

Heaters/boilers generate TAC emissions during the combustion of natural gas. Benzene, formaldehyde, and toluene are the only TACs evaluated by the BAAQMD for natural gas combustion and are calculated in **Table 3.2-22**. Emission factors for these TACs are taken from USEPA's AP-42.[130]

Tanks

Speciation factors used to calculate TACs from tank-related emissions (jet fuel tanks, aviation gasoline tanks, and the gasoline dispensing facility) are listed in **Table 3.2-29**. Speciation factors for jet fuel and aviation gasoline tank fugitive VOC followed SCAQMD guidance for liquid organic storage tanks,[131] while the speciation profile for gasoline dispensing facility followed BAAQMD guidance for gasoline dispensing facilities.[132]

Construction Equipment

Proposed Project construction activities would generate DPM, a recognized TAC in California. DPM emissions would be generated from mobile sources including heavy-duty on-road vehicles and construction equipment fueled by diesel. DPM was assumed to be equivalent to exhaust PM_{10} emissions from diesel-fueled mobile sources. The methodology for calculating

[127] EPA. 2011. Calculating Piston-Engine Aircraft Airport Inventories for Lead for the 2011 National Emissions Inventory. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi/P100LFGL.PDF?Dockey=P100LFGL.PDF. Accessed: April 2019.

[128] BAAQMD California Environmental Quality Act Air Quality Guidelines. Available online at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: May 2019.

[129] Speciation Profiles Used in CARB Modeling, speciation Profile 816 (Utility equipment - gasoline - 4 cycle - CalPoly 1991). Available at: https://www.arb.ca.gov/ei/speciate/speciate.htm#specprof. Accessed: April, 2019.

[130] USEPA AP-42, Chapter 1, Section 4, Natural Gas Combustion. Available at: https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors. Accessed: April 2019.

[131] SCAQMD Supplemental Instructions for Liquid Organic Storage, available at: http://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/supplemental-instructions-for-liquid-organic-storage-tanks.pdf. Accessed April, 2019.

[132] BAAQMD Permit Handbook Section 3.2 Gasoline Dispensing Facilities, available at: http://www.baaqmd.gov/~/media/files/engineering/permit-handbook/baaqmd-permit-handbook.pdf?la=en. Accessed: April 2019.

PM_{10} emissions is presented in **Section 3.2** above**.** In addition to DPM, VOCs from gasoline-fueled off-road equipment (e.g., a chain saw) were speciated into TACs following CARB guidance for speciation of VOCs from gasoline-powered off-road equipment.

3.3.2.2 Toxicities

Compounds were evaluated for their potential adverse health effects in exposed individuals in two categories, carcinogenic and non-carcinogenic. Many compounds produce non-carcinogenic effects at sufficiently high doses, but only some compounds are associated with carcinogenic effects. Most regulatory agencies consider carcinogens to pose a risk of cancer at all exposure levels (i.e., a "no-threshold" assumption); that is, any increase in dose is assumed to be associated with an increase in the probability of developing cancer. In contrast, non-carcinogens generally are thought to produce adverse health effects only when some minimum exposure level is reached (i.e., a threshold).

Cancer potency factors established by CARB[133] were used to evaluate the probability that a person will contract excess lifetime cancer from the continuous exposures of carcinogenic TACs over the evaluated exposure period using the risk assessment methodology defined in by OEHHA.[134] The OEHHA recommends evaluating DPM as a surrogate for the combination of TACs for health impacts from diesel combustion emissions.

To assess the potential for non-cancer health effects resulting from chronic and acute inhalation exposure, OEHHA has established chronic and acute RELs. An REL is an estimate of the continuous inhalation exposure concentration to which the human population (including sensitive subgroups) may be exposed without appreciable risk of experiencing adverse non-cancer effects. The chronic hazard index is the sum of the chemical-specific chronic hazard quotients affecting a particular target organ. The acute hazard index is the sum of the chemical-specific acute hazard quotients affecting a particular target organ. A hazard quotient is a chemical's predicted concentration divided by its REL.

Toxicological values used in this assessment are shown in **Table 3.3-9.** The modeled emission rates for all TACs are listed in **Table 3.3-6** and **Table 3.3-7**.

3.3.2.3 Exposure Assessment

The health risk posed by the identified TACs requires an assessment of the fate and transport of potential emissions to receptors and an estimation of exposure at a receptor(s). The fate and transport of TACs are calculated using air dispersion modeling tools that allow for calculation of exposure point concentrations at individual sensitive receptors. In this analysis, all potentially exposed sensitive populations were conservatively evaluated as residents, which is expected to yield the highest impacts. The residential exposure assumptions were more conservative than those for other sensitive receptor types (i.e., schools, child care centers, hospitals, elder cares, and recreational areas) as residential uses have the longest exposure time, exposure duration and highest exposure frequency. This is a conservative assumption, since most people do not remain at home all day and on average

[133] OEHHA. 2018. Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values. August. Available from https://www.arb.ca.gov/toxics/healthval/contable.pdf. Accessed: April 2019.

[134] OEHHA. 2015. The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. Office of Environmental Health Hazard Assessment. Available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed: April 2019.

residents change residences every 11 to 12 years.[135] In addition, this analysis conservatively assumes that residents are experiencing outdoor concentrations for the entire exposure period.

Cancer risks and noncancer hazards from the construction of Phase 1 and Phase 2 of the Proposed Project are calculated assuming exposure to construction emissions starts in 2020. Emissions from construction projects for which the construction schedule is known are assigned to the specific year of construction. For construction projects that do not have a defined schedule but are expected to occur in Phase 1, emissions are assumed to occur in 2021 as this resulted in the most conservative impacts. Similarly, emissions form construction projects that do not have a defined schedule but are expected to occur in Phase 2 are allocated to 2033.

Exposure is characterized by pathways. In addition to the inhalation pathway, exposures could also occur through non-inhalation pathways for the residents if multi-pathway chemicals[136] are emitted. Lead and nickel have been identified as the only multi-pathway chemicals that are emitted from the Project. Lead emissions decrease between 2018 and 2037; the health risks due to exposures to nickel through the non-inhalation pathways are expected to be de minimis[137]. Therefore, the exposures through the non-inhalation pathways were not assessed for this project.

Default exposure assumptions from the 2015 Hot Spots Guidance are used to estimate cancer risk exposure per BAAQMD HRA guidance.[138] The exposure assumptions used in this analysis are shown in **Table 3.3-10**.

Calculation of Intake: The dose calculated for each exposure pathway is a function of the concentration of a chemical and the intake of that chemical. The intake factor for inhalation, IF_{inh}, can be calculated as follows.

[135] United States Environmental Protection Agency (USEPA). 2011. Exposure Factors Handbook: 2011 Edition; Recommended Values for Population Mobility. National Center for Environmental Assessment Office of Research and Development. EPA/600/R-09/052F. September.

[136] As defined in the 2015 OEHHA Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. Office of Environmental Health Hazard Assessment. Available at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed: April 2019.

[137] The non-inhalation adverse health effect due to exposures to nickel is for the non-cancer health end point only because nickel does not have an oral carcinogenic toxicity but a non-cancer oral reference dose. In addition, the health impact for the non-inhalation pathway for nickel is considered negligible compared to that of the inhalation pathway. Based on the low level of nickel emissions and non-cancer hazard for the inhalation pathway, the health impact for nickel through the non-inhalation pathways is expected to be negligible.

[138] BAAQMD. 2016. Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines. Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/rules-and-regs/workshops/2016/reg-2-5/hra-guidelines_clean_jan_2016-pdf.pdf?la=en. Accessed: April 2019.

$$IF_{inh} = \frac{DBR \times FAH \times EF \times ED \times CF}{AT}$$

Where:

IF_{inh}	=	Intake Factor for Inhalation (m^3/kg-day)
DBR	=	Daily Breathing Rate (L/kg-day)
FAH	=	Frequency of time at home (unitless)
EF	=	Exposure Frequency (days/year)
ED	=	Exposure Duration (years)
AT	=	Averaging Time (days)
CF	=	Conversion Factor, 0.001 (m^3/L)

The chemical intake or dose is calculated by multiplying the inhalation intake factor, IF_{inh}, by the chemical concentration in air, C_i. When coupled with the chemical concentration, this calculation is mathematically equivalent to the dose algorithm given in the current OEHHA Hot Spots guidance.

3.3.2.4 Age Sensitivity Factors

The estimated excess lifetime cancer risks for a resident is adjusted using age sensitivity factors (ASFs) that account for an "anticipated special sensitivity to carcinogens" of infants and children as recommended in the OEHHA Technical Support Document and OEHHA 2015 Guidance. Cancer risk estimates are weighted by a factor of 10 for exposures that occur from the third trimester of pregnancy to two years of age and by a factor of three for exposures that occur from two years through 15 years of age. No weighting factor (i.e., an ASF of one, which is equivalent to no adjustment) is applied to ages 16 and older. **Table 3.3-10** presents the ASF values that are used for this health risk assessment.

3.3.2.5 Estimation of Cancer Risk

Excess lifetime cancer risks are calculated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a unitless probability. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific CPF.

The equation used to calculate the potential excess lifetime cancer risk for the inhalation pathway is as follows:

$$Risk_i = C_i \times IF_{inh} \times CPF_i \times CF \times ASF$$

Where:

$Risk_i$	=	Lifetime excess cancer risk from exposure to chemical$_i$
C_i	=	Annual average air concentration of chemical$_i$ (µg/m^3)
IF_{inh}	=	Inhalation intake factor (m^3/kg_{bw}-d)
CPF_i	=	Inhalation cancer potency factor (mg/kg_{bw}-d)$^{-1}$ for chemical$_i$
CF	=	Conversion factor (mg/µg)
ASF	=	Age sensitivity factor (unitless)

The total cancer risk from all chemicals $\left(Risk_T\right)$ is then estimated as follows:

$$Risk_T = \sum_{i=1}^{n} Risk_i$$

The most conservative exposure scenario was determined to be construction beginning on January 1, 2020 and assumes that the exposed person is in the 3rd trimester before birth at the beginning of the exposure period because the childhood age sensitivity factor (ASF) used in the cancer risk calculation is the highest for age groups 3rd trimester and age 0 to 2. . Moreover, the calculated cancer risk is increased even further during childhood years by using higher breathing rates per body weight than adults. The cancer risk results for each sub-period were then summed to obtain the total cancer risk for the entire exposure duration. Exposure assumptions for construction and operational emissions are shown in **Table 3.3-10.**

3.3.2.6 Estimation of Chronic Non-Cancer Hazard Quotients/Indices

The potential for exposure to result in adverse chronic non-cancer effects is evaluated by comparing the calculated annual average air concentration (which is equivalent to the average daily air concentration) to the non-cancer chronic reference exposure level (cREL) for each chemical. When calculated for a single chemical, the comparison yields a ratio termed a hazard quotient (HQ). To evaluate the potential for adverse chronic non-cancer health effects from simultaneous exposure to multiple chemicals, the HQs for all chemicals are summed, yielding a HI.

$$HQ_i = \frac{C_i}{cREL_i}$$

Where:

HQ_i = Chronic hazard quotient for $chemical_i$
C_i = Annual average air concentration ($\mu g/m^3$)
$cREL_i$ = Chronic reference exposure level (ug/m^3) for $chemical_i$

The chronic HI from all chemicals is then estimated as follows:

$$HI = \sum HQ_i$$

3.3.2.7 Estimation of Acute Non-Cancer Hazard Quotients/Indices

The potential for exposure to result in adverse acute non-cancer effects is evaluated by comparing the calculated hourly maximum air concentration to the non-cancer acute reference exposure level (aREL) for each chemical. When calculated for a single chemical, the comparison yields a ratio termed a hazard quotient (HQ). To evaluate the potential for adverse acute non-cancer health effects from simultaneous exposure to multiple chemicals, the HQs for all chemicals are summed, yielding a HI.

$$HQ_i = \frac{C_i}{RfC_i}$$

Where:

HQ_i = Acute hazard quotient for $chemical_i$
C_i = Annual average air concentration ($\mu g/m^3$)
RfC_i = Acute reference concentration (ug/m^3) for $chemical_i$

The acute HI from all chemicals is then estimated as follows:

$$HI = \sum HQ_i$$

3.3.2.8 Risk Characterization

The results from the health risk calculations provide an estimate of the potential risks and hazards to individuals through inhalation of ambient air and other selected pathways as discussed above. The calculated risks and hazards include lifetime excess cancer risk estimates, cumulative chronic HI estimates, and cumulative acute HI estimates for the receptor locations of concern.

The cancer risks from exposure to multiple carcinogens and multiple pathways are summed across all exposure pathways for all sources contributing to the overall exposure that may potentially impact the receptor.[139] Incremental cancer risks are compared to the risk significance threshold of greater than or equal to ten in a million (1×10^{-5}) pursuant to the BAAQMD CEQA Significance Thresholds, which is also consistent with the California Air Toxics "Hotspots" Assessment and Information Act (AB2588).

The chronic HI and acute HI, which represent the exposure to multiple contaminants summed across all exposure pathways, are compared to a hazard threshold of greater than or equal to one (1.0) pursuant to the BAAQMD CEQA Significance Thresholds. An HI greater than or equal to one indicates that exposure to contaminants from the Proposed Project may cause adverse health effects in exposed populations. It is important to note, however, that the level of concern associated with exposure to non-carcinogenic compounds does not increase linearly as the HI exceeds one. Typically, compound-specific HQs are summed to calculate pathway-specific HI values. Thus, the result shown here is a conservative representation of the maximum HI.

3.3.2.9 Uncertainty Characterization

In any risk evaluation, a number of assumptions are made in order to estimate human exposure and to calculate potential risks. These assumptions may, however, introduce uncertainty in risk calculations. Regulatory guidance requires that conservative assumptions be used to provide an upper-bound estimate of the risk and to avoid underestimating the potential exposures and associated health risks.

The key sources of uncertainty in this health risk evaluation include:

- Identification of Proposed Project-related chemicals,
- Estimation of exposure concentrations,
- Identification of exposure pathways,
- Exposure assumptions, and
- Selection of chemical toxicity values.

[139] USEPA. 1989. *Risk Assessment Guidance for Superfund Volume I, Human Health Evaluation Manual (Part A)*. USEPA 540/1-89-002, Office of Emergency and Remedial Response, Washington, DC. December.

In all of these cases, conservative assumptions are made in this assessment. Thus, estimated excess cancer risks are upper-bound estimates and the actual incidence of cancer is likely to be lower.

4. SIGNIFICANCE THRESHOLDS

This section discusses the criteria and general methods used to evaluate the Proposed Project's significance with respect to air quality impacts under CEQA. It also discusses the thresholds of significance identified in Appendix G of the State CEQA Guidelines[140] and the BAAQMD CEQA Air Quality Guidelines,[141] which are used to evaluate the Proposed Project in **Section 5** of this technical report.

4.1 CEQA Guidelines Appendix G Thresholds

Appendix G of the State CEQA Guidelines requires evaluating whether the project under consideration would:

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

Lead agencies may rely on the CEQA significance criteria established by the local air pollution control agency (for the Bay Area, BAAQMD) to determine the significance of a project's air emissions under the Appendix G thresholds.

4.2 BAAQMD Significance Thresholds

In 2017, the BAAQMD released the most recent update to its CEQA Air Quality Guidelines.[142] This is an advisory document that provides the lead agency, consultants, and project applicants with uniform procedures for addressing air quality in environmental documents. To assist in identifying projects with significant impact, the guidelines recommend CEQA numerical thresholds of significance for certain criteria air pollutants, TACs, and $PM_{2.5}$ for use by lead agencies.[143] These thresholds of significance are for individual project emission levels that would be cumulatively considerable. There are no separate cumulative thresholds of significance for criteria air pollutant emissions.

4.2.1 Criteria Pollutants Significance Thresholds (Construction)

The following quantifiable criteria are used in this technical report to define construction significance for criteria pollutants:

- Emissions of ROG, NOx, or $PM_{2.5}$ (exhaust) exceeding 54 pounds per day (lbs/day);

[140] CNRA. 2018. Final Adopted Text of the 2018 Amendments and Additions to the State CEQA Guidelines. Available at: http://resources.ca.gov/ceqa/docs/2018_CEQA_FINAL_TEXT_122818.pdf. Accessed: April 2019.

[141] BAAQMD. 2017. California Environmental Quality Act Air Quality Guidelines, May. Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: April 2019.

[142] BAAQMD. 2017. California Environmental Quality Act Air Quality Guidelines. Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: April 2019.

[143] Ibid.

- Emissions of PM_{10} (exhaust) exceeding 82 lbs/day;
- Increase in the annual average $PM_{2.5}$ concentration greater than 0.3 microgram per cubic meter ($\mu g/m^3$); and
- Cumulative annual average $PM_{2.5}$ concentration greater than 0.8 $\mu g/m^3$.

4.2.2 Criteria Pollutants Significance Thresholds (Operational)

The following quantifiable criteria are used in this technical report to define operational significance for criteria pollutants:

- Emissions of ROG, NO_x, or $PM_{2.5}$ exceeding 10 tons/yr or 54 lbs/day;
- Emissions of PM_{10} exceeding 15 tons/yr or 82 lbs/day;
- Contribution to ambient CO concentration leading to an exceedance of the CAAQS of 9 ppm averaged over 8 hours or 20 ppm averaged over 1 hour, or the NAAQS of 9 ppm averaged over 8 hours or 35 ppm averaged over 1 hour;
- Increase in the annual average $PM_{2.5}$ concentration greater than 0.3 $\mu g/m^3$; and
- Cumulative annual average $PM_{2.5}$ concentration greater than 0.8 $\mu g/m^3$.

4.2.3 Toxic Air Contaminants Significance Thresholds (Construction and Operational)

To assist in identifying projects with significant impacts, the BAAQMD has recommended numerical significance criteria for TAC impacts for use by lead agencies.[144] If the project does not comply with a qualified Community Risk Reduction Plan, the following quantifiable criteria are used in this technical report to define construction and operational significance:

- Expose the public to carcinogenic TACs that would increase the probability of contracting cancer for the maximally exposed individual that exceeds 10-in-1-million (100-in-1-million for cumulative impacts); and
- Expose the public to non-carcinogenic TACs that would result in an acute or chronic hazard index greater than 1 (10 for cumulative impacts).

4.2.4 Odors (Operational)

To assist in identifying projects with significant impacts, the BAAQMD has recommended numerical significance criteria for odor impacts for use by lead agencies:[145]

- Result in five confirmed complaints to the BAAQMD per year averaged over 3 years.

[144] Ibid.

[145] Ibid.

5. RESULTS

5.1 Emission Inventories Results

The following analysis addresses whether the Scenarios would "result in a cumulatively considerable net increase of any CAP for which the project region is non-attainment under an applicable federal or State ambient air quality standard," as provided in Appendix G of the State CEQA Guidelines. In order to assess the significance of each Scenario's impacts under this criterion, BAAQMD's mass daily thresholds (see **Section 4.2**) were utilized as the numeric benchmarks. The BAAQMD's thresholds of significance for CAPs and precursors represent levels at which a project's individual emissions would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions. If a project's emissions do not exceed the BAAQMD's thresholds of significance for ROGs, NO_x, and PM, then the project's contribution is not cumulatively considerable.

The criteria air pollutant operational mass emissions of ROGs, NO_x, PM_{10}, and $PM_{2.5}$ were calculated using the methodology described in **Section 3** above.

As shown below, for each Operational Scenario, the primary sources of emissions are the traffic-related mobile sources and aircraft activities. The emissions from traffic-related mobile sources are expected to gradually decline in the future as cars become more fuel efficient due to existing regulations (i.e., Pavley Standard and the Advanced Clean Cars program). While aircraft engines are forecast to become more efficient in the future, emissions are expected to increase due to the growth in commercial and business aircraft activity.

5.1.1 Construction Emissions Inventory

The average daily CAP emissions due to Proposed Project construction are summarized in **Table 5.1-1a** through **5.1-1d**. Emissions are shown by construction project and year of emissions. Average daily CAP emissions are calculated following BAAQMD CEQA guidelines. For each construction project, average daily emissions that would occur throughout the entire construction period are calculated based on the number of work days for that period and added to emissions from other construction projects that are anticipated to overlap in the construction schedule. In cases where the exact timing of construction projects is not known, construction emissions are assumed to occur in the first year of the project's construction phase and emissions from any projects that could overlap are summed for the purposes of calculating total average daily emissions. This approach is conservative as it assumes all projects within a year occur simultaneously and contribute to daily emissions concurrently.

Total average daily ROG (i.e., VOC) emissions include emissions from mobile sources and off-gassing following BAAQMD CEQA guidelines. BAAQMD CEQA thresholds of significance for PM_{10} and $PM_{2.5}$ apply to exhaust emissions from construction equipment only. PM_{10} and $PM_{2.5}$ emissions shown in **Tables 5.1-1c** and **5.1-1d** include exhaust emissions from on-road vehicles in addition to construction equipment to be conservative.

Proposed Project construction exceeds the BAAQMD CEQA threshold of significance for total average daily NOx emissions in 2020-2023 and remains below the threshold for later years. Total average daily ROG, PM_{10} and $PM_{2.5}$ emissions are below their thresholds of significance for all years of construction. Thus, impacts from construction exhaust mass emissions are significant for NOx.

Tables 5.1-1e through 5.1-1h show the result of applying mitigation measure MM-AQ-2 (Construction Emissions Minimization). The application of Tier 4 Final off-road engine

emission standards reduces construction-related NOx emissions by between 49-80% depending on year of construction. Mitigated daily average NOx emissions from construction would be below significance thresholds for 2021 through 2023 but would still be significant in 2020.

Construction-generated dust is addressed on a project-level basis with best management practices. Thus, the Proposed Project would result in less-than significant impacts related to fugitive dust with the implementation of BAAQMD's Construction Best Management Practices[146]:

1. All exposed surfaces (such as parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure – Title 13 of the California Code of Regulations, Section 2485). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator (persons who are certified to perform EPA Method 9 [Visual Opacity]).
8. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

5.1.1.1 Cumulative Impacts

In order to assess whether construction activities would "result in a cumulatively considerable net increase of any CAP for which the project region is non-attainment under an applicable federal or State ambient air quality standard" as provided in Appendix G of the State CEQA Guidelines, Ramboll utilized the BAAQMD's CAP thresholds (see Section 4.2) as the numeric benchmarks. The BAAQMD's thresholds of significance for CAPs and precursors represent levels at which a project's individual emissions would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions. If a project's emissions do not exceed the BAAQMD's thresholds of significance for ROGs, NO_x, and PM, then the project's contribution is not cumulatively considerable. As described above, prior to implementation of recommended mitigation, impacts from construction exhaust mass

[146] Construction Best Management Practices are listed in the BAAQMD CEQA Guidelines as Mitigation Measures Recommended for All Proposed Projects in Table 8-2.

emissions are significant for NO_x in calendar years 2020 through 2023. Therefore, the Proposed Project's impacts from construction-related NO_x exhaust mass emissions are cumulatively considerable and significant. After the implementation of recommended mitigation, impacts from construction exhaust mass emissions are significant for NO_x only in calendar year 2020. Therefore, the Proposed Project's impacts from construction-related NO_x exhaust mass emissions remain significant and cumulatively considerable after the implementation of recommended mitigation.

It is noted that there are no cumulative significance thresholds for construction-generated dust (i.e., PM). Construction-generated dust is addressed on a project-level basis with best management practices.

5.1.2 Operational Scenarios

5.1.2.1 Existing/Baseline Conditions

The Existing/Baseline conditions emissions inventory for CAPs are shown in **Table 5.1-2**. The total CAP emissions based on the Existing/Baseline conditions are calculated to be 958 lb/day for ROGs, 3,853 lb/day for NO_x, 361 lb/day for PM_{10}, and 121 lb/day for $PM_{2.5}$. Annual emissions from the Airport are 175 tons/year for ROG, 703 tons/year for NO_x, 66 tons/year for PM_{10} and 22 tons/year for $PM_{2.5}$.

5.1.2.2 Proposed Project

For purposes of determining significant impacts, the incremental increase in emissions over Existing/Baseline conditions are calculated for the Proposed Project. Incremental emissions are calculated as the difference between the Proposed Project and Existing/Baseline conditions.

CAP incremental operational emissions for the Proposed Project are summarized in **Table 5.1-3** and compared relative to BAAQMD's daily and annual mass emission thresholds. Emissions of PM_{10} and $PM_{2.5}$ include exhaust and fugitive emissions following guidelines from the City of San Jose Planning Department.

Negative values indicate that emissions are lower than those in the Existing/Baseline conditions. Incremental emissions from GSE, traffic and airside vehicles are negative as a result of improved emission factors. Fugitive ROG from aviation gasoline tanks is lower due to reduced avgas throughput for the Proposed Project. Incremental emissions from the Airport Shuttle Bus are negative because the SJC's Shuttle Buses are assumed to be and have been converted from CNG to electric vehicles.

Proposed Project operational emissions will exceed the BAAQMD mass daily and annual significance thresholds for NO_x and PM_{10} and will be below the BAAQMD mass daily and annual significance threshold for ROG and $PM_{2.5}$. Thus, the Proposed Project will result in significant impacts with respect to operational mass emissions of NO_x and PM_{10}. Implementation of operational mitigation measure MM-AQ-1 (Electric Vehicle Charging Stations) is expected to reduce on-road CAP emissions. Though not quantified in this analysis, it is anticipated that the Proposed Project will be significant with respect to operational mass emissions of NO_x and PM_{10} after mitigation.

5.1.2.3 Cumulative Impacts

In order to assess whether the Proposed Project would "result in a cumulatively considerable net increase of any CAP for which the project region is non-attainment under an applicable federal or State ambient air quality standard" as provided in Appendix G of the State CEQA Guidelines, Ramboll utilized the BAAQMD's CAP thresholds (see Section 4.2) as the numeric

benchmarks. The BAAQMD's thresholds of significance for CAPs and precursors represent levels at which a project's individual emissions would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions. If a project's emissions do not exceed the BAAQMD's thresholds of significance for ROGs, NO_x, and PM, then the project's contribution is not cumulatively considerable. As described above, the Proposed Project will result in significant impacts with respect to operational mass emissions of NO_x and PM_{10}. Therefore, the Proposed Project's impacts from operational mass emissions of NO_x and PM_{10} are cumulatively considerable and significant. The Proposed Project includes operational mitigation measure MM-AQ-1 (Electric Vehicle Charging Stations) which is expected to reduce on-road CAP emissions. However, it is anticipated that the Proposed Project will be significant and cumulatively considerable with respect to operational mass emissions of NO_x and PM_{10} after mitigation.

5.1.3 Mid-Project Scenario

The Mid-Project scenario provides an evaluation of the Airport's emissions in 2027, which includes Airport Operational emissions in 2027, after completion of Phase 1 Master Plan Projects, as well as emissions from construction activities taking place in 2027. The Mid-Project construction and incremental operational emissions inventory for CAPs are shown in **Table 5.1-4** and compared relative to BAAQMD's daily and annual mass emission thresholds. Emissions of PM_{10} and $PM_{2.5}$ include exhaust and fugitive emissions following guidelines from the City of San Jose Planning Department.

Negative values indicate that emissions are lower than those in the Existing/Baseline conditions. Mid-Project operational emissions will exceed the BAAQMD mass daily and annual significance thresholds for NO_x and will be below the BAAQMD mass daily and annual significance threshold for ROG, PM_{10} and $PM_{2.5}$. Thus, the Mid-Project scenario will result in significant impacts with respect to operational mass emissions of NO_x.

5.2 Health Risk Assessment Results

The following analysis addresses whether the Scenarios would "expose sensitive receptors to substantial pollutant concentrations," as provided in Appendix G of the State CEQA Guidelines. In order to assess the significance of each Scenario's impacts under this criterion, BAAQMD's TAC thresholds and annual average $PM_{2.5}$ concentration thresholds (see **Section 4.2**) were utilized as the numeric benchmarks.

The health risk assessment results for construction emission impacts are summarized in **Table 5.2-1** and **Table 5.2-2 (for cumulative impacts)**. The health risk assessment results for operational emission impacts are summarized in **Table 5.2-3** and **Table 5.2-4 (for cumulative impacts)**. The cancer risks, noncancer hazards, and $PM_{2.5}$ concentrations presented in **Table 5.2-1** through **Table 5.2-4** represent the maximum health impacts predicted for each receptor type. Therefore, the health impacts at all other modeled receptors would be less than these values for each receptor type.

5.2.1 Construction Scenarios

5.2.1.1 Construction of Proposed Project

The health risks resulting from construction activities occurring in both Phase 1 and Phase 2 are detailed in **Table 5.2-1**. The maximum incremental cancer risk from construction activities is calculated at less than 6 in a million, which would not exceed the BAAQMD significance threshold. Construction activities would also result in a chronic non-cancer hazard index that is below the BAAQMD threshold. The maximum concentration of $PM_{2.5}$ associated with the construction of the Proposed Project is 0.03 $\mu g/m^3$, which is below the

BAAQMD significance threshold. Thus, health risk impacts associated with construction activity due to the Proposed Project are less than significant.

As indicated in **Section 5.1.1**, implementation of Mitigation Measure MM-AQ-2 would result in reduction of construction emissions. Specifically, DPM would be reduced by 49-80% depending on the year of construction, and the health risk results due to mitigated construction emissions would be even lower than those reported in **Table 5.2-1**. Therefore, health risk impacts associated with mitigated construction activity due to the Proposed Project would also be less than significant.

5.2.1.2 Cumulative Impacts from Construction of Proposed Project

As described in the **Section 3.1** above, Ramboll evaluated the Cumulative Construction Scenario to assess cumulative health risk impacts associated with construction of the Proposed Project. This Scenario considers impacts from the construction of all Master Plan Projects as well as emissions from projected non-airport regional growth (i.e., nearby construction projects, permitted stationary sources and roadways within the 1,000-foot zone of influence).

In order to assess the whether this Scenario would "expose sensitive receptors to substantial pollutant concentrations," as provided in Appendix G of the State CEQA Guidelines, Ramboll utilized the BAAQMD's TAC thresholds and annual average $PM_{2.5}$ concentration thresholds (see **Section 4.2**) as the numeric benchmarks.

The construction cumulative analysis takes into account other construction activities occurring within the vicinity of the Proposed Project. The cumulative impact of other construction activities on health risk is evaluated at the Proposed Project construction maximally exposed individual sensitive receptor (MEISR). Impacts of other construction activities are first screened out based on distance. Per the BAAQMD CEQA Guidelines,[147] a radius of 1,000 feet around the Proposed Project property boundary should be used for assessing cumulative impacts. Any construction activities that are not screened out based on distance are modeled and then evaluated for additional health risk impacts to the MEISR. There are no other construction projects currently under construction or approved within 1,000 feet of the construction MEISR, so there is no contribution of nearby construction projects in the construction cumulative analysis.[148]

Additionally, permitted stationary sources and roadways within the 1,000-foot zone of influence were included in the assessment. Stationary sources were identified using the BAAQMD Stationary Source Screening Analysis Tool, with detailed information provided by BAAQMD for these sources.[149] BAAQMD-provided tools were used to estimate impacts from the nearby stationary sources on the project (operational and construction) MEISR.[150]

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[147] BAAQMD. 2017. California Environmental Quality Act Air Quality Guidelines. Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: April 2019.

[148] City of San Jose Planning Department. Development Activity Highlights & Five-Year Forecast. February 2019. Available at: http://www.sanjoseca.gov/DocumentCenter/View/83502. Accessed: May 2019.

[149] BAAQMD. 2012. Stationary Source Screening Analysis Tool. Available at: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools, Accessed: April 2019.

[150] For gas stations, the BAAQMD provides a screening tool to scale reported maximum impacts to those at other locations.

Impacts from total roadway traffic were analyzed using the BAAQMD Roadway Screening Analysis Calculator and the BAAQMD Highway Screening Analysis Tool.[151,152]

Cancer risks and noncancer hazards from the Cumulative Construction Scenario would not exceed BAAQMD significance thresholds. However, the maximum cumulative concentration of $PM_{2.5}$ at the MEISR is 1.5 µg/m^3, which is above the BAAQMD significance threshold. This exceedance is due to the contribution from the nearby highways (1.4 µg/m^3). As described above, the Proposed Project impacts do not exceed the significance thresholds for $PM_{2.5}$ concentration. Thus, in absence of the Proposed Project, the $PM_{2.5}$ concentration would exceed the cumulative $PM_{2.5}$ concentration threshold solely from emissions from nearby highways. Therefore, while the cumulative $PM_{2.5}$ concentration is above the BAAQMD's cumulative significance threshold, the Proposed Project by itself is not cumulatively considerable. These health risks are detailed in **Table 5.2-2**. Thus, cumulative health risk impacts associated with construction activity due to the Proposed Project are less than significant for cancer risk and chronic HI and significant for $PM_{2.5}$ concentrations. Since implementation of Mitigation Measure MM-AQ-2 would result in reduction of construction emissions, the cumulative health risk impacts associated with mitigated construction would also be less than significant for cancer risk and chronic HI but remain significant for $PM_{2.5}$.

5.2.2 Operational Scenarios

5.2.2.1 Proposed Project (2037)

Health risk results for the Proposed Project (2037) Operational Scenario are detailed in **Table 5.2-3**. Incremental cancer risks, chronic non-cancer hazards and acute non-cancer hazards are below BAAQMD's significance thresholds. The maximum incremental concentration of $PM_{2.5}$ associated with the operation of the Proposed Project is 0.15 µg/m^3, which also is below the BAAQMD significance threshold. Thus, health risk impacts associated with operational activity due to the Proposed Project are less than significant. Applying Mitigation Measure MM-AQ-1 would reduce mobile source emissions, and therefore the mitigated operational health risk impacts would also be less than significant.

Cancer risk under the proposed project scenario was calculated as the incremental risk between Existing/Baseline operations (2018) versus Proposed Project operations (2037). Emissions that drive health risks (notably, DPM) decrease between the two scenarios as described in **Section 5.1.2.2**, due to improvements in emission factors over time. Therefore, cancer risk associated with Proposed Project emissions in 2037 are below risks associated with the Existing/Baseline emissions from 2018 (presented as a negative number in **Table 5.2-3**).

Bay Area Air Quality Management District (BAAQMD). 2012. Gasoline Dispensing Facility (GDF) Distance Multiplier Tool. Available at: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools. Accessed: April 2019.

[151] Bay Area Air Quality Management District (BAAQMD). 2015. Roadway Screening Analysis Calculator. Available at: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools. Accessed: April 2019.

[152] Bay Area Air Quality Management District (BAAQMD), 2011. Highway Screening Analysis Tool. Available at: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools. Accessed: April 2019.

5.2.2.2 Cumulative Impacts from Operation of Proposed Project (2037)

As described in the **Section 3.1** above, Ramboll evaluated cumulative operational health risk impacts associated with Airport operations in year 2037, after completion of Phase 1 and Phase 2 Master Plan Projects and including emissions from projected non-airport regional growth. In order to assess the whether the Proposed Project would cumulatively "expose sensitive receptors to substantial pollutant concentrations," as provided in Appendix G of the State CEQA Guidelines, Ramboll utilized the BAAQMD's TAC thresholds and annual average $PM_{2.5}$ concentration thresholds (see **Section 4.2**) as the numeric benchmarks.

For the operational cumulative analysis, stationary sources and roadways sources and roadways within the 1,000-foot zone of influence were included in the assessment. Stationary sources were identified using the BAAQMD Stationary Source Screening Analysis Tool and additional information requested from the BAAQMD on these sources.[153] BAAQMD-provided tools were used to estimate impacts from the nearby stationary sources on the operational MEISR.[154] Impacts from total roadway traffic were analyzed using the BAAQMD Roadway Screening Analysis Calculator and the BAAQMD Highway Screening Analysis Tool.[155,156]

Cumulative cancer risks and chronic noncancer hazards associated with the Proposed Project would not exceed BAAQMD significance thresholds. The maximum cumulative concentration of $PM_{2.5}$ is 2.0 $\mu g/m^3$, which is above the BAAQMD significance threshold. This exceedance is entirely due to the contribution from the nearby highways (1.8 $\mu g/m^3$). As described above, the Proposed Project impacts do not exceed the thresholds for $PM_{2.5}$ concentration. Thus, in absence of the Proposed Project, the $PM_{2.5}$ concentration would exceed the cumulative $PM_{2.5}$ concentration threshold solely from emissions from nearby highways. The Airport has no control over these emissions. Therefore, while the cumulative $PM_{2.5}$ concentration is above the BAAQMD's cumulative significance threshold, the Proposed Project by itself is not cumulatively considerable. These health risk results for the Cumulative Operational (2037) Scenario are detailed in **Table 5.2-4**.

Thus, cumulative health risk impacts associated with operational activity due to the Proposed Project are less than significant for cancer risk and chronic HI and significant for $PM_{2.5}$ concentrations. Applying Mitigation Measure MM-AQ-1 would reduce mobile source emissions, and therefore the Proposed Project would not be cumulatively considerable with respect to cancer risk and chronic HI, while significant (but not cumulatively considerable) with respect to cumulative $PM_{2.5}$ concentrations.

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[153] BAAQMD. 2012. Stationary Source Screening Analysis Tool. Available at: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools, Accessed: April 2019.

[154] For gas stations, the BAAQMD provides a screening tool to scale reported maximum impacts to those at other locations.

Bay Area Air Quality Management District (BAAQMD). 2012. Gasoline Dispensing Facility (GDF) Distance Multiplier Tool. Available at: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools. Accessed: April 2019.

[155] Bay Area Air Quality Management District (BAAQMD). 2015. Roadway Screening Analysis Calculator. Available at: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools. Accessed: April 2019.

[156] Bay Area Air Quality Management District (BAAQMD), 2011. Highway Screening Analysis Tool. Available at: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools. Accessed: April 2019.

5.2.2.3 Cumulative Impacts from Construction Plus Operation of Proposed Project (2037)

As discussed in **Section 3.1** and **Section 5.2.1.2 and 5.2.2.2** above, Ramboll independently evaluated cumulative impacts from construction and operation of the Proposed Project. As a conservative measure, Ramboll used worst-case exposure parameters (see **Table 3.3-10**) for each of the construction and operation health risk assessment scenarios. The analyses identify if there is a "cumulatively significant impact" for each health risk, and if impacts are deemed to be cumulatively significant, the Proposed Project's contributions to risk are used to determine if the Proposed Project is cumulatively considerable.

Additionally, Ramboll evaluated potential cumulative impacts at a receptor that may be exposed to both construction and operational emissions. The analysis conservatively assumes that cumulative construction and cumulative operational risks at the MEI are additive.[157] The health risks for cumulative construction plus operation of Proposed Project is given in **Table 5.2-5**. or each health risk impact, Ramboll identified the higher of the construction and operational cumulative risks calculated in **Table 5.2-2** and **Table 5.2-4** and added to it the risks from Proposed Project operation or construction, as appropriate. The cumulative cancer risk was evaluated at the cumulative construction cancer risk MEIR, with a value of 73 in a million from **Table 5.2-2**. Because the project operational cancer risk MEI is negative due to decreases in HAP emissions over time, a value of zero was conservatively listed when calculating the construction plus operation cancer risk MEI. Cumulative chronic noncancer hazard was evaluated as the Proposed Project construction chronic hazard index of 0.01 from **Table 5.2-2** added to the cumulative operational chronic hazard index of 0.03 from **Table 5.2-4**. Cumulative $PM_{2.5}$ concentrations were evaluated as the Proposed Project construction chronic hazard index of 0.03 µg/m^3 from **Table 5.2-2** added to the cumulative operational chronic hazard index of 2.0 µg/m^3 from **Table 5.2-4**. In doing so, the construction plus operational cumulative health risk will be less than significant for both cumulative cancer risk and chronic hazard index. The cumulative annual average $PM_{2.5}$ concentrations from construction plus operational HRA is estimated to be 2.0 µg/m^3, which is higher than the cumulative significance threshold of 0.8 µg/m^3. However, this is primarily due to the contribution from nearby highways and freeways. Therefore, while the cumulative $PM_{2.5}$ concentration from Construction Plus Operation of the Proposed Project is above the BAAQMD's cumulative significance threshold, the Proposed Project by itself is not cumulatively considerable.

Given the variable nature and location of construction activities, plus the construction mitigation measure commitments outlined in MM-AQ-2, the cumulative health risk assessment discussed here is comprehensive and conservative.

5.3 BAAQMD Clean Air Plan Consistency

The following analysis addresses whether the Proposed Project would "conflict with or obstruct implementation of the applicable air quality plan," as provided in Appendix G of the State CEQA Guidelines.

[157] Construction and operational health risks presented in Section 5.2 are not additive, since the MEI receptor locations for the two scenarios are in different locations. Furthermore, the combined exposure duration for the construction and operation scenarios add to approximately 48 years which is much longer than the default exposure duration of 30 years for resident from OEHHA

The most recently adopted air quality plan for the Bay Area is the 2017 Clean Air Plan (Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area),[158] which is an update to the BAAQMD's 2010 Clean Air Plan. The 2017 Clean Air Plan serves as a multi-pollutant air quality plan to protect public health and the climate. The 2017 Clean Air Plan control strategy includes revised, updated, and new measures in the following control measure categories: stationary source measures, transportation measures, energy, buildings, agriculture, natural working lands, waste management, water, and "super-GHGs."

The BAAQMD CEQA Guidelines recommend that, where an air quality plan consistency determination is required the Lead Agency consider the following three questions:

1. Does the project support the primary goals of the air quality plan?
2. Does the project include applicable control measures from the air quality plan?
3. Does the project disrupt or hinder implementation of any clean air plan control measures?

With regard to the first question, the BAAQMD CEQA Guidelines state that the primary goals of the Clean Air Plan are to:

- Attain air quality standards;
- Reduce population exposure and protect public health in the Bay Area; and
- Reduce GHG emissions and protect the climate.

Any project that is inconsistent with these goals is not considered consistent with the 2017 Clean Air Plan. This is commonly assessed based on if emissions and health impacts associated with a project are below the BAAQMD CEQA thresholds of significance, then the project is considered to be consistent with the current Clean Air Plan.

Regarding the first question for consistency determination, construction mass emissions impacts are significant and unavoidable as to NOx, and operational mass emissions impacts are significant with respect to NOx and PM_{10}. As described in Section 5.1.1, construction emissions will be mitigated by applying Tier 4 engines where feasible. Operational emissions are predominantly due to aircraft emissions, which are not under the control of the Airport, and roadway entrained dust from traffic. There are no feasible mitigation measures beyond those project design features discussed in **Section 1.3** and shown in **Table 1.3-1**, or mitigation measures already implemented by the Airport discussed in **Section 1.4** to address these two sources of emissions.

The Proposed Project does not create the new aircraft or traffic related emissions, in other words, these are not entirely "new" emissions, since the Proposed Project does not itself create the additional demand for passenger air travel. The additional air travel demand is a result from the projected growth of jobs and housing in the region per the approved general plans of the cities and counties. Additionally, although SJC may be able to accommodate this increased air travel demand if planned facilities are not constructed, albeit in uncomfortable and congested conditions, some of the passengers (e.g., those residents of Santa Clara County and nearby regions) may divert to other airport facilities in the region to meet their

[158] BAAQMD. 2017. Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area, Final 2017 Clean Air Plan. Available online at: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed: April 2019.

air travel needs. This diversion of workers and residents to other facilities, such as San Francisco International Airport and Oakland International Airport, would likely result in additional vehicle travel on the regional roadway system, which would likely result in additional congestion and VMT, and thus emissions for these longer distance trips. Thus, there is an inherent air quality improvement if the Airport serves to satisfy the demand for aviation-related services locally. In this context, the Proposed Project would be considered to be consistent with the 2017 Clean Air Plan as it is reducing related emissions to meet regional air travel demand.

As to the second question, the Clean Air Plan includes 85 control measures to reduce emissions of PM, PM precursors, and other air pollutants from a wide variety of emissions sources. The control measures can be classified into eight main categories, as follows: (1) transportation; (2) energy; (3) buildings; (4) agriculture; (5) natural and working lands; (6) waste management; (7) water; and (8) super-GHGs. The Airport generally, and the Proposed Project specifically, advance the emission reduction objectives of various control measures presented in the Clean Air Plan, examples of which are provided below. Control measures discussed below include those that call for actions to be undertaken by the BAAQMD and are not directly applicable at the project level. Nonetheless, Project consistency with those control measures is discussed for information purposes and in order to illustrate the complementary relationship between Airport operations and the Clean Air Plan.

- Energy EN1: Decarbonization of Electricity Production. The Airport procures its electricity through the San Jose Clean Energy Program, which is 80% carbon-free.
- Energy EN2: Decrease Energy Demand. Under the Proposed Project, all new facilities greater than 10,000 ft^2 in size will comply with LEED Silver standards.
- Buildings BL1 and BL2: Green Buildings and Decarbonize Buildings. Under the Proposed Project, all new facilities greater than 10,000 ft^2 in size will comply with LEED Silver standards.
- Stationary Source Control Measure SS36: PM from Trackout. Under the Proposed Project and Alternatives, construction best management practices will be implemented, which includes a requirement that all visible mud or dirt track-out onto adjacent public roads from construction activities be removed using wet power vacuum street sweepers at least once per day. Furthermore, the use of dry power sweeping will be prohibited.
- Transportation Control Measure TR5: Transit Efficiency and Use. The Airport promotes transit efficiency and use by providing all employees with free transit passes and by co-sponsoring free bus service between the Airport and the nearby Santa Clara CalTrain Station and Metro/Airport LRT Station.
- Transportation Control Measure TR17: Planes. The new and expanded facilities that are part of the Proposed Project are being designed to accommodate the latest and newest aircraft types, such aircraft that have lower emissions than older aircraft.
- Transportation Control Measure TR18: Goods Movement. Under the Proposed Project, cargo airline facilities and belly-freight facilities will be relocated and expanded. This would allow for more efficient handling and movement of cargo arriving and departing from the Airport. The facilities will also support the movement of goods between the Airport and nearby locations, as opposed to transporting goods to/from more distant airports such as San Francisco International or Oakland International.

- Transportation Control Measure TR19: Medium- and Heavy-Duty Trucks. In 2019, the Airport's fleet of 10 CNG-powered shuttle busses was replaced with an all-electric fleet, thereby eliminating CAP emissions from this source.

As described above, the Proposed Project is consistent with Clean Air Plan measures, including mobile source measures, transportation control measures, and energy and climate measures. Therefore, the Proposed Project meet the second criterion for consistency with the Clean Air Plan.

The third question is whether the Proposed Project would disrupt or hinder implementation of any Clean Air Plan control measure. The Proposed Project would not affect any Clean Air Plan measures as described below.

- Of the stationary source measures, three potentially apply to the project regarding stationary source permitting and the Air Toxics "Hot Spots" Program. Compliance with air permitting and potential Air Toxics "Hot Spots" Program requirements will ensure that the Proposed Project does not disrupt or hinder any Clean Air Plan control measures.
- Transportation control measures are strategies to reduce vehicles trips, vehicle use, VMT, vehicle idling, or traffic congestion. They also include measures to accelerate the replacement of older, dirtier vehicles and equipment largely through incentive programs. The Proposed Project does not disrupt or hinder any of these measures.
- Energy and climate measures are focused on decreasing electricity demand and decarbonizing electricity production. The Proposed Project does not disrupt or hinder any of these measures.
- Building control measures are focused on implementing the CAL-Green (Title 24) statewide building energy code, decarbonizing buildings, and reducing urban heat island effects. The Proposed Project does not disrupt or hinder any of these measures.
- The Proposed Project does not disrupt or hinder any agricultural activities.
- Natural and Working Lands control measures focus on carbon sequestration in rangeland and wetlands and urban tree planting. The Proposed Project does not disrupt or hinder any of these measures.
- Waste Management control measures focus on landfill emissions, composting, recycling, and waste reduction. The Proposed Project does not disrupt or hinder any of these measures.
- Water control measures focus on limiting emissions at treatment facilities and conserving water. The Proposed Project does not disrupt or hinder any of these measures.
- Super-GHG control measures focus on reducing emissions of methane, black carbon, and fluorinated gases. The Proposed Project does not disrupt or hinder any of these measures.

Nonetheless, when compared to Existing/Baseline (2018) conditions, the Project would result in an increase in NO_x and PM_{10} emissions in excess of BAAQMD's CEQA significance thresholds. Since the overall goal of the Clean Air Plan is a reduction in emissions of these pollutants, this increase in emissions would be inconsistent with Clean Air Plan, which would be a significant impact.

5.4 Carbon Monoxide Analysis Results

CO concentration is a direct function of motor vehicle activity (particularly during peak commuting hours) and meteorological conditions. Under specific meteorological conditions combined with high motor vehicle activity, CO concentrations may reach unhealthy levels for local sensitive land uses, such as residential areas, schools, preschools, playgrounds, and hospitals. As a result, the BAAQMD recommends analysis of CO emissions at a local rather than a regional level.

As part of its CEQA Air Quality Guidelines,[159] the BAAQMD provides a screening methodology based on peak hourly traffic volumes to evaluate potential impacts of CO emissions from mobile sources. The screening methodology focuses on intersections with vehicle traffic exceeding 44,000 vehicles per hour after Proposed Project buildout (or 24,000 vehicles per hour in locations with limited vertical or horizontal air mixing) that could violate or contribute to a violation of ambient air quality standards for CO. Based on the estimated Project-related traffic and existing traffic in the area, it is not expected that any of the intersections near the Proposed Project would experience more than 24,000 vehicles per hour at full buildout. Thus, the Proposed Project and other operational Scenarios are not expected to contribute to a violation of CO air quality standards, and therefore do not exceed the BAAQMD CO significance threshold. Thus, impacts from the Proposed Project are less than significant.

The BAAQMD does not have a separate cumulative threshold of significance for local CO impacts; therefore, no separate cumulative analysis was performed for CO.

5.5 Odors Analysis Results

The following analysis addresses whether each of the Scenarios would "result in other emissions (such as those leading to odors) adversely affecting a substantial number of people," as provided in Appendix G of the State CEQA Guidelines.

The occurrence and severity of potential odor impacts depends on numerous factors, such as the nature, frequency, and intensity of the source, the wind speeds and direction, and the sensitivity of the receiving location each contribute to the intensity of the impact. While offensive odors rarely cause any physical harm, they can be unpleasant and cause distress among the public and generate citizen complaints.

The BAAQMD CEQA Guidelines specifically identify wastewater treatment plants, oil refineries, asphalt plants, chemical manufacturing, painting/coating operations, coffee roasters, food processing facilities, recycling operations, and metal smelters as operational odor sources of particular concern. For such uses, the BAAQMD recommends a buffer zone of 1 to 2 miles to avoid potential odor conflicts. The Proposed Project does not include any of these odor-producing sources. As described in **Section 4.2**, the BAAQMD CEQA Guidelines have a threshold of significance for operational-related odors of five confirmed complaints per year averaged over 3 years. SJC has not received any odor complaints in the last 3 years.

The Scenarios are not expected to generate any meaningful sources of odor. And, given the characteristics of the SJC operations, and the BAAQMD rules and regulations (e.g., Regulation 2 requiring permits and Regulation 1 Rule 301 nuisance rule), it is

[159] BAAQMD. 2017. California Environmental Quality Act Air Quality Guidelines. Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: April 2019.

anticipated that there will not be any odor issues related to the Scenarios. Thus, impacts from odors under the Proposed Project would be less than significant.

5.6 Project Alternatives

Since the operational activity levels, i.e. the number of annual aircraft operations and annual passengers, at the Airport are identical for all scenarios (see **Table 3.1-4**), air quality emissions and health impacts associated with aircraft, GSE, mobile and stationary sources are expected to be similar to the Proposed Project Scenario for the No Project/No New Facilities (2037) scenario and No Project/Buildout under Existing Master Plan (2037) scenario. Emissions from new land uses, consumer product and architectural coating VOCs would be lower than the Proposed Project since these additional facilities would not have been constructed under the No Project/No New Facilities (2037) scenario and No Project/Buildout under Existing Master Plan (2037) scenario. Additionally, the Proposed Project contains various taxiway enhancements that could result in improved efficiency of aircraft movement at the airport, which could potentially lead to a reduction in taxi delays and lower operational emissions relative to the two No Project alternatives. However, given ongoing and proposed aircraft activities, the No Project alternatives will still have a significant and cumulatively considerable operational impact on air quality for NO_x and PM_{10}.

Construction related emissions and health risks under the No Project/No New Facilities (2037) scenario would be zero, as there would be no new construction of landside or airside projects at the Airport. The construction-related emissions under the No Project/Buildout under Existing Master Plan (2037) scenario would be lower than the Proposed Project because there would be fewer capital improvement projects.

TABLES

Table 1.3-1. Completed and Ongoing Emissions Reduction Measures at the Airport
Mineta San Jose International Airport
San Jose, California

Description of Measure	Comments	Status
Category #1: Airside Operations		
Construct 2nd air carrier runway by extending Runway 12L/30R from 4,400' to 11,000'	Improves airfield efficiency, reducing delays, idling, and queuing	Completed in 2001
Install ground power units, battery recharge facilities, and preconditioned air units at all terminal gates	Facilitates airline conversion of GSE to electric power & phaseout of diesel APUs/GPUs	Installation completed in 2010; phaseout of diesel-GSE by Southwest Airlines is complete
Implement reduced/single-engine taxiing by aircraft	All airlines are encouraged to perform single or reduced engine taxiing to the extent determined safe and efficient	Commenced in 1998 and is ongoing
Category #2: Buildings and Facilities		
Adopt policy to purchase only alternate-fuel vehicles for airport operations & maintenance vehicle fleet	Reduces emissions associated with conventionally-powered vehicles.	Commenced in 2000 and is ongoing. Currently, 25% of the Airport's vehicle fleet is alternate fuel or clean energy-powered
Implement a Construction Project Pollutant Emissions Abatement Program	Requires measures be included in all construction plans/specs to minimize emissions from construction vehicles and equipment	Ongoing
Demolish & replace fuel storage & fuel dispensing facilities	Reduces emissions associated with older fuel storage & handling equipment, as well as fuel truck movement on Airport roadways	Fuel dispensing facility & Phase 1 storage facility completed in 2010; capacity of fuel storage to be increased when warranted
Construct jet fuel pipeline from regional distribution facility to the Airport fuel storage facility	Eliminates emissions associated with trucks transporting jet fuel to the Airport	Completed in 2011
Replace lighting at Airport facilities and in Airport buildings	Energy-efficient lighting reduces emissions associated with generation of electricity	Ongoing
Implement a green cleaning policy at the Airport	Use of green-seal-certified cleaning products reduces emissions and improves indoor air quality	Ongoing
Consolidate all rental car operations to a new facility to be built adjacent to Terminal B.	Significantly reduces emissions associated with rental car vehicle movements and shuttle bus service to/from existing facility	Completed in 2010
Construct a 1-megawatt photovoltaic system on the roof of the new consolidated rental car facility	Generates zero-emissions electricity, providing 20% of the power used at the consolidated rental car facility	Completed in 2010
Implement *San Jose Clean Energy Program* at the Airport	Electricity purchased for Airport facilities will be 45% renewables & 80% carbon free	Initiated in Fall 2018
Construct new and upgraded terminal buildings to achieve Leadership in Energy and Environmental Design (LEED) standards	Reduces emissions from building heating & cooling, hot water heating, etc.; lower electricity use reduces offsite emissions	Construction of new North Concourse/Terminal B Phase 1 and upgraded Terminal A completed in 2010
Construct all buildings with an occupied space greater than 10,000 ft^2 to achieve LEED standards	Reduces emissions from building heating & cooling, hot water heating, etc.; lower electricity use reduces offsite emissions	Commenced in 2007 and ongoing

Table 1.3-1. Completed and Ongoing Emissions Reduction Measures at the Airport
Mineta San Jose International Airport
San Jose, California

Description of Measure	Comments	Status
Category #3: Ground Transportation		
Provide free bus/rail passes to employees to allow unlimited use of VTA's bus & light rail transit (LRT) systems	Reduces emissions by encouraging transit use by all 3,500+ employees at SJC, including City, airline, rental car company, terminal concessionaire, and other Airport tenant employees	Commenced in 1998 and ongoing
Replace the Airport's diesel-powered shuttle bus fleet with CNG-powered buses	Reduces the Airport's total diesel exhaust emissions.	Completed in 2008 with purchase of 34 CNG-powered buses
Purchase electric-powered shuttle buses	Zero emission buses reduce Airport-generated emissions	Ten (10) buses delivered in February 2019
Upgrade on-Airport roadways and access, including new I-880/Coleman interchange, new SR 87/Skyport interchange, Airport Blvd. improvements at Coleman, Skyport, & Airport Pkwy entrances, and elimination of traffic signals	Lowers emissions and energy use from ground traffic by reducing congestion, delay, and queueing on roadways that serve the Airport	Completed in 2010
Provide free shuttle bus service connecting the Airport with the Metro LRT Station and Santa Clara CalTrain Station	Encourages transit use by all Airport users with buses running every 10-15 minutes from 5:30 a.m. to midnight daily	Commenced in 1998 and ongoing
Construct on-Airport CNG Fueling Station	Facilitates use of CNG-powered, low emission, vehicles including Airport shuttle buses. Open for public use.	Completed in 2003
Construct public electric vehicle (EV) charging stations	Reduces emissions by facilitating use of EVs	Initial station completed in 2001; additional stations in progress
Construct designated "cell phone waiting" public parking area	Reduces emissions by discouraging drivers picking up passengers from circling around the Airport	Completed in 2007; second cell phone waiting lot added in 2018
Require at least 25% of all taxi/van trips to/from the Airport to be by low- or zero-emission vehicles, to be facilitated by grants from Airport & VTA	Reduces emissions associated with conventionally-powered vehicles. Currently, 36% of the taxi fleet is alternate/clean-fuel powered	Commenced in 2005 and is ongoing
Implement a "Commercial Vehicle Trip Fee" to be charged for each trip to the Airport	Reduces emissions by eliminating unnecessary vehicle trips	Commenced in 1990s and is ongoing
Implement a taxi dispatch system that requires taxis to park in designated areas until dispatched	Reduces emissions associated with engine idling	Ongoing
Disseminate information on public transit systems in Airport terminals and on Airport website	Lowers emissions and energy consumption by encouraging transit usage	Ongoing

Table 2.1-1 National and California Ambient Air Quality Standards, Effects, and Sources
Mineta San Jose International Airport
San Jose, California

Pollutant	Averaging Time	State Standard[a]		National Standard[b]		Pollutant Health and Atmospheric Effects	Major Pollutant Sources
		Concen-tration	Attainment Status	Concen-tration	Attainment Status		
Ozone (O_3)	1-Hour	0.09 ppm	N	[c]	[c]	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when ROGs and NO_X react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial industrial mobile equipment.
	8-Hour	0.070 ppm	N	0.070 ppm	MN		
Carbon Monoxide (CO)	1-Hour	20 ppm	A	35 ppm	A	Classified as a chemical asphyxiate, CO interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8-Hour	9.0 ppm	A	9 ppm	A		
Nitrogen Dioxide (NO_2)	1-Hour	0.18 ppm	A	0.10 ppm	U	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	Annual	0.030 ppm	-	0.053 ppm	A		
Sulfur Dioxide (SO_2)	1-Hour	0.25 ppm	A	0.075 ppm	A	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3-Hour	–	-	[d]	-		
	24-Hour	0.04 ppm	A	0.14 ppm [e]	A [e]		
	Annual	–	-	0.030 ppm [e]	A [e]		
Respirable Particulate Matter (PM_{10})	24-Hour	50 µg/m^3	N	150 µg/m^3	U	May irritate eyes and respiratory tract, and cause decreases in lung capacity, increases in certain cancers, and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual	20 µg/m^3	N	[f]	[f]		
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	–	–	35 µg/m^3	N	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning. Also formed from photochemical reactions of other pollutants, including NO_X, SO_2, and organics.
	Annual	12 µg/m^3	N	12 µg/m^3	U/A		
Lead	30-day Average	1.5 µg/m^3	A	–	–	Disturbs gastrointestinal system and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present source: lead smelters, battery manufacturing and recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	–	–	1.5 µg/m^3 [h]	A[h]		
	Rolling 3-Month Average	–	–	0.15 µg/m^3	U/A		
Sulfates	24-Hour	25 µg/m^3	A	–	–	Decrease in ventilator function, aggravation of asthmatic symptoms, and increased risk of cardio-pulmonary disease. Degrades visibility and can harm ecosystems and damage materials due to acidity.	Combustion of petroleum-derived fuels that contain sulfur.
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	U	–	–	Disagreeable odor.	Bacterial decomposition of sulfur-containing organic substances.

Table 2.1-1 National and California Ambient Air Quality Standards, Effects, and Sources
Mineta San Jose International Airport
San Jose, California

Pollutant	Averaging Time	State Standard[a]		National Standard[b]		Pollutant Health and Atmospheric Effects	Major Pollutant Sources
		Concen-tration	Attainment Status	Concen-tration	Attainment Status		
Vinyl Chloride	24-Hour	0.010 ppm (26 µg/m^3)	-	–	–	Central nervous system effects such as dizziness, drowsiness, and headaches. Long-term exposure to vinyl chloride through inhalation and oral exposure causes liver damage, can increase risk of cancer.	Used to make polyvinyl chloride plastic and vinyl products. Has been detected near landfills, sewage plants, and hazardous waste sites due to microbial breakdown of chlorinated solvents.
Visibility Reducing Particles	8-Hour	[i]	U	–	–	Visibility impairment.	Consists of suspended PM, a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid.

Notes:

[a] California standards for ozone, CO (except Lake Tahoe), SO_2 (1-hour and 24-hour), NO_2, and PM_{10} are values not to be exceeded. The standards for Lake Tahoe CO and lead are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour, or 24-hour average (i.e., all standards except for lead and the PM_{10} annual standard), some measurements may be excluded; in particular, measurements determined by the CARB to occur less than once a year on average are excluded. The Lake Tahoe CO standard is 6.0 ppm, which is two-thirds of the national and State standard.

[b] National standards shown are the primary standards designed to protect public health. The national primary standards reflect the level of air quality necessary, with an adequate margin of safety, to protect the public health. National standards other than for ozone, particulates, and those based on annual averages are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent 3-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than 1. The 8-hour ozone standard is attained when the 3-year average of the fourth highest daily concentrations is 0.075 ppm or less. The 24-hour PM_{10} standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 µg/m^3. The 24-hour $PM_{2.5}$ standard is attained when the 3-year average of the 98th percentile is less than 35 µg/m^3.

[c] The national 1-hour ozone standard was revoked on June 15, 2005.

[d] The national secondary 3-hour SO_2 standard is 0.5 ppm.

[e] On June 2, 2010, the 1971 national annual and 24-hr SO_2 standards were revoked. However, these standards remain in effect until 1 year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.

[f] The national annual PM_{10} standard was revoked in 2006.

[g] The national secondary annual $PM_{2.5}$ standard is 15 µg/m^3. 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.

[h] On October 15, 2008, the national rolling 3-month average lead standard was established. The 1978 national quarterly lead standard remains in effect until 1 year after an area is designated for the 2008 standard, except in areas designated nonattainment for the 1978, where the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[i] 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.

Abbreviations:

µg/m^3 - micrograms per cubic meter
-- - not applicable
A - Attainment
MN - Marginal Nonattainment
N - Nonattainment
NO_x - oxides of nitrogen
ppm - parts per million
ROG - reactive organic gas
SO_x - oxides of sulfur
U - Unclassified
U/A - Unclassified/Attainment (insufficient data collected to determine classification; generally indicates low concern for the pollutant levels)

Sources:

Bay Area Air Quality Management District (BAAQMD) Air Quality Standards and Attainment Status http://www.baaqmd.gov/about-air-quality/research-and-data/air-quality-standards-and-attainment-status. Accessed: April 16, 2019.

California Air Resources Board (CARB), Air Quality Data Statistics. Available at: http://www.arb.ca.gov/adam/. Accessed: April 24, 2019

California Air Resources Board (CARB), Ambient Air Quality Standards. Available at: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed: April 24, 2019

Table 2.1-2 Ambient Air Quality in San Jose
Mineta San Jose International Airport
San Jose, California

	San Jose[a]		
	2015	**2016**	**2017**
Ozone (O_3)			
Maximum 1-hour Concentration (ppm)	**0.094**	**0.087**	**0.121**
No. Days > CAAQS (1-hour) of 0.09 ppm	0	0	3
Maximum 8-hour Concentration (National/State)[b] (ppm)	**0.081/0.081**	**0.066/0.067**	**0.098/0.099**
No. Days > CAAQS (8-hour) of 0.070 ppm	2	0	4
No. Days > NAAQS (8-hour) of 0.070 ppm	2	0	4
Carbon Monoxide (CO)			
Maximum 1-hour Concentration (ppm)	2.4	2	2.1
No. Days > CAAQS (1-hour) of 20 ppm	0	0	0
Maximum 8-hour Concentration (ppm)	1.8	1.4	1.8
No. Days > NAAQS and CAAQS (8-hour) of 9.0 ppm	0	0	0
Nitrogen Dioxide (NO_2)			
Maximum 1-hour Concentration (ppm)	0.049	0.051	0.068
No. Days > CAAQS (1-hour) of 0.18 ppm	0	0	0
No. Days > NAAQS (1-hour) of 0.1 ppm	0	0	0
Annual Average Concentration (ppm)	0.013	0.011	0.012
Sulfur Dioxide (SO_2)			
Maximum 1-hour concentration (ppm)	0.0031	0.0018	0.0036
No. Days > NAAQS (1-hour) of 0.075 ppm	0	0	0
Maximum 24-hour concentration (ppm)	0.0011	0.0008	0.0011
No. Days > CAAQS 24-hour) of 0.04 ppm	0	0	0
Respirable Particulate Matter (PM_{10})			
Maximum 24-hour Concentration (National/State)[b] ($\mu g/m^3$)	**58/**58	**41/41**	70/69.8
No. Days > NAAQS (24-hour) of 150 $\mu g/m^3$	0	0	0
No. Days > CAAQS (24-hour) of 50 $\mu g/m^3$	1	0	6
Annual Average Concentration (National/State)[b] ($\mu g/m^3$)	**22.0/**21.9	18.5/18.3	21.6/21.3

Table 2.1-2 Ambient Air Quality in San Jose
Mineta San Jose International Airport
San Jose, California

	San Jose[a]		
	2015	**2016**	**2017**
Fine Particulate Matter ($PM_{2.5}$)			
Maximum 24-hour Concentration (National/State)[b] ($\mu g/m^3$)	**49.4/**49.4	22.6/22.7	**49.7/**49.7
No. Days > NAAQS (24-hour) of 35 $\mu g/m^3$	2	0	6
Annual Average Concentration (National/State)[b] ($\mu g/m^3$)	10.0/10.6	8.4/8.3	9.5/(-)

Notes:

[a] Data were taken from the San Jose air monitoring station.

[b.] State and national statistics may differ for the following reasons: State statistics are based on California-approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers. State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

(-) There was insufficient (or no) data available to determine the value

Bold/gray shading indicates segments that operate at unacceptable levels.

Abbreviations:

$\mu g/m^3$ - micrograms per cubic meter
– - data not available in San Jose.
CAAQS - California Ambient Air Quality Standards
NAAQS - National Ambient Air Quality Standards
ppm - parts per million

Sources:

CARB. Station Data: https://www.arb.ca.gov/adam/select8/sc8start.php for 2015, 2016, and 2017 using Santa Clara County, San Jose- Jackson Street Inputs: Ozone 8 Hour: 8-Hour Averages -> State Max; PM2.5: Annual Averages -> State ; 24-Hour Averages -> State Max ; PM10: Annual Averages -> State ; 24-Hour Averages -> State Max Accessed April 16, 2019.

BAAQMD. Air Quality Summaries http://www.baaqmd.gov/about-air-quality/air-quality-summaries for 2015, 2016, and 2017 Accessed April 16, 2019.

Table 2.1-3. 2015 Estimated Criteria Pollutant Emissions Inventories by Source (County and Air Basin)
Mineta San Jose International Airport
San Jose, California

	Tons per Day Based on Annual Average					
Source	**ROG**	**CO**	**NO_x**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Santa Clara County						
Mobile	28.7	275.1	51.5	0.4	3.6	2.6
Stationary	31.0	17.7	11.2	1.1	3.2	2.2
Area	22.2	34.6	4.1	0.1	46.6	12.1
TOTAL	**81.9**	**327.3**	**66.7**	**1.6**	**53.4**	**16.9**
San Francisco Bay Area Basin						
Mobile	129	1,123.4	263.6	15	18.1	13.9
Stationary	109.7	47.5	53.4	50.2	17.4	13
Area	91.9	169	17.6	0.6	189.7	56.2
TOTAL	**330.6**	**1,339.9**	**334.6**	**65.8**	**225.2**	**83.1**

Note:
Table totals may not be exact due to rounding.

Abbreviations:
CO - carbon monoxide
NO_x - oxides of nitrogen
$PM_{2.5}$ - particulate matter less than 2.5 microns In diameter
PM_{10} - particulate matter less than 10 microns In diameter
ROG - reactive organic gas
SO_x - sulfur oxide

Source:

Data obtained from California Air Resources Board (CARB) Almanac Emission Projection Data. Available at: https://www.arb.ca.gov/app/emsinv/emssumcat.php, accessed April 16, 2019. Input selection is as follows: Inventory year - 2015; Source type - all except natural; Air basin - San Francisco Bay Area basin; County - Santa Clara.

Table 2.2-1 NAAQS and CAAQS Attainment Status of Santa Clara County
Mineta San Jose International Airport
San Jose, California

Pollutant	Averaging Period	Santa Clara County Attainment Status	
		California Standard[1]	Federal Standard[2]
Ozone (O_3)	1 hour	Non-Attainment	Non-Attainment
	8 hour	Non-Attainment	Marginal Non-Attainment
Respirable Particulate Matter (PM_{10})	24 hour	Non-Attainment	Attainment
	Annual	Non-Attainment	---
Fine Particulate Matter ($PM_{2.5}$)	24 hour	---	---
	Annual	Non-Attainment	Attainment
Carbon Monoxide (CO)	1 hour	Attainment	Maintenance (Moderate)
	8 hour	Attainment	Maintenance (Moderate)
Nitrogen Dioxide (NO_2)	1 hour	Attainment	Attainment
	Annual	Attainment	Attainment
Lead (Pb)	30 day average	Attainment	---
	Rolling 3-month average	---	Attainment
Sulfur Dioxide (SO_2)	1 hour	---	Attainment
	3 hour	---	---
	24 hour	Attainment	---
Hydrogen Sulfide (H_2S)	1 hour	Unclassified	---
Vinyl Chloride	24 hour	---	---
Sulfates	24 hour	Attainment	---
Visibility-Reducing Particles	8 hour	Unclassified	---

Notes:

[1] California standard attainment status based on CARB website (www.arb.ca.gov/desig/adm/adm.htm) 2017 values. Accessed: April 16, 2019.

[2] Federal standard attainment status based on USEPA websites (www.epa.gov/air/oaqps/greenbk/index.html, www.epa.gov/region09/air/maps/, https://www.epa.gov/green-book/green-book-national-area-and-county-level-multi-pollutant-information, https://www3.epa.gov/airquality/greenbook/phistory_ca.html, https://www.epa.gov/green-book/green-book-8-hour-ozone-2015-area-information) for the listed pollutants. Accessed April 16, 2019.

Table 3.1-1. Landside Construction Project Description
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Construction Duration[1]	Project Description[1]		Land Area (acres)	Building Area (sqft)	Project Under Existing Master Plan[2]	Construction Phase[1]
T-4	2022 - 2023	Parking Structure	5,000 spaces	11.5	2,500,000	X	Phase 1
T-6 (part)	--	Remove City office structures at 1311 Airport Blvd. *(demolition activity only)*	11 TSF	0.25	11,000	X	Phase 1
T-8 (part)	2020 - 2021	Parking Structure	6,000 spaces	10.7	2,335,000	X	Phase 1
T-13	2024 - 2026 (gates 29-40)	Terminal B - 14 carrier gates, building space, and associated passenger processing facilities	375 TSF	4.6	375,000	X	Phase 1
	2033 - 2034 (gates 41-42)	Terminal B - 14 carrier gates, building space, and associated passenger processing facilities	375 TSF	4.6	375,000	X	Phase 2
T-16	2026 - 2027	Hotel	330 rooms	2.3	150,000		Phase 1
		Hotel Parking	300 spaces	2.3	150,000		
C-2	--	Expand cargo airline facilities	35 TSF	4.6	35,000	X	Phase 1 & 2
C-3	2021 - 2022	Relocate Belly-freight facilities	35 TSF	3.4	35,000	X	Phase 1
C-4	--	Remove existing Air Freight Building and vehicle parking/movement area. *(demolition activity only)*	150 TSF	3.4	150,000	X	Phase 1
G-5 (part)	2020	Convert former San Jose State University leasehold site at southwest side to aviation support or general aviation facility use	50 TSF	3.5	50,000	X	Phase 1
G-6 (part)	N/A	Establish new FBO leaseholds on west side for reconfiguration of general aviation facilities	no new construction			X	Phase 1
G-8 (part)	2023 - 2025	Expansion of general aviation facilities	150 TSF	10.0	150,000	X	Phase 1
G-9	2023 (north) 2024 (south)	Expansion of west side general aviation apron	496.3 TSF	11.4	496,300		Phase 1
G-10	N/A	Reconfigure southwest apron tiedown storage facilities (to accommodate Projects A-40, A-41, and G-5)	no new construction				Phase 1
S-1 (part)	2035 - 2036	Expand fuel storage facility	4.8 TSF	2.3	4,800	X	Phase 2
S-3	N/A	Relocate/expand airport maintenance facilities at new site(s) on east or west sides of Airport.	no new construction			X	Phase 1
S-4	--	Expand flight kitchen facilities at existing or new sites on east side of Airport or relocate/expand off-airport.	125 TSF	8.6	125,000	X	Phase 1
S-5		Relocate/expand airline maintenance/storage facilities at various existing or new sites on east or west sides of Airport.				X	Phase 1 & 2
S-6		Remove, relocate, or upgrade existing aviation support facilities on southeast side of Airport (1239-1311 Airport Blvd.) at various existing or new sites on east or west sides of Airport.				X	Phase 1 & 2

Notes:

[1] Based on Project Description as provided in the EIR. "--" indicates that proposed construction duration is not known at this time.

[2] "X" indicates that the project is part of the Existing Master Plan.

Abbreviations:

EIR - Environmental Impact Report
FBO - fixed-base operator
N/A - not applicable
sqft - square feet
TSF - thousand square feet

Table 3.1-2. Airside Construction Project Description
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Construction Year[1]	Project Description[1]	Width (ft)	Length (ft)	Count	Land Area (sqft)	Project Under Existing Master Plan[2]	Construction Phase[1]
A-17 (part)	2021	Extend parallel Taxiway W south from Taxiway B to Runway 12R-30L (for ADG-III aircraft).	115	413	1	48,800	X	Phase 1
A-23 (part)	--	Widen cross Taxiway J at Runway 12R-30L for higher-speed arrivals exit to west.	80	328	1	26,200	X	Phase 1
A-26	2022	Convert former Runway 11-29 to a new parallel Taxiway V (for ADG-III aircraft) and extend south to Taxiway C and north to a new cross Taxiway V7.	118	1,518	1	179,145	X	Phase 1
	2023		118	808	1	95,355	X	Phase 1
A-27	--	Construct new cross Taxiway V7 from north end of new Taxiway V to Taxiway W (for ADG-III aircraft) .	109	147	1	16,000	X	Phase 1
A-37	--	Close existing Taxiway V and replace with a parallel apron-edge taxilane (for ADG-III aircraft) .	50	3,500	1	175,000	X	Phase 1
	--		75	3,400	1	255,000	X	
A-38	--	Construct up to seven new taxiway connectors (V1-V7) between the expanded west side apron (Project G-9) and new Taxiway V (for ADG-III aircraft) .	129	92	7	83,000		Phase 1
A-39	--	Mitigate direct access from west side apron to taxiways B, C, & D through pavement marking/painting or removal.	no new construction *(mark/paint only)*					Phase 1
A-40	--	Create up to three new taxiway connectors (W1-W3) between the southwest apron and Taxiway W (for ADG-II aircraft) through pavement marking/painting or removal.	no new construction *(mark/paint only)*					Phase 1
A-41	--	Relocate existing general aviation run-up pad to southwest apron area (*removal only*).	110	352	--	38,700		Phase 1
A-42	--	Relocate Runway 12R-30L aircraft hold positions on all cross taxiways to current ADG-V aircraft standard.	30	150	10	45,000		Phase 1
A-43	--	Widen Runway 12L-30R blast pads, and lengthen blast pad at 12L end, to current ADG-V aircraft standard.	40	210	1	8,389		Phase 1
	--		40	163	1	6,511		Phase 1
A-44	--	Realign existing cross taxiways B-F, H, J, & L between taxiways Y and Z to mitigate direct access from east side apron to Runway 12L-30R, and rename realigned segments as taxiways Z1-Z8 & Z10.	150	150	8	180,000		Phase 1 & 2
A-45	--	Close existing segments of cross taxiways B-F, H, J, & L between taxiways Y and Z through pavement marking/painting or removal (upon completion of Project A-44) (removal only).	150	150	8	180,000		Phase 1 & 2
A-46	--	Narrow segment of existing cross Taxiway B between Taxiway Z and Runway 12L-30R through pavement marking/painting.	no new construction *(mark/paint only)*					Phase 1
A-47	--	Narrow segment of existing cross Taxiway L between Taxiway Y and Runway 12R-30L through pavement marking/painting.	no new construction *(mark/paint only)*					Phase 1
A-48	--	Close existing segments of cross taxiways F and H between Runway 12R-30L and Runway 12L-30R through pavement marking/painting.	no new construction *(mark/paint only)*					Phase 1
A-49	--	Add pavement markings to existing parallel taxiways W and Y, lateral to the adjacent runway displaced thresholds, to visually denote their use as taxiways.	no new construction *(mark/paint only)*					Phase 1

Notes:
[1] Based on Project Description as provided in the EIR. "--" indicates that proposed construction year is not known at this time.
[2] "X" indicates that the project is part of the Existing Master Plan.

Abbreviations:
ft - feet
sqft - square feet

Table 3.1-3. Construction Projects under Existing Approved Master Plan
Mineta San Jose International Airport
San Jose, California

Project ID	Project Under Existing Master Plan[1]
Landside Projects	
T-4	Construct new public short-term parking garage (up to 3,000 spaces) on existing "Red" Hourly Parking lot site opposite new Terminal B.
T-6 (part)	Remove former temporary FIS facility from ramp south of Terminal C and remove City office structures at 1311 Airport Blvd.
T-8 (part)	Construct new public long-term parking garage (up to approx. 9,000 spaces) on existing interim rental car ready/return parking lot site, including interim surface parking at site prior to garage construction, second 2-lane bridge accessing site from Airport Blvd. and, upon completion, removal of public parking from interim west side lot.
T-13	Expand Terminal B (South Concourse) to south onto remainder of demolished Terminal C site, consisting of up to 700,000 ft2 and 10 air carrier gates (ultimate total of 40 gates and 1.70 million ft2).
T-16	--
C-2	Construct new cargo airline facilities at or adjacent to existing east side cargo airline areas, including up to 1.2 million ft2 of ramp, building, and vehicle parking/movement space.
C-3	Relocate belly-freight facilities to new site(s) on east side of Airport, including up to 93,000 ft2 building and vehicle parking/movement space.
C-4	Remove existing Air Freight Building and vehicle parking/movement area (displaced by Project T-13 and T-15).
G-5 (part)	Remove San José State University facilities at southwest side upon lease expiration in 2010 and convert site to aviation support or general aviation facility use.
G-6 (part)	Establish new FBO leaseholds on west side for reconfiguration of general aviation facilities.
G-8 (part)	Expand general aviation facilities onto northwest side of Airport (44 acres, upon implementation of Project T-7 and T-8).
G-9	--
G-10	--
S-1 (part)	Construct approx. 7-acre fuel storage facility (up to 8 tanks, 4.0 million gallons capacity) on vacant parcel north of Hwy. 101, two-acre fuel dispensing facility between Terminal A and north end of airfield, and pipeline connecting storage and dispensing.
S-3	Relocate/expand airport maintenance facilities at existing or new sites on east side of Airport.
S-4	Expand flight kitchen facilities at existing or new sites on east side of Airport or relocate/expand off-airport.
S-5	Relocate/expand airline maintenance-storage facilities at various or new sites on east side of Airport.
S-6	Remove, relocate, or upgrade existing aviation support facilities on southeast side of Airport (1239-1311 Airport Blvd.) to or at various existing or new eastside sites.

Table 3.1-3. Construction Projects under Existing Approved Master Plan
Mineta San Jose International Airport
San Jose, California

Airside Projects	
A-17 (part)	Extend/widen parallel Taxiway W south from Taxiway C to Runway 12R-30L (for ADG-IV aircraft).
A-23 (part)	Strengthen cross Taxiway J west of extended Runway 12L-30R to west of Runway 12R-30L and widen at 12R-30L for higher-speed arrivals exit to west.
A-26	Widen/strengthen parallel Taxiway V from Taxiway G north to Taxiway W (for ADG- IV aircraft) and patch/restripe south of Taxiway G (for B-II aircraft).
A-27	Extend cross Taxiway H between Runway 12R-30L and Taxiway V (for ADG-IV aircraft).
A-37	Extend cross Taxiway K between Runway 12R-30L and Taxiway V (for ADG-IV aircraft).
A-38	--
A-39	--
A-40	--
A-41	--
A-42	--
A-43	--
A-44	--
A-45	--
A-46	--
A-47	--
A-48	--
A-49	--

Notes:

[1] The "--" indicates that the project was not a part of the Existing Master Plan, but is included within the Amended Master Plan.

Abbreviations:

FBO - fixed-base operator

ft^2 - square feet

Table 3.1-4. Activity Levels for Existing/Baseline, Proposed Project, Mid-Project and No Project Scenarios

Mineta San Jose International Airport
San Jose, California

Scenario	Year	MAP	Annual Aircraft Operations[1]			
			Commercial	General Aviation	Military	Total
Existing/Baseline	2018	14.8	136,228	59,152	247	195,627
Proposed Project	2037	22.5	185,880	51,580	250	237,710
No Project (No New Facilities)[2]	2037	22.5	185,880	51,580	250	237,710
No Project (Buildout Under Existing Master Plan)[2]	2037	22.5	185,880	51,580	250	237,710
Mid-Project	2027	15.7	143,858	41,416	250	185,524

Notes:

[1] One aircraft operation is defined as one takeoff or one landing. The number of landing and take-off operations (LTOs) is calculated as the total number of operations divided by 2.

[2] The activity levels for aircraft operations and passenger demand under the No Project (No New Facilities) and No Project (Buildout Under Existing Master Plan) scenarios are assumed to be identical to the Project scenario.

Abbreviations:

LTO - landing and take-off operations

MAP - Million Annual Passengers

Table 3.2-1a. Criteria Air Pollutant Emissions Associated with Landside Construction Projects
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Starting Year[1]	CAP Emissions[2,3]					
		VOC	NO_x	PM_{10} (EXH)	PM_{10} (FUG)	$PM_{2.5}$ (EXH)	$PM_{2.5}$ (FUG)
		(tons)					
T-4	2022	1.5	9.2	0.18	1.9	0.17	0.56
T-6 (part)	2020	0.00	0.04	0.00	0.00	0.00	0.00
T-8 (part)	2020	1.6	11	0.26	1.8	0.24	0.53
T-13 (gates 29-40)	2024	2.2	2.5	0.09	0.27	0.09	0.09
T-13 (gates 41-42)	2033	2.2	1.6	0.03	0.27	0.03	0.09
T-16	2026	1.1	2.2	0.08	0.23	0.07	0.08
C-2	2020	0.50	2.9	0.16	0.09	0.15	0.04
C-3	2021	0.47	2.7	0.14	0.09	0.13	0.04
C-4	2020	0.03	0.33	0.02	0.00	0.02	0.00
G-5 (part)	2020	0.58	3.0	0.16	0.10	0.15	0.05
G-8 (part)	2023	1.1	2.7	0.12	0.26	0.11	0.11
G-9	2023	3.0	4.0	0.15	0.56	0.14	0.19
S-1 (part)	2035	0.17	0.90	0.01	0.03	0.01	0.01
S-4, S-5, and S-6	2020	1.0	3.4	0.18	0.22	0.17	0.10

Notes:

[1] Based on Project Description as provided in the EIR. Construction year was only specified for landside projects T-4, T-8, T-13, T-16, C-3, G-8, G-9, and S-1. For all other landside projects, construction is conservatively assumed to start in CY 2020 for the purposes of calculating emissions.

[2] CAP emissions associated with landside development were calculated using CalEEMod® version 2016.3.2 based on building type and size.

[3] Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.

Abbreviations:

CalEEMod® - CALifornia Emissions Estimator MODel
CAP - criteria air pollutant
CY - calendar year
EXH - exhaust
FUG - fugitive
NO_X - oxides of nitrogen
PM_{10} - particulate matter equal to or less than 10 microns in diameter
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
VMT - vehicle miles traveled
VOC - volatile organic compound

Table 3.2-1b. Criteria Air Pollutant Emissions Associated with Landside Construction Projects with Mitigation
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Starting Year[1]	Mitigated CAP Emissions[2,3]					
		VOC	NO_x	PM_{10} (EXH)	PM_{10} (FUG)	$PM_{2.5}$ (EXH)	$PM_{2.5}$ (FUG)
		(tons)					
T-4	2022	1.2	6.2	0.03	1.9	0.03	0.56
T-6 (part)	2020	0.00	0.00	0.00	0.00	0.00	0.00
T-8 (part)	2020	1.3	7.1	0.04	1.8	0.04	0.53
T-13 (gates 29-40)	2024	2.1	0.84	0.01	0.27	0.01	0.09
T-13 (gates 41-42)	2033	2.0	0.77	0.01	0.27	0.01	0.09
T-16	2026	0.91	0.72	0.01	0.23	0.01	0.08
C-2	2020	0.24	0.38	0.01	0.09	0.01	0.04
C-3	2021	0.24	0.37	0.01	0.09	0.01	0.04
C-4	2020	0.01	0.02	0.00	0.00	0.00	0.00
G-5 (part)	2020	0.32	0.41	0.01	0.10	0.01	0.05
G-8 (part)	2023	0.87	0.56	0.01	0.26	0.01	0.11
G-9	2023	2.8	1.4	0.01	0.56	0.01	0.19
S-1 (part)	2035	0.07	0.46	0.00	0.03	0.00	0.01
S-4, S-5, and S-6	2020	0.73	0.59	0.01	0.22	0.01	0.10

Notes:

[1] Based on Project Description as provided in the EIR. Construction year was only specified for landside projects T-4, T-8, T-13, T-16, C-3, G-8, G-9, and S-1. For all other landside projects, construction is conservatively assumed to start in CY 2020 for the purposes of calculating emissions.

[2] Mitigated CAP emissions associated with landside development were calculated using CalEEMod® version 2016.3.2 based on building type and size assuming Tier 4 Final for all offroad equipment.

[3] Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.

Abbreviations:

CalEEMod® - CALifornia Emissions Estimator MODel
CAP - criteria air pollutant
CY - calendar year
EXH - exhaust
FUG - fugitive
NO_X - oxides of nitrogen
PM_{10} - particulate matter equal to or less than 10 microns in diameter
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
VMT - vehicle miles traveled
VOC - volatile organic compound

Table 3.2-2a. Criteria Air Pollutant Emissions with Airside Construction Projects
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Starting Year[1]	CAP Emissions[2,3,4,5] (tons)					
		VOC	NO_x	PM_{10} (EXH)	PM_{10} (FUG)	$PM_{2.5}$ (EXH)	$PM_{2.5}$ (FUG)
A-17 (part)	2021	0.12	1.0	0.04	0.11	0.03	0.01
A-23 (part)	2020	0.10	0.80	0.03	0.07	0.03	0.01
A-26-1	2022	0.25	2.3	0.08	0.33	0.07	0.01
A-26-2	2023	0.17	1.4	0.05	0.19	0.05	0.01
A-27	2020	0.09	0.69	0.02	0.06	0.02	0.01
A-37-1	2020	0.28	2.5	0.09	0.31	0.08	0.01
A-37-2	2020	0.36	3.1	0.11	0.45	0.10	0.01
A-38	2020	0.16	1.3	0.05	0.15	0.04	0.01
A-42	2020	0.13	1.1	0.04	0.10	0.04	0.01
A-44	2020	0.25	2.2	0.08	0.33	0.07	0.01
A-43-1	2020	0.08	0.63	0.02	0.05	0.02	0.01
A-43-2	2020	0.08	0.61	0.02	0.04	0.02	0.01
A-41	2020	0.01	0.06	0.00	0.02	0.00	0.00
A-45	2020	0.03	0.28	0.01	0.08	0.01	0.00

Notes:

[1] Based on Project Description as provided in the EIR. Construction year was specified only for projects A-17 and A-26. For all projects construction is conservatively assumed to start in CY 2020 for purposes of this analysis.

[2] Construction equipment and activity (i.e., equipment type, equipment counts, averaged rated horsepower, load factor, hours of activity, vehicle trips, and VMT) for airside projects obtained using ACEIT. ACEIT was developed by the Airport Cooperative Research Program of the Transportation Research Board to evaluate emissions from the construction of airside (i.e., runway and taxiway) improvements.

[3] CAP emissions associated with offroad equipment were calculated using emission factors from OFFROAD 2017, except for chain saws, concrete saws, pumps, and surface equipment (grooving) where emission factors were obtained from ACEIT.

[4] CAP emissions associated with onroad vehicles were calculated using emission factors from EMFAC2017. Emission factors for passenger cars are based on fleet average for LDA, LDT1, LDT2 and MDV vehicle classes and emission factors for dump trucks and cement mixers are based MHD and HHD fleet average.

[5] Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.

Abbreviations:

ACEIT - Airport Construction Emissions Inventory Tool
CAP - criteria air pollutant
CY - calendar year
EXH - exhaust
FUG - fugitive
HHD - heavy-heavy duty
lb - pound
LDA - passenger cars
LDT - light-duty truck
MDV - medium-duty trucks
MHD - medium-heavy duty
NO_X - oxides of nitrogen
PM_{10} - particulate matter equal to or less than 10 microns in diameter
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
VMT - vehicle miles traveled
VOC - volatile organic compound

Table 3.2-2b. Criteria Air Pollutant Emissions Associated with Airside Construction Projects with Mitigation
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Starting Year[1]	Mitigated CAP Emissions[2,3,4,5]					
		VOC	NO_x	PM_{10} (EXH)	PM_{10} (FUG)	$PM_{2.5}$ (EXH)	$PM_{2.5}$ (FUG)
		(tons)					
A-17 (part)	2021	0.08	0.36	0.01	0.11	0.01	0.01
A-23 (part)	2020	0.07	0.28	0.01	0.07	0.01	0.01
A-26-1	2022	0.18	0.87	0.02	0.33	0.02	0.01
A-26-2	2023	0.12	0.55	0.01	0.19	0.01	0.01
A-27	2020	0.06	0.24	0.01	0.06	0.01	0.01
A-37-1	2020	0.19	0.92	0.02	0.31	0.02	0.01
A-37-2	2020	0.24	1.2	0.03	0.45	0.03	0.01
A-38	2020	0.11	0.50	0.01	0.15	0.01	0.01
A-42	2020	0.09	0.38	0.01	0.10	0.01	0.01
A-44	2020	0.17	0.87	0.02	0.33	0.02	0.01
A-43-1	2020	0.06	0.21	0.01	0.05	0.01	0.01
A-43-2	2020	0.06	0.20	0.01	0.04	0.01	0.01
A-41	2020	0.00	0.03	0.00	0.02	0.00	0.00
A-45	2020	0.02	0.13	0.00	0.08	0.00	0.00

Notes:

[1] Based on Project Description as provided in the EIR. Construction year was specified only for projects A-17 and A-26. For all projects construction is conservatively assumed to start in CY 2020 for purposes of this analysis.

[2] Construction equipment and activity (i.e., equipment type, equipment counts, averaged rated horsepower, load factor, hours of activity, vehicle trips, and VMT) for airside projects obtained using ACEIT. ACEIT was developed by the Airport Cooperative Research Program of the Transportation Research Board to evaluate emissions from the construction of airside (i.e., runway and taxiway) improvements.

[3] Mitigated CAP emissions associated with offroad equipment were calculated using Tier 4 Final emission factors from OFFROAD 2017, except for chain saws and pumps where emission factors were obtained from ACEIT.

[4] CAP emissions associated with onroad vehicles were calculated using emission factors from EMFAC2017. Emission factors for passenger cars are based on fleet average for LDA, LDT1, LDT2 and MDV vehicle classes and emission factors for dump trucks and cement mixers are based MHD and HHD fleet average.

[5] Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.

Abbreviations:

ACEIT - Airport Construction Emissions Inventory Tool
CAP - criteria air pollutant
CY - calendar year
EXH - exhaust
FUG - fugitive
HHD - heavy-heavy duty
lb - pound
LDA - passenger cars
LDT - light-duty truck
MDV - medium-duty trucks
MHD - medium-heavy duty
NO_X - oxides of nitrogen
PM_{10} - particulate matter equal to or less than 10 microns in diameter
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
VMT - vehicle miles traveled
VOC - volatile organic compound

Table 3.2-3. Criteria Air Pollutant Emissions Associated with Construction Projects Under Existing Approved Master Plan
Mineta San Jose International Airport
San Jose, California

Project ID	CAP Emissions[1,2,3]					
	VOC	NO_x	PM_{10} (EXH)	PM_{10} (FUG)	$PM_{2.5}$ (EXH)	$PM_{2.5}$ (FUG)
	(tons)					
Landside Projects						
T-4	1.5	9.2	0.18	1.9	0.17	0.56
T-6 (part)	0.00	0.04	0.00	0.00	0.00	0.00
T-8 (part)	1.6	11	0.26	1.8	0.24	0.53
T-13	4.4	4.1	0.12	0.53	0.11	0.18
T-16	--	--	--	--	--	--
C-2	0.50	2.9	0.16	0.09	0.15	0.04
C-3	0.47	2.7	0.14	0.09	0.13	0.04
C-4	0.03	0.33	0.02	0.00	0.02	0.00
G-5 (part)	0.58	3.0	0.16	0.10	0.15	0.05
G-6 (part)[4]	N/A					
G-8 (part)	1.1	2.7	0.12	0.26	0.11	0.11
G-9	--	--	--	--	--	--
G-10	--	--	--	--	--	--
S-1 (part)	0.17	0.90	0.01	0.03	0.01	0.01
S-3[4]	N/A					
S-4, S-5, and S-6	1.0	3.4	0.18	0.22	0.17	0.10
Airside Projects						
A-17 (part)	0.12	1.0	0.04	0.11	0.03	0.01
A-23 (part)	0.10	0.80	0.03	0.07	0.03	0.01
A-26	0.42	3.7	0.13	0.52	0.12	0.01
A-27	0.09	0.69	0.02	0.06	0.02	0.01
A-37	0.63	5.6	0.20	0.76	0.19	0.02
A-38	--	--	--	--	--	--
A-39	--	--	--	--	--	--
A-40	--	--	--	--	--	--
A-41	--	--	--	--	--	--
A-42	--	--	--	--	--	--
A-43	--	--	--	--	--	--
A-44	--	--	--	--	--	--
A-45	--	--	--	--	--	--
A-46	--	--	--	--	--	--
A-47	--	--	--	--	--	--
A-48	--	--	--	--	--	--
A-49	--	--	--	--	--	--

Notes:

[1] The "--" indicates that the project was not a part of the Existing Master Plan.
[2] Emissions associated with the construction of the Existing Master Plan are obtained from construction emissions of Amendment to Airport Master Plan as shown in prior tables.

[3] Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.

[4] Emissions associated with projects G-6 and S-3 were not modeled as the construction was completed in previous years.

Abbreviations:

CAP - criteria air pollutant
EXH - exhaust
FUG - fugitive
NO_X - oxides of nitrogen
PM_{10} - particulate matter equal to or less than 10 microns in diameter
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
VOC - volatile organic compound

Table 3.2-4. AEDT Aircraft Classification and Engine Assignment
Mineta San Jose International Airport
San Jose, California

Aircraft Category	AEDT Aircraft Type	Number of Engines per Aircraft	Engine Manufacturer and Model[1]
Business	AEE-USER-TEMP GULFSTREAM AEROSPACE Gulfstream G650	2	Rolls-Royce BR-700-725A1-12
	Bombardier Challenger 600	2	Textron Lycoming ALF 502L-2
	Bombardier Global 5000 Business	2	BMW Rolls-Royce GmbH BR700-710A2-20
	Bombardier Global Express	2	BMW Rolls-Royce GmbH BR700-710A2-20
	Bombardier Learjet 25	2	CJ610-6
	Bombardier Learjet 35A/36A (C-21A)	2	TFE731-2/2A
	Cessna 500 Citation I	2	Pratt & Whitney (Canada) JT15D-4series
	Cessna 525 Citation Jet	2	Pratt & Whitney PW4090
	Cessna 550 Citation II	2	PW530
	Cessna 560 Citation V	2	PW530
	Cessna 560 Citation XLS	2	BIZMEDIUMJET_F
	Cessna 650 Citation III	2	Allied Signal TFE731-3
	Cessna 680 Citation Sovereign	2	BIZMEDIUMJET_F
	Cessna 750 Citation X	2	Rolls-Royce Corporation AE3007C1
	CESSNA CITATION 510	2	UNKNOWN
	Dassault Falcon 20-D	2	CF700-2D
	Eclipse 500 / PW610F	2	PW610F-A
	Gulfstream G550	2	BMW Rolls-Royce GmbH BR700-710A1-10
	Gulfstream II	2	SPEY MK511-8
	Gulfstream II-B	2	Rolls Royce Ltd SPEY Mk511
	Gulfstream IV-SP	2	Rolls Royce Ltd TAY Mk611-8
	Israel IAI-1125 Astra	2	Allied Signal TFE731-3
	Mitsubishi MU-300 Diamond	2	Pratt & Whitney (Canada) JT15D-5, -5A, -5B
Commercial	Airbus A300F4-600 Series	2	Pratt & Whitney PW4x58
	Airbus A319-100 Series	2	International Aero Engines V2522-A5
	Airbus A320-200 Series	2	CFMI CFM56-5-A1
	Airbus A321-200 Series	2	International Aero Engines V2530-A5
	Airbus A330-200 Series	2	GE CF6-80E1A4
	Airbus A330-300 Series	2	GE Aircraft Engines CF6-80E1A2
	Airbus A340-200 Series	4	CFMI CFM56-5C2
	Airbus A340-600 Series	4	Rolls-Royce Trent 556-61
	Airbus A350-900 series	2	Rolls Royce plc Trent 772
	B787-8R	2	GE CF6-80C2B6F
	Boeing 717-200 Series	2	BMW Rolls-Royce GmbH BR700-715C1-30
	Boeing 727-200 Series	3	Pratt & Whitney JT8D-15A
	Boeing 737-400 Series	2	CFMI CFM56-3C-1 (Rerated)
	Boeing 737-500 Series	2	CFMI CFM56-3C-1 (Rerated)
	Boeing 737-700 Series	2	GE CFM56-7B24
	Boeing 737-800 MAX	2	GE Aviation LEAP-1A35A/33/33B2/32/30
	Boeing 737-800 Series	2	GE CFM56-7B26/2
	Boeing 747-400 Series Freighter	4	GE Aircraft Engines CF6-80C2B1F
	Boeing 757-200 Series	2	Pratt & Whitney PW2037
	Boeing 757-300 Series	2	Rolls-Royce plc RB211-535E4B
	Boeing 767-200 Series	2	GE CF6-80C2A5
	Boeing 767-300 Series	2	Pratt & Whitney PW4060
	Boeing 767-400 ER	2	GE CF6-80C2B7F
	Boeing 777-200-ER	2	GE GE90-90B
	Boeing 777-300 ER	2	GE Transportation GE90-115B
	Boeing DC-8 Series 70	4	CFMI CFM56-2-C5
	Boeing MD-10-30	3	GE CF6-50C2
	Boeing MD-83	2	Pratt & Whitney JT8D-219
	Boeing MD-90	2	International Aero Engines V2528-D5

Table 3.2-4. AEDT Aircraft Classification and Engine Assignment
Mineta San Jose International Airport
San Jose, California

Aircraft Category	AEDT Aircraft Type	Number of Engines per Aircraft	Engine Manufacturer and Model[1]
Commuter	Bombardier CRJ-700-LR	2	GE CF34-8C5
	Bombardier CRJ-900	2	GE CF34-8C5A1
	Bombardier de Havilland Dash 8 Q400	2	P & W Canada PW123
	Embraer ERJ145	2	Rolls-Royce Corporation AE3007A1/1
	Embraer ERJ175	2	GE CF34-8E5
	Embraer ERJ190	2	GE Transportation CF34-10E6A1
General Aviation-Piston	1985 1-ENG COMP	1	TIO-540-J2B2
	Boeing DC-3	2	R-1820
	Boeing DC-6	4	R-1820
	Cessna 172 Skyhawk	1	TSIO-360C
	Cessna 182	1	IO-360-B
	Cessna 206	1	TIO-540-J2B2
	EADS Socata TB-9 Tampico	1	IO-320-D1AD
	Piper PA-24 Comanche	1	TIO-540-J2B2
	Piper PA-28 Cherokee Series	1	IO-320-D1AD
	Piper PA-30 Twin Comanche	2	IO-320-D1AD
	Raytheon Beech Baron 58	2	TIO-540-J2B2
General Aviation-Turbo	Cessna 208 Caravan	1	P & W Canada PT6A-114
	Cessna 441 Conquest II	2	TPE331-8
	DeHavilland DHC-6-200 Twin Otter	2	PT6A-27
	Piper PA-42 Cheyenne Series	2	P & W Canada PT6A-41
Helicopter	Aerospatiale SA-350D Astar (AS-350)	1	TPE331-3
	Agusta A-109	2	250B17B
	Bell 206 JetRanger	1	250B17B
	Bell 206L-4T Long Ranger	1	250B17B
	Bell 407 / Rolls-Royce 250-C47B	2	250B17B
	Bell 430	2	250B17B
	Eurocopter EC-130	1	TPE331-3
	Robinson R22B	1	IO-320-D1AD
	Robinson R44 Raven / Lycoming O-540-F1B5	2	TIO-540-J2B2
Military	Aerospatiale SA-341G/342 Gazelle	1	PT6A-27
	Boeing F/A-18 Hornet	2	F404-GE-400
	Boeing F-15 Eagle	2	F100-PW-100
	Lockheed C-130 Hercules	4	Allison T56-A-15
	Northrop F-5E/F Tiger II	2	J85-GE-21
	Sikorsky S-76 Spirit	2	T700-GE-700
	Sikorsky SH-3 Sea King	2	T58-GE-8F

Notes:
[1] Engine manufacturer and model assignments are based on those used in the Noise Impacts analysis.
[2] Fleet mix from 2017 FAA Runway Incursion Mitigation/Design Standards Analysis Study (2017).

Table 3.2-5. Baseline (2018) Aircraft Operations by Stage Length Modeled in AEDT
Mineta San Jose International Airport
San Jose, California

Aircraft Category[1]	Aircraft Type	Annual Number of Arrival Operations in 2018[2]	Annual Number of Departure Operations in 2018[2]						
			Stage Length[3]						Total Departure Operations[4]
			1	2	3	4	6	7	
Business	AEE-USER-TEMP GULFSTREAM AEROSPACE Gulfstream G650	490	--	--	490	--	--	--	490
	Bombardier Challenger 600	2,363	2,363	--	--	--	--	--	2,363
	Bombardier Global 5000 Business	215	215	--	--	--	--	--	215
	Bombardier Global Express	556	556	--	--	--	--	--	556
	Bombardier Learjet 25	34	34	--	--	--	--	--	34
	Bombardier Learjet 35A/36A (C-21A)	570	570	--	--	--	--	--	570
	Cessna 500 Citation I	915	916	--	--	--	--	--	916
	Cessna 525 CitationJet	78	78	--	--	--	--	--	78
	Cessna 550 Citation II	988	988	--	--	--	--	--	988
	Cessna 560 Citation V	339	338	--	--	--	--	--	338
	Cessna 560 Citation XLS	1,308	1,313	--	--	--	--	--	1,313
	Cessna 650 Citation III	55	55	--	--	--	--	--	55
	Cessna 680 Citation Sovereign	748	748	--	--	--	--	--	748
	Cessna 750 Citation X	2,661	2,661	--	--	--	--	--	2,661
	CESSNA CITATION 510	662	662	--	--	--	--	--	662
	Dassault Falcon 20-D	7	7	--	--	--	--	--	7
	Eclipse 500/PW610F	33	33	--	--	--	--	--	33
	Gulfstream G550	1,333	1,333	--	--	--	--	--	1,333
	Gulfstream II	22	22	--	--	--	--	--	22
	Gulfstream II-B	35	35	--	--	--	--	--	35
	Gulfstream IV-SP	1,108	1,108	--	--	--	--	--	1,108
	Israel IAI-1125 Astra	135	135	--	--	--	--	--	135
	Mitsubishi MU-300 Diamond	149	149	--	--	--	--	--	149
Commercial	Airbus A300F4-600 Series	227	44	--	--	183	--	--	227
	Airbus A319-100 Series	2,500	24	1,436	727	312	--	--	2,499
	Airbus A320-200 Series	4,222	1,457	1,215	493	1,056	--	--	4,222
	Airbus A321-200 Series	302	8	20	--	270	--	--	298
	Airbus A330-300 Series	148	--	4	--	37	--	106	148
	Airbus A340-200 Series	149	--	--	--	--	--	149	149
	Airbus A340-600 Series	7	2	--	--	--	--	5	7
	B787-8R	876	--	--	--	--	331	544	875
	Boeing 717-200 Series	1,077	57	1,019	--	--	--	--	1,076
	Boeing 727-200 Series	12	4	--	4	4	--	--	12

Table 3.2-5. Baseline (2018) Aircraft Operations by Stage Length Modeled in AEDT
Mineta San Jose International Airport
San Jose, California

Aircraft Category[1]	Aircraft Type	Annual Number of Arrival Operations in 2018[2]	Annual Number of Departure Operations in 2018[2]						
			Stage Length[3]						Total Departure Operations[4]
			1	2	3	4	6	7	
Commercial	Boeing 737-400 Series	29	11	8	--	9	--	--	29
	Boeing 737-500 Series	41	35	--	4	2	--	--	41
	Boeing 737-700 Series	24,623	18,755	4,279	1,243	345	--	--	24,623
	Boeing 737-800 MAX	258	124	59	32	43	--	--	258
	Boeing 737-800 Series	14,350	2,761	4,039	3,085	4,466	--	--	14,351
	Boeing 757-200 Series	99	32	12	--	55	--	--	99
	Boeing 757-300 Series	13	10	4	--	--	--	--	13
	Boeing 767-200 Series	4	1	1	--	1	--	--	4
	Boeing 767-300 Series	1,076	--	--	--	1,075	--	--	1,075
	Boeing 767-400 ER	10	--	4	--	6	--	--	10
	Boeing 777-200-ER	6	--	2	--	3	--	--	6
	Boeing DC-8 Series 70	10	6	--	--	4	--	--	10
	Boeing MD-10-30	18	--	--	--	18	--	--	18
	Boeing MD-83	9	1	--	--	8	--	--	9
	Boeing MD-90	191	--	174	16	--	--	--	191
Commuter	Bombardier CRJ-700-LR	795	24	771	--	--	--	--	795
	Bombardier CRJ-900	963	4	959	--	--	--	--	963
	Bombardier de Havilland Dash 8 Q400	885	889	--	--	--	--	--	889
	Embraer ERJ145	2,391	2,017	14	5	356	--	--	2,392
	Embraer ERJ175	13,385	10,235	2,313	832	4	--	--	13,384
	Embraer ERJ190	10	6	--	--	4	--	--	10
General Aviation-Piston	1985 1-ENG COMP	2,587	2,587	--	--	--	--	--	2,587
	Boeing DC-3	13	1	5	7	--	--	--	13
	Boeing DC-6	11	7	--	4	--	--	--	11
	Cessna 172 Skyhawk	536	536	--	--	--	--	--	536
	Cessna 182	246	246	--	--	--	--	--	246
	Cessna 206	370	255	--	124	--	--	--	379
	EADS Socata TB-9 Tampico	1,153	1,153	--	--	--	--	--	1,153
	Piper PA-24 Comanche	1,861	1,862	--	--	--	--	--	1,862
	Piper PA-28 Cherokee Series	73	73	--	--	--	--	--	73
	Piper PA-30 Twin Comanche	22	22	--	--	--	--	--	22
	Raytheon Beech Baron 58	1,777	1,791	--	--	--	--	--	1,791

Table 3.2-5. Baseline (2018) Aircraft Operations by Stage Length Modeled in AEDT
Mineta San Jose International Airport
San Jose, California

Aircraft Category[1]	Aircraft Type	Annual Number of Arrival Operations in 2018[2]	Annual Number of Departure Operations in 2018[2]						
			Stage Length[3]						Total Departure Operations[4]
			1	2	3	4	6	7	
General Aviation-Turbo	Cessna 208 Caravan	1,636	1,635	--	--	--	--	--	1,635
	Cessna 441 Conquest II	767	764	--	--	--	--	--	764
	DeHavilland DHC-6-200 Twin Otter	2,303	2,296	--	--	--	--	--	2,296
	Piper PA-42 Cheyenne Series	78	78	--	--	--	--	--	78
Helicopter	Aerospatiale SA-350D Astar (AS-350)	54	53	--	--	--	--	--	53
	Agusta A-109	80	80	--	--	--	--	--	80
	Bell 206 JetRanger	56	56	--	--	--	--	--	56
	Bell 206L-4T Long Ranger	11	11	--	--	--	--	--	11
	Bell 407/Rolls-Royce 250-C47B	17	17	--	--	--	--	--	17
	Bell 430	15	15	--	--	--	--	--	15
	Eurocopter EC-130	439	439	--	--	--	--	--	439
	Robinson R22B	125	125	--	--	--	--	--	125
	Robinson R44 Raven/Lycoming O-540-F1B5	44	44	--	--	--	--	--	44
Military	Aerospatiale SA-341G/342 Gazelle	40	40	--	--	--	--	--	40
	Boeing F/A-18 Hornet	15	15	--	--	--	--	--	15
	Boeing F-15 Eagle	8	8	--	--	--	--	--	8
	Lockheed C-130 Hercules	15	15	--	--	--	--	--	15
	Northrop F-5E/F Tiger II	8	8	--	--	--	--	--	8
	Sikorsky S-76 Spirit	18	18	--	--	--	--	--	18
	Sikorsky SH-3 Sea King	21	21	--	--	--	--	--	21

Notes:

[1] Some aircraft types may be utilized under more than one category of operations (e.g., the Embraer ERJ-145 may be used as a business jet as well as a commuter jet), and some aircraft types may be mapped to existing types under a different category for modeling purposes within AEDT (e.g., the Boeing P-8 Poseidon is the military version of the Boeing 737-800, and was modeled as such within AEDT).

[2] Taxi times were obtained from the Federal Aviation Administration's Aviation System Performance Metrics (ASPM) database for actual SJC operations in 2018. An average departure (taxi-out) time of 13.72 minutes and an average arrival (taxi-in) time of 4.59 minutes was assumed for all aircraft operations modeled in AEDT. One aircraft operation is defined as one takeoff or one landing. The total number of landing and take-off operations (LTOs) is calculated as the sum of arrival and departure operations divided by 2.

[3] Stage length refers to the distance flown by a departing flight. In AEDT, stage length bins numebred 1-7 are used where bin 7 represents the longest range. All arriving aircraft are classified under stage length bin 1.

[4] Departure operations by stage length may not sum exactly to the total number of departure operations for a given aircraft type due to rounding.

Table 3.2-6. Proposed Project (2037) Aircraft Operations by Stage Length Modeled in AEDT
Mineta San Jose International Airport
San Jose, California

Aircraft Category[1]	Aircraft Type	Annual Number of Arrival Operations in 2037[2]	Annual Number of Departure Operations in 2037[2]						
			Stage Length[3]						Total Departure Operations[4]
			1	2	3	4	6	7	
Business	AEE-USER-TEMP GULFSTREAM AEROSPACE Gulfstream G650	557	58	--	499	--	--	--	557
	Bombardier Challenger 600	2,300	2,300	--	--	--	--	--	2,300
	Bombardier Global 5000 Business	310	310	--	--	--	--	--	310
	Bombardier Global Express	1,000	1,000	--	--	--	--	--	1,000
	Bombardier Learjet 35A/36A (C-21A)	710	710	--	--	--	--	--	710
	Cessna 500 Citation I	125	125	--	--	--	--	--	125
	Cessna 525 CitationJet	275	275	--	--	--	--	--	275
	Cessna 550 Citation II	1,150	1,150	--	--	--	--	--	1,150
	Cessna 560 Citation V	250	250	--	--	--	--	--	250
	Cessna 560 Citation XLS	1,971	1,979	--	--	--	--	--	1,979
	Cessna 650 Citation III	55	55	--	--	--	--	--	55
	Cessna 680 Citation Sovereign	975	975	--	--	--	--	--	975
	Cessna 750 Citation X	4,766	4,766	--	--	--	--	--	4,766
	CESSNA CITATION 510	805	805	--	--	--	--	--	805
	Eclipse 500 / PW610F	127	127	--	--	--	--	--	127
	Gulfstream G550	1,905	1,905	--	--	--	--	--	1,905
	Gulfstream IV-SP	650	650	--	--	--	--	--	650
	Israel IAI-1125 Astra	350	350	--	--	--	--	--	350
	Mitsubishi MU-300 Diamond	175	175	--	--	--	--	--	175
Commercial	Airbus A319-100 Series	9,099	89	5,226	2,648	1,135	--	--	9,097
	Airbus A320-200 Series	2,322	802	668	271	581	--	--	2,322
	Airbus A321-200 Series	5,683	154	384	--	5,073	--	--	5,610
	Airbus A330-200 Series	766	66	6	--	318	--	375	766
	Airbus A350-900 series	777	--	--	--	--	298	479	777
	B787-8R	1,095	--	--	--	--	411	684	1,095
	Boeing 737-700 Series	5,459	4,158	949	276	77	--	--	5,459
	Boeing 737-800 MAX	42,381	6,070	33,072	1,484	1,739	--	--	42,365
	Boeing 737-800 Series	15,225	2,929	4,285	3,272	4,738	--	--	15,225
	Boeing 747-400 Series Freighter	3	--	--	--	3	--	--	3
	Boeing 757-200 Series	2	--	--	--	2	--	--	2
	Boeing 757-300 Series	2	2	--	--	--	--	--	2
	Boeing 767-300 Series	755	4	--	--	751	--	--	755
	Boeing 767-400 ER	20	--	9	--	11	--	--	20
	Boeing 777-200-ER	30	--	3	--	27	--	--	30
	Boeing 777-300 ER	377	142	57	--	178	--	--	377

Table 3.2-6. Proposed Project (2037) Aircraft Operations by Stage Length Modeled in AEDT
Mineta San Jose International Airport
San Jose, California

Aircraft Category[1]	Aircraft Type	Annual Number of Arrival Operations in 2037[2]	Annual Number of Departure Operations in 2037[2]						
			Stage Length[3]						Total Departure Operations[4]
			1	2	3	4	6	7	
Commuter	Bombardier CRJ-900	15	15	--	--	--	--	--	15
	Bombardier de Havilland Dash 8 Q400	125	125	--	--	--	--	--	125
	Embraer ERJ145	1,350	1,138	8	3	201	--	--	1,350
	Embraer ERJ175	8,859	6,004	2,366	487	2	--	--	8,859
	Embraer ERJ190	17	10	--	--	7	--	--	17
General Aviation-Piston	1985 1-ENG COMP	700	700	--	--	--	--	--	700
	Cessna 172 Skyhawk	360	360	--	--	--	--	--	360
	Cessna 182	246	246	--	--	--	--	--	246
	Cessna 206	381	306	--	87	--	--	--	393
	EADS Socata TB-9 Tampico	490	490	--	--	--	--	--	490
	Piper PA-24 Comanche	1,190	1,190	--	--	--	--	--	1,190
	Piper PA-28 Cherokee Series	73	73	--	--	--	--	--	73
	Piper PA-30 Twin Comanche	22	22	--	--	--	--	--	22
	Raytheon Beech Baron 58	614	613	2	4	--	--	--	619
General Aviation-Turbo	Cessna 208 Caravan	672	671	--	--	--	--	--	671
	Cessna 441 Conquest II	85	85	--	--	--	--	--	85
	DeHavilland DHC-6-200 Twin Otter	832	829	--	--	--	--	--	829
	Piper PA-42 Cheyenne Series	50	50	--	--	--	--	--	50
Helicopter	Agusta A-109	44	44	--	--	--	--	--	44
	Bell 206 JetRanger	17	17	--	--	--	--	--	17
	Bell 206L-4T Long Ranger	11	11	--	--	--	--	--	11
	Eurocopter EC-130	137	137	--	--	--	--	--	137
	Robinson R22B	39	39	--	--	--	--	--	39
	Robinson R44 Raven / Lycoming O-540-F1B5	14	14	--	--	--	--	--	14
Military	Boeing F/A-18 Hornet	15	15	--	--	--	--	--	15
	Boeing F-15 Eagle	8	8	--	--	--	--	--	8
	Lockheed C-130 Hercules	39	39	--	--	--	--	--	39
	Sikorsky S-76 Spirit	18	18	--	--	--	--	--	18
	Sikorsky SH-3 Sea King	21	21	--	--	--	--	--	21

Notes:

[1] Some aircraft types may be utilized under more than one category of operations (e.g., the Embraer ERJ-145 may be used as a business jet as well as a commuter jet), and some aircraft types may be mapped to existing types under a different category for modeling purposes within AEDT (e.g., the Boeing P-8 Poseidon is the military version of the Boeing 737-800, and was modeled as such within AEDT).

[2] An average departure (taxi-out) time of 13.72 minutes and an average arrival (taxi-in) time of 4.59 minutes was assumed for all aircraft operations modeled in AEDT, based on data obtained from the Federal Aviation Administration's Aviation System Performance Metrics (ASPM) database for actual SJC operations in 2018. The taxi-in and out times in the Project scenario (2037) are assumed to be the same as the Baseline scenario (2018). One aircraft operation is defined as one takeoff or one landing. The total number of landing and take-off operations (LTOs) is calculated as the sum of arrival and departure operations divided by 2.

[3] Stage length refers to the distance flown by a departing flight. In AEDT, stage length bins numbered 1-7 are used where bin 7 represents the longest range. All arriving aircraft are classified under stage length bin 1.

[4] Departure operations by stage length may not sum exactly to the total number of departure operations for a given aircraft type due to rounding.

Table 3.2-7. SJC Flight Activity Levels for Existing/Baseline, Mid-Project and Proposed Project Scenarios
Mineta San Jose International Airport
San Jose, California

	Annual Aircraft Operations[1]		
	Existing/ Baseline (2018)	**Mid-Project (2027)**	**Proposed Project (2037)**
Commercial Airline			
Airbus 319, 319 Neo	4,999	4,190	3,990
Airbus 320-1 001200 , 320 Neo	8,444	7,808	4,650
Airbus 321, 321 Neo	600	3,910	11,290
Airbus 330-200 (passenger)	110	750	1,060
Airbus 330-200 (cargo)	186	346	480
Airbus 350-900	0	842	1,550
Boeing 717	2,153	2,920	0
Boeing 737-400/500	139	24	0
Boeing 737-700/700LR, 737-7 Max	49,246	42,868	36,880
Boeing 737-800, 737-8 Max	21,372	34,160	64,980
Boeing 737-900/900ER, 737-9 Max	7,844	8,244	23,900
Boeing 757-200/300	225	220	8
Boeing 767-300/300ER (cargo)	2,151	1,508	1,440
Boeing 777-200/200ER/300ER	11	28	770
Boeing 787-800/900	1,751	2,550	2,190
Bombardier CS 100	0	6,414	14,210
CRJ-200/700/900	3,567	2,144	30
Dash 8	1,774	3,098	250
DC-8-10	55	0	0
Embraer 145/175/190	30,403	21,382	17,750
MD-80/90	400	0	0
Other	798	452	452
SUBTOTAL:	**136,228**	**143,858**	**185,880**
General Aviation			
Beechcraft Bonanza 33/35/36	282	1,555	1,150
Beechcraft 55/58 Baron	1,130	500	600
Beechcraft King Air 90/200/300/350	553	997	1,260
Beechcraft Beechjet 400	198	350	350
Bombardier Challenger 300/350	3,462	2,700	4,000
Bombardier Global 500/G lobal Express	1,541	1,650	2,620
Canadair Bombardier CL600/6 l 0	1,212	800	800
Cessna 172/182/206/21 0	2,314	2,340	2,070
Cessna Citation 510/550/560/560XL	3,464	3,900	5,160
Cessna Citation 680/750	2,988	3,863	5,600
Cessna Citation CJ 1/2/3	440	900	800
Cirrus SR22	5,173	1,060	1,400
Dassault Falcon 7X/50/900/2000	3,000	3,075	4,190
Embraer EMB/ERJ-145, Phenom 100/300	2,647	5,050	5,900
Gulfstream IVIV/VI	4,322	4,200	5,560
Gulfstream G150/200/280	900	770	1,030
Learjet 35/45/60	878	790	1,100
Pilatus PC1 2	492	870	1,340
Piper Cherokee/Malibu/Saratoga	124	640	520
Raytheon Hawker 800	478	580	580
Other - Single & Multi-Engine Piston	8,454	2,560	2,430
Other - Turbo prop	8,515	415	670
Other - Jet	4,905	1,461	1,930
Other - Helicopter	1,680	390	520
SUBTOTAL:	**59,152**	**41,416**	**51,580**
Military	247	250	250
GRAND TOTALS:	**195,627**	**185,524**	**237,710**

Notes:

[1] One aircraft operation is defined as one takeoff or one landing. The number of landing and take-off operations (LTOs) is calculated as the total number of operations divided by 2.

Abbreviations:

LTO - landing and take-off operations

SJC - San Jose International Airport

Table 3.2-8. Aircraft Emissions - Criteria Air Pollutant Emissions
Mineta San Jose International Airport
San Jose, California

Scenario	Aircraft Category		Annual Emissions Below Mixing Height (3,000 feet)[1,2] (tons/yr) VOC	NOx	PM_{10}	$PM_{2.5}$	Lead[3]	(lb/day) VOC	NOx	PM_{10}	$PM_{2.5}$	Lead[3]
Existing/ Baseline	Business		24	31	0.64	0.64	--	132	171	3.5	3.5	--
	Commercial		83	455	3.7	3.7	--	457	2,495	20	20	--
	Commuter		6.7	63	0.42	0.42	--	37	343	2.3	2.3	--
	General Aviation	Piston	3.7	0.13	0.14	0.14	0.10	20	0.73	0.77	0.77	0.56
		Turboprop	0.29	1.9	0.07	0.07	--	1.6	10	0.38	0.38	--
	Helicopter[4]		0.04	0.44	--	--	0.03	0.23	2.4	--	--	0.17
	Military		0.31	0.21	0.00	0.00	--	1.7	1.2	0.03	0.03	--
	Total		**119**	**552**	**5.0**	**5.0**	**0.13**	**650**	**3,024**	**27**	**27**	**0.73**
Mid-Project	Business		25	33	0.67	0.67	--	136	179	3.7	3.7	--
	Commercial		95	554	4.6	4.6	--	519	3,033	25	25	--
	Commuter		4.5	44	0.33	0.33	--	25	239	1.8	1.8	--
	General Aviation	Piston	1.8	0.07	0.07	0.07	0.05	10	0.37	0.38	0.38	0.28
		Turboprop	0.07	0.46	0.02	0.02	--	0.38	2.5	0.09	0.09	--
	Helicopter[4]		0.01	0.10	--	--	0.01	0.05	0.57	--	--	0.04
	Military		0.31	0.21	0.00	0.00	--	1.7	1.2	0.03	0.03	--
	Total		**126**	**631**	**5.7**	**5.7**	**0.06**	**691**	**3,456**	**31**	**31**	**0.32**
Proposed Project	Business		25	41	0.66	0.66	--	135	224	3.6	3.6	--
	Commercial		90	1,498	7.0	7.0	--	492	8,207	39	39	--
	Commuter		3.9	35	0.22	0.22	--	21	193	1.2	1.2	--
	General Aviation	Piston	1.5	0.06	0.05	0.05	0.04	8.0	0.33	0.28	0.28	0.23
		Turboprop	0.11	0.59	0.02	0.02	--	0.59	3.3	0.12	0.12	--
	Helicopter[4]		0.01	0.13	--	--	0.01	0.07	0.72	--	--	0.05
	Military		0.37	0.26	0.01	0.01	--	2.0	1.4	0.04	0.04	--
	Total		**120**	**1,575**	**8.0**	**8.0**	**0.05**	**659**	**8,630**	**44**	**44**	**0.28**

Notes:

[1] AEDT calculates VOC, NOx, $PM_{2.5}$, and PM_{10} emissions from aircraft operations. Lead emissions were calculated based on aviation gasoline.

[2] Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.

[3] Lead emissions from general aviation piston aircraft and helicopters were estimated using the lead emission factor, engine lead retention rate and the average density for aviation gasoline from USEPA (2013), "Calculating Piston-Engine Aircraft Airport Inventories for Lead for the 2011 National Emissions Inventory", available at https://nepis.epa.gov/Exe/ZyPDF.cgi/P100LFGL.PDF?Dockey=P100LFGL.PDF, accessed May 2019.

[4] AEDT does not calculate $PM_{2.5}$ or PM_{10} emissions for helicopters.

Abbreviations:

AEDT - Aviation Environmental Design Tool
lb/day - pounds per day
NOx - oxides of nitrogen
PM_{10} - particulate matter smaller than 10 µm in diameter
$PM_{2.5}$ - particulate matter smaller than 2.5 µm in diameter
USEPA - United States Environmental Protection Agency
VOC - volatile organic compounds
ton/yr - tons per year

Table 3.2-9. Toxic Air Contaminants Speciation Profile for Jet Fuel (VOC and PM)
Mineta San Jose International Airport
San Jose, California

Fuel	Criteria Air Pollutant	Speciation Profile	Speciated Toxic Air Contaminant	CAS	Weight Fraction[5]	Toxicity Factor Available [6]
Jet Fuel	$PM_{2.5}$	CARB PM1412[2]	Ammonium	14798039	0.069074	No
			Antimony	7440360	0	No
			Bromine	7726956	0.000192	No
			Calcium	7440702	0	No
			Chloride ion	16887006	0	No
			Insolchlorine	7782505	0.000695	Yes
			Chromium	7440473	0.000253	No
			Copper	7440508	0.002086	Yes
			Elemental Carbon	7440440	0.208942	No
			Indium	7440746	0	No
			Iron	7439896	0	No
			Magnesium	7439954	0.001115	No
			Manganese	7439965	0.000177	Yes
			Nickel	7440020	0.000355	Yes
			Phosphorus	7723140	0	No
			Potassium ion	7440097	0.000865	No
			Silicon	7440213	0.003866	No
			Silver	7440224	0.000652	No
			Sulfate	9960	0.222435	Yes
			Thallium	7440280	0	No
			Titanium	7440326	0.000051	No
			Zinc	1314132	0.000157	No
			Sulfur	7704349	0	No
Jet Fuel	VOC[1]	CARB OG5861[3]/ EPA 5565[4]	Dimethyl napthalene	28804888	0.0009	No
			Heptene	25339564	0.00438	No
			Acetaldehyde	75070	0.04272	Yes
			Acetone	67641	0.00369	No
			Acetylene (or ethyne)	74862	0.03939	No
			Acrolein (2-propenal)	107028	0.02449	Yes
			Benzaldehyde	100527	0.0047	No
			Benzene	71432	0.01681	Yes
			Butyraldehyde or butanal	123728	0.00119	No
			Cis2butene	590181	0.0021	No
			Cis2pentene	627203	0.00276	No
			Crotonaldehyde (or 2-Butenal)	4170303	0.01033	No
			Ethane	74840	0.00521	No
			Ethylbenzene	100414	0.00174	Yes
			Ethylene (or ethene)	74851	0.15461	No
			Formaldehyde	50000	0.1231	Yes
			1,3,5-trimethylbenzene	108678	0.00054	No
			1,3-butadiene	106990	0.01687	Yes
			1-butene	106989	0.01754	No
			1-hexene	592416	0.00736	No

Table 3.2-9. Toxic Air Contaminants Speciation Profile for Jet Fuel (VOC and PM)
Mineta San Jose International Airport
San Jose, California

Fuel	Criteria Air Pollutant	Speciation Profile	Speciated Toxic Air Contaminant	CAS	Weight Fraction[5]	Toxicity Factor Available [6]
Jet Fuel	VOC[1]	CARB OG5861[3]/ EPA 5565[4]	1-Methyl-2-ethylbenzene (or oethyltoluene; 1-Ethyl-2-methylbenzene; 2-ethyltoluene; 2-Ethylmethylbenzene)	611143	0.00065	No
			1-Methyl-3-ethylbenzene (or 1-Ethyl-3-methylbenzene; 3-Ethyltoluene)	620144	0.00154	No
			1-Methyl4-ethylbenzene (or 1-Ethyl-4-methylbenzene; 4-ethyltoluene)	622968	0.00064	No
			1-Methylnaphthalene	90120	0.00247	No
			1-nonene	124118	0.00246	No
			1-octene	111660	0.00276	No
			1p-entene	109671	0.00776	No
			1,2,3-trimethylbenzene	526738	0.00106	No
			1,2,4-trimethylbenzene (1,3,4-trimethylbenzene)	95636	0.0035	No
			2-methyl-1butene	563462	0.0014	No
			2-methyl-1-pentene	763291	0.00034	No
			2-methyl-2-butene	513359	0.00185	No
			2-methyl-2-propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	0.00429	No
			2-methylnaphthalene	91576	0.00206	No
			2-methylpentane (isohexane)	107835	0.00408	No
			3-methyl1butene	563451	0.00112	No
			4-methyl1pentene	691372	0.00069	No
			Isopropylbenzene (or cumene; 2-Phenylpropane)	98828	0.00003	No
			Isovaleraldehyde	590863	0.00032	No
			M- & p-xylene	1330207	0.00282	Yes
			Methyl alcohol (methanol)	67561	0.01805	Yes
			Ndecane	124185	0.0032	No
			Ndodecane	112403	0.00462	No
			Nheptane	142825	0.00064	No
			Nnonane	111842	0.00062	No
			Noctane	111659	0.00062	No
			Npentane	109660	0.00198	No
			Npropylbenzene	103651	0.00053	No
			Ntridecane	629505	0.00535	No
			Nundecane	1120214	0.00444	No
			Naphthalene	91203	0.00541	Yes
			Oxylene	95476	0.00166	Yes
			Phenol (carbolic acid)	108952	0.00726	Yes
			Propane	74986	0.00078	No
			Propionaldehyde (or Propanal; 1-Propanone; 1-Propanal)	123386	0.00727	No
			Propylene (or Propene; 1-Propene)	115071	0.04534	Yes
			Styrene	100425	0.00309	Yes

Table 3.2-9. Toxic Air Contaminants Speciation Profile for Jet Fuel (VOC and PM)
Mineta San Jose International Airport
San Jose, California

Fuel	Criteria Air Pollutant	Speciation Profile	Speciated Toxic Air Contaminant	CAS	Weight Fraction[5]	Toxicity Factor Available [6]
Jet Fuel	VOC[1]	CARB OG5861[3]/ EPA 5565[4]	m-Tolualdehyde (or m-Methylbenzaldehyde; 3-Methylbenzaldehyde)	620235	0.00278	No
			Toluene	108883	0.00642	Yes
			Trans-2-hexene	4050457	0.0003	No
			Trans-2-pentene	646048	0.00359	No
			Glyoxal	107222	0.01816	No
			Valeraldehyde	110623	0.00245	No
			1-decene	872059	0.00185	No
			Decanal	112312	0.05843	No
			Heptadecane	629787	0.00009	No
			Hexadecane	544763	0.00049	No
			Pentadecane	629629	0.00173	No
			Tetradecane	629594	0.00416	No
			p-Tolualdehyde	104870	0.00048	No
			Methylglyoxal	78988	0.01503	No
			o-Tolualdehyde	529204	0.0023	No
			Dodecenal	82107899	0.02921	No

Notes:

[1] There is no current VOC speciation profile for jet fuel startup emissions. Therefore, the speciation profile for jet fuel running exhaust was used as a surrogate.

[2] Based on CARB PM speciation profile for commercial aircraft. Available at: https://www.arb.ca.gov/ei/speciate/profilereference/Aircraft_PM1411-14.pdf. Accessed: April, 2019.

[3] Based on CARB OG speciation profile for aircraft - jet fuel. Available at: https://www.arb.ca.gov/ei/speciate/profilereference/Aircraft_OG5861.pdf. Accessed: April, 2019.

[4] Obtained from EPA Speciate 4.5 database. Available at: https://www.epa.gov/air-emissions-modeling/speciate-version-45-through-40. Accessed: April, 2019.

[5] Represents TAC weight fraction of the criteria air pollutant (VOC or $PM_{2.5}$).

[6] TACs with available toxicity factors summarized in Table 3.3-9 are included in the HRA.

Abbreviations:

CARB - California Air Resource Board

CAS - chemical abstract service

EPA - Environmental Pollution Agency

OG - organic gas

PM - particulate matter

$PM_{2.5}$ - particulate matter smaller than 2.5 microns in diameter

TAC - Toxic Air Contaminant

VOC - volatile organic compounds

HRA - Health Risk Assessment

Table 3.2-10. Toxic Air Contaminants Speciation Profile for AvGas (VOC and Lead)
Mineta San Jose International Airport
San Jose, California

Fuel	Criteria Air Pollutant	Speciation Profile	Speciated Toxic Air Contaminant	CAS	Weight Fraction[4]	Toxicity Factor Available [5]
Avgas	--	--	Lead[2]	7439921	2.01[3]	Yes
Avgas	VOC	EPA 1099[1]	Furfuryl alcohol	98000	0.0181	No
			Heptene	25339564	0.0052	No
			Acetaldehyde	75070	0.0432	Yes
			Acetone	67641	0.0293	No
			Acetylene (or ethyne)	74862	0.0369	No
			Acrolein (2-propenal)	107028	0.0206	Yes
			Benzaldehyde	100527	0.0053	No
			Benzene	71432	0.0179	Yes
			Butyraldehyde or butanal	123728	0.0119	No
			Cis-2-butene	590181	0.0045	No
			Ethane	74840	0.0092	No
			Ethylbenzene	100414	0.0015	Yes
			Ethylene (or ethene)	74851	0.155	No
			Formaldehyde	50000	0.1414	Yes
			1,3-butadiene	106990	0.0157	Yes
			1-butene	106989	0.0179	No
			1-hexene	592416	0.0076	No
			1-nonene	124118	0.0022	No
			1-octene	111660	0.0025	No
			1-pentene	109671	0.0075	No
			2-methyl-2-butene	513359	0.0018	No
			2-methylpentane (isohexane)	107835	0.0035	No
			M- & p-xylene	1330207	0.0026	Yes
			Methane	74828	0.1095	No
			N-butylbenzene	104518	0.0022	No
			N-decane	124185	0.0042	No
			N-dodecane	112403	0.0121	No
			N-heptane	142825	0.0006	No
			N-nonane	111842	0.0015	No
			N-octane	111659	0.0004	No
			N-pentane	109660	0.0019	No
			N-pentylbenzene	538681	0.0017	No
			N-tridecane	629505	0.0066	No
			N-undecane	1120214	0.0052	No
			Naphthalene	91203	0.0051	Yes
			Oxylene	95476	0.0018	Yes
			Phenol (carbolic acid)	108952	0.0022	Yes
			Propane	74986	0.002	No
			Propionaldehyde (or Propanal; 1-Propanone; 1-Propanal)	123386	0.009	No
			Propylene (or Propene; 1-Propene)	115071	0.0459	Yes

Table 3.2-10. Toxic Air Contaminants Speciation Profile for AvGas (VOC and Lead)
Mineta San Jose International Airport
San Jose, California

Fuel	Criteria Air Pollutant	Speciation Profile	Speciated Toxic Air Contaminant	CAS	Weight Fraction[4]	Toxicity Factor Available [5]
Avgas	VOC	EPA 1099[1]	Styrene	100425	0.0037	Yes
			Toluene	108883	0.0049	Yes
			Glyoxal	107222	0.0253	No
			Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.002	No
			1-decene	872059	0.0015	No
			Heptadecane	629787	0.0001	No
			Hexadecane	544763	0.0014	No
			Pentadecane	629629	0.0027	No
			Tetradecane	629594	0.0059	No

Notes:

[1] Obtained from EPA Speciate 4.5 database. Available at: https://www.epa.gov/air-emissions-modeling/speciate-version-45-through-40. Accessed: April, 2019.

[2] Represents as lead content of fuel in gram per gallon of the fuel.

[3] Calculated based on fuel lead mass of 2.12 (g/gal) and engine lead retention rate of 5% obtained from USEPA (2013), "Calculating Piston-Engine Aircraft Airport Inventories for Lead for the 2011 National Emissions Inventory", available at https://nepis.epa.gov/Exe/ZyPDF.cgi/P100LFGL.PDF?Dockey=P100LFGL.PDF. Accessed: April, 2019.

[4] Represents TAC weight fraction of the criteria air pollutant (VOC).

[5] TACs with available toxicity factors summarized in Table 3.3-9 are included in the HRA.

Abbreviations:

CAS - chemical abstract service

EPA - Environmental Pollution Agency

TAC - Toxic Air Contaminant

VOC - volatile organic compounds

HRA - Health Risk Assessment

Table 3.2-11. APU Emissions - Criteria Air Pollutant Emissions
Mineta San Jose International Airport
San Jose, California

Scenario	Aircraft Category		Daily Emissions[1,2] (lb/day) VOC	NOx	PM_{10}	$PM_{2.5}$	Annual Emissions[1,2] (tpy) VOC	NOx	PM_{10}	$PM_{2.5}$
Baseline/ Existing	Business		0.78	7.6	1.1	1.1	0.14	1.4	0.20	0.20
	Commercial		4.3	76	8.4	8.4	0.79	14	1.5	1.5
	Commuter		1.8	11	2.3	2.3	0.32	1.9	0.42	0.42
	General Aviation	Piston	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
		Turboprop	0.18	1.5	0.26	0.26	0.03	0.27	0.05	0.05
	Helicopter		0.05	0.52	0.07	0.07	0.01	0.10	0.01	0.01
	Military		0.01	0.07	0.01	0.01	0.00	0.01	0.00	0.00
	Total		**7.1**	**96**	**12**	**12**	**1.3**	**17**	**2.2**	**2.2**
Mid-Project	Business		0.77	7.5	1.1	1.1	0.14	1.4	0.20	0.20
	Commercial		4.9	90	10	10	0.89	16	1.7	1.7
	Commuter		1.2	7.0	1.5	1.5	0.21	1.3	0.28	0.28
	General Aviation	Piston	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Turboprop	0.04	0.35	0.06	0.06	0.01	0.06	0.01	0.01
	Helicopter		0.01	0.12	0.02	0.02	0.00	0.02	0.00	0.00
	Military		0.01	0.07	0.01	0.01	0.00	0.01	0.00	0.00
	Total		**6.9**	**105**	**12**	**12**	**1.3**	**19**	**2.2**	**2.2**
Proposed Project	Business		1.1	10	1.5	1.5	0.19	1.8	0.28	0.28
	Commercial		10	105	15	15	1.8	19	2.8	2.8
	Commuter		1.0	6.0	1.3	1.3	0.18	1.1	0.23	0.23
	General Aviation	Piston	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
		Turboprop	0.07	0.54	0.09	0.09	0.01	0.10	0.02	0.02
	Helicopter		0.02	0.18	0.03	0.03	0.00	0.03	0.00	0.00
	Military		0.01	0.08	0.01	0.01	0.00	0.01	0.00	0.00
	Total		**12**	**122**	**18**	**18**	**2.2**	**22**	**3.3**	**3.3**

Notes:

[1] APU emissions were estimated using an average taxi time of 18.31 minutes, which was queried from the FAA Aviation System Performance Metrics (ASPM), Taxi Times (Standard Report) for 2018, available at: https://aspm.faa.gov/apm/sys/TaxiTimes.asp

[2] Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.

Abbreviations:
APU - auxiliary power unit
FAA - Federal Aviation Association
lb - pound
NOx - nitrogen oxides
PM_{10} - particulate matter smaller than 10 microns in diameter
$PM_{2.5}$ - particulate matter smaller than 2.5 microns in diameter
tpy - tons per year
VOC - volatile organic compounds

Table 3.2-12a. GSE Emissions - Criteria Air Pollutant Emissions (Gasoline)
Mineta San Jose International Airport
San Jose, California

Gasoline Emissions by GSE Type[1]	Baseline/Existing Scenario							
	Average Daily Emissions[2] (lb/day)				Annual Emissions[3] (tpy)			
	VOC	NOx	PM_{10}	$PM_{2.5}$	VOC	NOx	PM_{10}	$PM_{2.5}$
Baggage Tractor	17	36	1.6	1.4	3.2	6.5	0.29	0.26
Belt Loader	5.6	14	0.92	0.85	1.0	2.5	0.17	0.16
Cart	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ground Power Unit	2.2	5.0	0.17	0.15	0.40	0.92	0.03	0.03
Lavatory Truck	0.02	0.04	0.01	0.01	0.00	0.01	0.00	0.00
Total	**25**	**55**	**2.7**	**2.5**	**4.6**	**10**	**0.49**	**0.45**

Gasoline Emissions by GSE Type[1]	Mid-Project Scenario							
	Average Daily Emissions[4] (lb/day)				Annual Emissions[3] (tpy)			
	VOC	NOx	PM_{10}	$PM_{2.5}$	VOC	NOx	PM_{10}	$PM_{2.5}$
Baggage Tractor	9.4	23	1.7	1.6	1.7	4.2	0.32	0.29
Belt Loader	5.3	13	1.0	0.93	1.0	2.4	0.18	0.17
Cart	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ground Power Unit	1.1	2.6	0.18	0.16	0.19	0.48	0.03	0.03
Lavatory Truck	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00
Total	**16**	**39**	**2.9**	**2.7**	**2.9**	**7.0**	**0.53**	**0.49**

Gasoline Emissions by GSE Type[1]	Proposed Project Scenario							
	Average Daily Emissions[2] (lb/day)				Annual Emissions[3] (tpy)			
	VOC	NOx	PM_{10}	$PM_{2.5}$	VOC	NOx	PM_{10}	$PM_{2.5}$
Baggage Tractor	12	30	2.3	2.1	2.2	5.4	0.42	0.39
Belt Loader	7.0	17	1.3	1.2	1.3	3.1	0.24	0.22
Cart	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ground Power Unit	1.2	2.9	0.22	0.21	0.21	0.53	0.04	0.04
Lavatory Truck	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Total	**20**	**50**	**3.9**	**3.6**	**3.7**	**9.1**	**0.71**	**0.65**

Notes:

[1] GSE types are as defined in AEDT for the 2018 and 2037 aircraft fleet mix. Only GSE that have non-zero emissions are shown in this table. The GSE types that use gasoline are determined based on default assumptions within AEDT. Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.

[2] Average daily GSE emissions in 2018 and 2037 were calculated in AEDT for average daily flight operations at SJC in 2018 and 2037, respectively.

[3] Annual GSE emissions were calculated from the average daily emissions assuming 365 days of operation in a year.

[4] Average daily GSE emissions in 2027 were estimated by scaling emissions in 2018 and 2037 by annual operations by aircraft type and by the equipment-specific emission factor for the operating year.

Abbreviations:

AEDT - Aviation Environmental Design Tool
GSE - ground support equipment
lb/day - pounds per day
NO_x - oxides of nitrogen
PM_{10} - particulate matter with a diameter less than 10 µm
$PM_{2.5}$ - particulate matter with a diameter less than 2.5 µm
tpy - tons per year
VOC - volatile organic compounds

Table 3.2-12b. GSE Emissions - Criteria Air Pollutant Emissions (Diesel)
Mineta San Jose International Airport
San Jose, California

Gasoline Emissions by GSE Type[1]	Baseline/Existing Scenario							
	Average Daily Emissions[2] (lb/day)				Annual Emissions[3] (tpy)			
	VOC	NOx	PM_{10}	$PM_{2.5}$	VOC	NOx	PM_{10}	$PM_{2.5}$
Air Start	2.0	25	1.0	0.92	0.37	4.5	0.17	0.17
Aircraft Tractor	0.76	6.7	0.46	0.44	0.14	1.2	0.08	0.08
Belt Loader	0.01	0.04	0.00	0.00	0.00	0.01	0.00	0.00
Cabin Service Truck	1.4	1.8	0.11	0.11	0.25	0.33	0.02	0.02
Cargo Loader	0.23	1.3	0.18	0.18	0.04	0.23	0.03	0.03
Catering Truck	1.1	1.4	0.09	0.09	0.20	0.26	0.02	0.02
Fuel Truck	0.49	1.2	0.05	0.05	0.09	0.22	0.01	0.01
Generator	0.01	0.14	0.01	0.01	0.00	0.03	0.00	0.00
Ground Power Unit	0.40	2.6	0.18	0.18	0.07	0.48	0.03	0.03
Hydrant Truck	1.7	8.2	0.24	0.23	0.30	1.5	0.04	0.04
Lavatory Truck	0.23	0.90	0.03	0.03	0.04	0.17	0.00	0.00
Lift	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Service Truck	0.68	2.1	0.07	0.07	0.12	0.38	0.01	0.01
Total	**9.0**	**51**	**2.4**	**2.3**	**1.6**	**9.3**	**0.43**	**0.42**

Diesel Emissions by GSE Type[1]	Mid-Project Scenario							
	Average Daily Emissions[4] (lb/day)				Annual Emissions[3] (tpy)			
	VOC	NOx	PM_{10}	$PM_{2.5}$	VOC	NOx	PM_{10}	$PM_{2.5}$
Air Start	2.0	8.0	0.28	0.27	0.36	1.5	0.05	0.05
Aircraft Tractor	0.62	1.7	0.08	0.08	0.11	0.32	0.02	0.01
Belt Loader	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cabin Service Truck	1.6	2.1	0.13	0.13	0.29	0.38	0.02	0.02
Cargo Loader	0.14	0.33	0.02	0.02	0.03	0.06	0.00	0.00
Catering Truck	1.2	1.6	0.10	0.10	0.23	0.30	0.02	0.02
Fuel Truck	0.34	0.44	0.03	0.03	0.06	0.08	0.00	0.00
Generator	0.01	0.04	0.00	0.00	0.00	0.01	0.00	0.00
Ground Power Unit	0.22	0.47	0.02	0.02	0.04	0.09	0.00	0.00
Hydrant Truck	1.5	2.7	0.13	0.13	0.27	0.50	0.02	0.02
Lavatory Truck	0.21	0.33	0.02	0.02	0.04	0.06	0.00	0.00
Lift	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Service Truck	0.62	0.83	0.05	0.05	0.11	0.15	0.01	0.01
Total	**8.5**	**19**	**0.86**	**0.84**	**1.5**	**3.4**	**0.16**	**0.15**

Table 3.2-12b. GSE Emissions - Criteria Air Pollutant Emissions (Diesel)
Mineta San Jose International Airport
San Jose, California

Diesel Emissions by GSE Type[1]	Proposed Project Scenario							
	Average Daily Emissions[2] (lb/day)				Annual Emissions[3] (tpy)			
	VOC	NOx	PM_{10}	$PM_{2.5}$	VOC	NOx	PM_{10}	$PM_{2.5}$
Air Start	2.7	6.0	0.22	0.21	0.50	1.1	0.04	0.04
Aircraft Tractor	0.79	1.6	0.06	0.06	0.14	0.29	0.01	0.01
Cabin Service Truck	2.2	2.9	0.18	0.18	0.41	0.53	0.03	0.03
Cargo Loader	0.14	0.28	0.01	0.01	0.03	0.05	0.00	0.00
Catering Truck	1.7	2.2	0.14	0.14	0.31	0.40	0.03	0.03
Fuel Truck	0.33	0.43	0.03	0.03	0.06	0.08	0.00	0.00
Generator	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Ground Power Unit	0.24	0.50	0.02	0.02	0.04	0.09	0.00	0.00
Hydrant Truck	2.0	2.7	0.17	0.16	0.37	0.49	0.03	0.03
Lavatory Truck	0.26	0.33	0.02	0.02	0.05	0.06	0.00	0.00
Lift	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Service Truck	0.79	1.0	0.06	0.06	0.14	0.19	0.01	0.01
Total	**11**	**18**	**0.91**	**0.89**	**2.1**	**3.3**	**0.17**	**0.16**

Notes:

[1] GSE types are as defined in AEDT for the 2018 and 2037 aircraft fleet mix. Only GSE that have non-zero emissions are shown in this table. The GSE types that use diesel fuel are determined based on default assumptions within AEDT. Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.

[2] Average daily GSE emissions in 2018 and 2037 were calculated in AEDT for average daily flight operations at SJC in 2018 and 2037, respectively.

[3] Annual GSE emissions were calculated from the average daily emissions assuming 365 days of operation in a year.

[4] Average daily GSE emissions in 2027 were estimated by scaling emissions in 2018 and 2037 by annual operations by aircraft type and by the equipment-specific emission factor for the operating year.

Abbreviations:

AEDT - Aviation Environmental Design Tool
GSE - ground support equipment
lb/day - pounds per day
NO_x - oxides of nitrogen
PM_{10} - particulate matter with a diameter less than 10 µm
$PM_{2.5}$ - particulate matter with a diameter less than 2.5 µm
tpy - tons per year
VOC - volatile organic compounds

Table 3.2-13. Toxic Air Contaminants Speciation Profile for Offroad Gasoline VOC
Mineta San Jose International Airport
San Jose, California

Fuel	Criteria Air Pollutant	Speciation Profile	Speciated Toxic Air Contaminant	CAS	Weight Fraction[2]	Toxicity Factor Available [3]
Gasoline	VOC	CARB OG816[1]	Formaldehyde	50000	0.0111	Yes
			Methanol	67561	0.0014	Yes
			Acetone	67641	0.0034	No
			Benzene	71432	0.0507	Yes
			Methane	74828	0.0633	No
			Ethylene	74851	0.07179998	No
			Acetaldehyde	75070	0.0029	Yes
			Methyl Ethyl Ketone (2Butanone)	78933	0.0006	Yes
			Naphthalene	91203	0.0008	Yes
			OXylene	95476	0.024	Yes
			1,2,4-Trimethylbenzene	95636	0.02719998	No
			Cumene	98828	0.0007	No
			Ethyl Benzene	100414	0.017	Yes
			Styrene	100425	0.002	Yes
			PXylene	106423	0.02009998	Yes
			1,3-Butadiene	106990	0.0112	Yes
			M-Xylene	108383	0.03	Yes
			Toluene	108883	0.07799998	Yes
			Hexane	110543	0.0111	Yes
			Cyclohexane	110827	0.0004	No
			Propylene	115071	0.0333	Yes
			Propionaldehyde	123386	0.0015	No
			Butyraldehyde	123728	0.0001	No
			2,2,4-Trimethylpentane	540841	0.0063	No
			Ethane	74840	0.0083	No
			Propane	74986	0.0069	No
			Acetylene	74862	0.07549998	No
			1,2-Propadiene	463490	0.0081	No
			N-Butane	106978	0.0061	No
			1-Butene	106989	0.0077	No
			Isobutane	75285	0.0025	No
			Isobutylene	115117	0.01099998	No
			Trans-2-Butene	624646	0.002	No
			Cis-2-Butene	590181	0.0014	No
			N-Pentane	109660	0.0103	No
			1-Pentene	109671	0.0021	No
			Trans-2-Pentene	646048	0.0034	No
			Cis-2-Pentene	627203	0.0025	No
			2-Methylpentane	107835	0.0141	No
			3-Methylpentane	96140	0.0088	No
			N-Heptane	142825	0.0052	No
			N-Octane	111659	0.0032	No
			2,3-Dimethyl1Butene	563780	0.0019	No
			N-Nonane	111842	0.0041	No
			N-Decane	124185	0.0022	No
			N-Undecane	1120214	0.002	No

Table 3.2-13. Toxic Air Contaminants Speciation Profile for Offroad Gasoline VOC
Mineta San Jose International Airport
San Jose, California

Fuel	Criteria Air Pollutant	Speciation Profile	Speciated Toxic Air Contaminant	CAS	Weight Fraction[2]	Toxicity Factor Available [3]
Gasoline	VOC	CARB OG816[1]	Cyclopentane	287923	0.0019	No
			Methylcyclohexane	108872	0.0038	No
			Methylcyclopentane	96377	0.01089998	No
			Cyclohexanone	108941	0.0002	No
			2,4-Dimethylpentane	108087	0.0028	No
			2,3-Dimethylpentane	565593	0.0032	No
			2-Methylhexane	591764	0.007	No
			2,4-Dimethylhexane	589435	0.0025	No
			2,3,4-Trimethylpentane	565753	0.0035	No
			2,2-Dimethylbutane	75832	0.0032	No
			3-Methylhexane	589344	0.0075	No
			Ethyl Alcohol	64175	0.0002	No
			Methyl N-Butyl Ketone	591786	0.002	No
			Isomers Of Butylbenzene	104518	0.0036	No
			Isomers Of Diethylbenzene	25340174	0.002	No
			1,3,5-Trimethylbenzene	108678	0.0078	No
			N-Propylbenzene	103651	0.0035	No
			1,2,3-Trimethylbenzene	526738	0.0043	No
			(1-Methylpropyl)Benzene	68411449	0.0003	No
			(2-Methylpropyl)Benzene	538932	0.0002	No
			Benzaldehyde	100527	0.0009	No
			Ethylhexane	619998	0.0032	No
			BMethylstyrene	637503	0.0016	No
			Indan	496117	0.0028	No
			Isopentane	78784	0.024	No
			2,3-Dimethylhexane	584941	0.0011	No
			2-Methylheptane	591764	0.0032	No
			1,2-Diethylbenzene (Ortho)	135013	0.0012	No
			1-Methyl-3-Ethylbenzene	620144	0.01429998	No
			1-Methyl-2-Ethylbenzene	611143	0.0064	No

Notes:

[1] Obtained from CARB Speciation Profile 816 (Utility equipment - gasoline - 4 cycle - CalPoly 1991). Available at: https://www.arb.ca.gov/ei/speciate/speciate.htm#specprof. Accessed: April, 2019.

[2] Represents TAC weight fraction of the criteria air pollutant (VOC).

[3] TACs with available toxicity factors summarized in Table 3.3-9 are included in the HRA.

Abbreviations:

CARB - California Air Resource Board

HRA - Health Risk Assessment

TAC - Toxic Air Contaminant

VOC - volatile organic compounds

Table 3.2-14. Operational Mobile Trip Generation
Mineta San Jose International Airport
San Jose, California

Scenario	Existing/Baseline[1]	Mid-Project[2]	Proposed Project[1]	Units
Annual Passengers	14,800,000	15,700,000	22,500,000	Passengers/year
Daily Passengers[3]	40,548	43,014	61,644	Passengers/day
Daily Vehicle Trips	56,055	59,424	84,883	Trips/day
Daily Vehicle Miles Traveled	755,742	800,280	1,136,790	Miles/day
Annual Trips	20,460,075	21,689,930	30,982,164	Trips/year
Annual Vehicle Miles Traveled	275,845,830	292,102,228	414,928,350	Miles/year

Notes:

[1] Annual trips and total vehicle miles traveled for the Existing/Baseline and Proposed Project scenarios were based on airport specific data.

[2] Trips and vehicle miles traveled were interpolated based on the annual passenger count in each scenario year.

[3] Daily passengers assumes 365 days per year.

Table 3.2-15. Operational Mobile Fleet Mix
Mineta San Jose International Airport
San Jose, California

Scenario	Vehicle Class	Fleet Mix by Fuel Type[1]				
		Gas	Dsl	Elec	NG	Total
Existing/ Baseline	LDA	56%	0.5%	1.6%	0%	58%
	LDT1	5.1%	0.002%	0.02%	0%	5.1%
	LDT2	19%	0.1%	0.09%	0%	19%
	MDV	11%	0.2%	0.006%	0%	11%
	LHDT1	1.3%	0.8%	0%	0%	2.1%
	LHDT2	0.2%	0.3%	0%	0%	0.5%
	MHDT	0.1%	1.2%	0%	0.003%	0.013
	HHDT	0.001%	2.1%	0%	0.03%	2.1%
	UBUS	0.002%	0.1%	0%	0.03%	0.1%
	SBUS	0.02%	0.07%	0%	0.001%	0.09%
	OBUS	0.06%	0.1%	0%	0.0002%	0.2%
	MCY	0.5%	0%	0%	0%	0.5%
	MH	0.06%	0.02%	0%	0%	0.08%
Mid-Project	LDA	56%	0.6%	2.9%	0%	59%
	LDT1	5.2%	0.0008%	0.1%	0%	5.4%
	LDT2	17%	0.2%	0.3%	0%	17%
	MDV	10%	0.3%	0.2%	0%	11%
	LHDT1	1.1%	1.0%	0%	0%	2.1%
	LHDT2	0.2%	0.4%	0%	0%	0.5%
	MHDT	0.2%	1.2%	0%	0.007%	1.4%
	HHDT	0.001%	2.2%	0%	0.05%	2.3%
	UBUS	0.002%	0.09%	0%	0.03%	0.1%
	SBUS	0.03%	0.06%	0%	0.002%	0.09%
	OBUS	0.05%	0.1%	0%	0.0002%	0.2%
	MCY	0.5%	0%	0%	0%	0.5%
	MH	0.05%	0.02%	0%	0%	0.07%
Proposed Project	LDA	55%	0.7%	3.6%	0%	59%
	LDT1	5.2%	0.0007%	0.2%	0%	5.5%
	LDT2	16%	0.2%	0.5%	0%	17%
	MDV	10%	0.4%	0.4%	0%	11%
	LHDT1	1.1%	1.1%	0%	0%	2.1%
	LHDT2	0.2%	0.4%	0%	0%	0.6%
	MHDT	0.2%	1.2%	0%	0.007%	1.4%
	HHDT	0.002%	2.3%	0%	0.05%	2.4%
	UBUS	0.002%	0.08%	0%	0.03%	0.1%
	SBUS	0.03%	0.05%	0%	0.004%	0.09%
	OBUS	0.04%	0.10%	0%	0.0002%	0.1%
	MCY	0.5%	0%	0%	0%	0.5%
	MH	0.05%	0.02%	0%	0%	0.07%

Notes:

[1] EMFAC2017 was run for each scenario year. Annual vehicle miles travelled (VMT) was output by vehicle class and fuel for Santa Clara County and averaged across model years for EMFAC 2007 vehicle classes for a specific fuel type. From these, fleet mix was calculated by dividing the fuel and vehicle class specific VMT by the total VMT for that year.

Abbreviations:

Dsl - diesel
Elec - electric
EMFAC - EMission FACtors model
HHDT - heavy heavy duty truck
LDA - light duty auto
LDT1 - light duty truck 1
LDT2 - light duty truck 2
LHDT1 - light heavy duty truck 1
LHDT2 - light heavy duty truck 2
MCY - motorcycle
MDV - medium duty vehicle
MH - motor home
MHDT - medium heavy duty truck
NG - natural gas
OBUS - other buses
SBUS - school bus
UBUS - urban bus
VMT - vehicle miles travelled

Table 3.2-16. Operational Mobile Emission Factors
Mineta San Jose International Airport
San Jose, California

Scenario	Process	Emission Factor Units	Mobile Emission Factors[1,2,3]			
			ROG	NOx	PM_{10}	$PM_{2.5}$
Existing/Baseline	RUNEX	g/mi	0.05	0.33	0.01	0.01
	PMBW		--	--	0.04	0.02
	PMTW		--	--	0.01	0.00
	RUNLOSS		0.06	--	--	--
	STREX	g/trip	0.41	0.36	0.00	0.00
	IDLEX		0.01	0.15	0.00	0.00
	HOTSOAK		0.15	--	--	--
	RESTLOSS		0.06	--	--	--
	DIURN		0.07	--	--	--
Mid-Project	RUNEX	g/mi	0.02	0.13	0.00	0.00
	PMBW		--	--	0.04	0.02
	PMTW		--	--	0.01	0.00
	RUNLOSS		0.04	--	--	--
	STREX	g/trip	0.18	0.24	0.00	0.00
	IDLEX		0.01	0.13	0.00	0.00
	HOTSOAK		0.08	--	--	--
	RESTLOSS		0.04	--	--	--
	DIURN		0.04	--	--	--
Proposed Project	RUNEX	g/mi	0.02	0.11	0.00	0.00
	PMBW		--	--	0.04	0.02
	PMTW		--	--	0.01	0.00
	RUNLOSS		0.03	--	--	--
	STREX	g/trip	0.10	0.20	0.00	0.00
	IDLEX		0.01	0.13	0.00	0.00
	HOTSOAK		0.05	--	--	--
	RESTLOSS		0.02	--	--	--
	DIURN		0.03	--	--	--

Notes:

[1] EMFAC2017 was run for each scenario year. Annual number of trips and VMT were output by vehicle class and fuel for Santa Clara County and averaged across model years for EMFAC 2007 vehicle classes. From these, emission factors were calculated by dividing the emissions by either the number of trips or the VMT, where appropriate. Emission factors were calculated using the equations below:

$E_{g/mi} = E / VMT$

$E_{g/trip} = E / T$

Where $E_{g/mi}$ is the emission factor in g/mi, $E_{g/trip}$ is the emission factor in g/trip, VMT is annual vehicle miles traveled and T is the annual number of trips.

[2] Emission factors shown are for the default fleet mix of the scenario year. A breakdown of this fleet by vehicle type and fuel is shown in Table 3.2-15.

[3] Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis. Where there is no number shown, there is no emission factor in EMFAC2017.

Abbreviations:

DIURN - diurnal
EMFAC - EMission FACtors model
g - grams
HOTSOAK - hotsoak
IDLEX - idling exhaust
mi - mile
NOx - nitrogen oxide
PM_{10}- PM less than 10 microns in diameter
$PM_{2.5}$ - PM less than 2.5 microns in diameter
PMBW - PM from brakewear
PMTW - PM from tirewear
PM - particulate matter
RESTLOSS - rest losses
ROG - reactive organic gases
RUNEX - running exhaust
RUNLOSS - running losses
STREX - starting exhaust

Sources:

ARB. 2017. Emission FACtors Model, 2017 (EMFAC2017). Available online at: https://www.arb.ca.gov/emfac/

Table 3.2-17. Operational Mobile Entrained Dust
Mineta San Jose International Airport
San Jose, California

Entrained Roadway Dust Constants for Santa Clara County		
Roadway Category	**Silt Loading[1] (g/m^2)**	**Travel Fraction[1]**
Freeway	0.015	43%
Major	0.032	45%
Collector	0.032	5.4%
Local	0.32	6.4%
Weighted Silt Loading Factor	**0.043**	**100%**

Road Dust Equation[1]

E = k*(sL)^0.91 * (W)^1.02 * (1-P/4N)

Parameter[2]	**Value**
E = annual average emission factor in the same units as k	[calculated]
k = particle size multiplier for particle size range and units of interest	
PM_{10} (lb/VMT)	0.0022
$PM_{2.5}$ (lb/VMT)	0.00033
sL = road surface silt loading (grams per square meter) (g/m^2)	0.043
W = average weight (tons) of all the vehicles traveling the road	2.4
P = number of "wet" days with at least 0.01 in of precipitation during averaging period	64
N = number of days in the averaging period	365
Fugitive PM_{10} Emission Factor (lb/VMT)	**2.9E-04**
Fugitive $PM_{2.5}$ Emission Factor (lb/VMT)	**4.4E-05**

Year	**VMT[2] (miles/year)**	**Fugitive PM_{10} (tons/year)**	**Fugitive $PM_{2.5}$ (tons/year)**
Existing/Baseline	275,845,830	41	6.1
Mid-Project	292,102,228	43	6.4
Proposed Project	414,928,350	61	9.1

Notes:

[1] The road dust equation for paved roads and total silt loading fraction by roadway is from the California Air Resources Board's (ARB) 2018 Miscellaneous Process Methodology 7.9 for Entrained Road Travel, Paved Road Dust.

[2] VMT was provided by the traffic consultant and is shown in Table 3.2-14.

Abbreviations:

ARB - Air Resources Board

g/m^2 - gram per square meter

lb - pound

PM - particulate matter

PM_{10}- PM less than 10 microns in diameter

$PM_{2.5}$ - PM less than 2.5 microns in diameter

VMT - vehicle miles traveled

Sources:

California ARB. 2018. Miscellaneous Processes Methodologies - Paved Entrained Road Dust. Available online at: https://www.arb.ca.gov/ei/areasrc/fullpdf/full7-9_2018.pdf

USEPA. 1996. AP 42. Compilation of Air Pollutant Emission Factors, Volume 1. Fifth Edition. Chapter 13.2.1, Paved Roads. Available online at: http://www3.epa.gov/ttn/chief/ap42/ch13/final/c13s0201.pdf. . Accessed April 2019.

Table 3.2-18. Operational Mobile - Criteria Air Pollutant Emissions
Mineta San Jose International Airport
San Jose, California

Scenario	Trips[1]		VMT[1]		Mobile Emissions[2,3]							
	Daily	Annual	Daily	Annual	Daily Emissions (pounds/day)				Annual Emissions (tons per year)			
	trips/day	trips/year	miles/day	miles/year	ROG	NOx	PM_{10}[4]	$PM_{2.5}$[4]	ROG	NOx	PM_{10}[4]	$PM_{2.5}$[4]
Existing/Baseline	56,055	20,460,075	755,742	275,845,830	260	614	315	76	47	112	57	14
Mid-Project	59,424	21,689,930	800,280	292,102,228	153	284	326	73	28	52	59	13
Proposed Project	84,883	30,982,164	1,136,790	414,928,350	156	336	461	103	29	61	84	19

Notes:
[1] Trips and VMT for each scenario year are discussed in Table 3.2-14.
[2] Fleet mix is the default fleet mix in EMFAC2017 for the scenario year. Fleet mix is shown in Table 3.2-15.
[3] Emissions are calculated with emission factors from EMFAC2017 for Santa Clara County and are shown in Table 3.2-16.
[4] PM emissions include both emission factors from EMFAC2017 as well as entrained dust emission factors. These factors are discussed in Tables 3.2-16 and 3.2-17, respectively.

Abbreviations:
EMFAC - EMission FACtors model
NO_x - nitrogen oxide
PM - particulate matter
PM_{10}- PM less than 10 microns in diameter
$PM_{2.5}$ - PM less than 2.5 microns in diameter
ROG - reactive organic gases
VMT - vehicle miles traveled

Table 3.2-19. Airport Shuttles - Criteria Air Pollutant Emissions
Mineta San Jose International Airport
San Jose, California

Airport Shuttle Fuel Consumption (CNG)[1]	154,522	GGE
Average New Flyer C40LF Fuel Economy[2]	4.8	miles/DGE
Annual Average Shuttle Bus VMT[3]	652,912	VMT/year

Criteria Air Pollutant Emissions[4]		
CAP	**(tons/year)**	**(lb/day)**
VOC	0.07	0.36
NOx	0.35	1.9
PM_{10}	0.08	0.41
$PM_{2.5}$	0.03	0.16

Notes:

[1] Shuttle fuel consumption based on 2017 calendar year.

[2] Average fuel economy based on data obtained from the Altoona Bus Research & Testing Center under the Federal Transit Administration's new model bus testing program. Available at: https://mjbradley.com/sites/default/files/CNG%20Diesel%20Hybrid%20Comparison%20FINAL%2005nov13.pdf.

[3] Annual average shuttle bus VMT is calculated based on annual shuttle bus fuel consumption and average fuel economy of shuttle bus model. Miles per DGE are converted to miles per GGE using the conversion factor listed below, based on the relative energy content of gasoline and diesel fuels. Available at: http://www.nat-g.com/why-cng/cng-units-explained/.

[4] Emission factors obtained from EMFAC2017.

Abbreviations:

CAP - criteria air pollutant
CNG - compressed natural gas
DGE - diesel gallon equivalent
EMFAC - California Air Resources Board Emissions Factor Model
GGE - gasoline gallon equivalent
NO_X - oxides of nitrogen
PM_{10} - particulate matter equal to or less than 10 microns in diameter
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
TOG - total organic gas
VMT - vehicle miles traveled

Constants and Conversion Factors:

grams per ton	907,185
GGE/DGE	1.136
pounds per ton	2,000

Table 3.2-20. OFFROAD Emission Factors for SJC-Owned Airside Equipment
Mineta San Jose International Airport
San Jose, California

Scenario	Fuel	OFFROAD2017 Equipment[1]	Default HP[2]	Emission Factors[1,5] (g/hp-hr)						Fuel Efficiency[3] (gal/hp-hr)
				ROG			NOx	PM_{10}	$PM_{2.5}$	
				Evaporative[4]	Exhaust	Total ROG	Exhaust			
Existing/ Baseline	Gasoline	OFF - AirGrSupp - Forklift	50	0.48	0.31	0.80	0.75	0.02	0.01	0.03
	Gasoline	OFF - AirGrSupp - Other GSE	50	1.4	0.66	2.1	1.4	0.03	0.02	0.05
	Diesel	AirGrSupp - Other GSE	108	--	0.12	0.12	1.3	0.07	0.06	0.02
	Diesel	OFF - Light Commercial - Pressure Washers	21	--	0.17	0.17	1.4	0.07	0.06	0.02
	Gasoline	OFF - Agricultural - Agricultural Mowers	12	0.65	2.8	3.5	2.3	1.6	1.2	0.05
	Diesel	OFF - Industrial - Sweepers/Scrubbers	18	--	0.36	0.36	2.9	0.11	0.10	0.04
	Diesel	Agricultural - Agricultural Tractors	98	--	0.40	0.40	2.8	0.22	0.20	0.03
	Diesel	OFF - Light Commercial - Generator Sets	21	--	0.43	0.43	3.4	0.17	0.15	0.04
	Gasoline	OFF - AirGrSupp - Sweeper	53	0.76	0.45	1.2	2.0	0.03	0.02	0.05
Mid-Project	Gasoline	OFF - AirGrSupp - Forklift	50	0.48	0.31	0.80	0.75	0.02	0.01	0.03
	Gasoline	OFF - AirGrSupp - Other GSE	50	1.4	0.48	1.9	1.1	0.03	0.02	0.05
	Diesel	AirGrSupp - Other GSE	108	--	0.05	0.05	0.40	0.02	0.01	0.02
	Diesel	OFF - Light Commercial - Pressure Washers	21	--	0.15	0.15	1.3	0.05	0.05	0.02
	Gasoline	OFF - Agricultural - Agricultural Mowers	12	0.62	2.8	3.4	2.3	1.6	1.2	0.05
	Diesel	OFF - Industrial - Sweepers/Scrubbers	18	--	0.36	0.36	2.9	0.11	0.10	0.04
	Diesel	Agricultural - Agricultural Tractors	98	--	0.25	0.25	1.5	0.13	0.12	0.03
	Diesel	OFF - Light Commercial - Generator Sets	21	--	0.40	0.40	3.2	0.13	0.12	0.04
	Gasoline	OFF - AirGrSupp - Sweeper	53	0.76	0.24	1.0	1.4	0.03	0.02	0.05
Proposed Project	Gasoline	OFF - AirGrSupp - Forklift	50	0.48	0.31	0.80	0.75	0.02	0.01	0.03
	Gasoline	OFF - AirGrSupp - Other GSE	50	1.4	0.45	1.9	1.0	0.03	0.02	0.05
	Diesel	AirGrSupp - Other GSE	108	--	0.04	0.04	0.20	0.01	0.01	0.02
	Diesel	OFF - Light Commercial - Pressure Washers	21	--	0.15	0.15	1.3	0.05	0.04	0.02
	Gasoline	OFF - Agricultural - Agricultural Mowers	12	0.62	2.8	3.4	2.3	1.6	1.2	0.05
	Diesel	OFF - Industrial - Sweepers/Scrubbers	18	--	0.37	0.37	2.9	0.11	0.10	0.04
	Diesel	Agricultural - Agricultural Tractors	98	--	0.14	0.14	0.69	0.06	0.06	0.03
	Diesel	OFF - Light Commercial - Generator Sets	21	--	0.39	0.39	3.1	0.12	0.11	0.04
	Gasoline	OFF - AirGrSupp - Sweeper	53	0.76	0.21	1.0	1.4	0.03	0.02	0.05

Notes:

[1] OFFROAD2017 was run for each scenario year for the equipment listed above. The equipment listed above is based on the equipment used at the airport. Daily emissions, annual activity and annual fuel usage were output by equipment type, horsepower bin, and fuel for Santa Clara County and averaged across model years for equipment types. From these, emission factors were calculated by dividing the emissions by the activity using the equation below:

$E_{g/hp\text{-}hr}$ = E (tons/day) / Activity (hp-hr/year) * C

Where $E_{g/hp\text{-}hr}$ is the emission factor in g/hp-hr, E is the emission rate in tons/day, and C is a conversion factor (365 days/year * 907,184.7 g/ton).

[2] Default horsepower is the average horsepower over the entire population in OFFROAD2017. This was calculated by dividing annual activity (Hp-hr/year) by annual usage (hours/year) for all equipment of that fuel and type.

[3] Fuel efficiency was calculated using the OFFROAD2017 output for fuel consumption (gallon/year) and dividing by the annual activity (hp-hr/year).

[4] The units for activity from OFFROAD2017 were found to be inconsistent between the evaporative and exhaust databases. The units for activity in the evaporative database are assumed to be in units of hours per day instead of hours per year.

[5] Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis. Where there is no number shown, there is no emission factor in OFFROAD2017.

Abbreviations:

g - grams
hp - horsepower
hr - hour
NOx - nitrogen oxide
PM - particulate matter
PM_{10}- PM less than 10 microns in diameter
$PM_{2.5}$ - PM less than 2.5 microns in diameter
ROG - reactive organic gases

Table 3.2-21. SJC-Owned Airside Equipment - Criteria Air Pollutant Emissions
Mineta San Jose International Airport
San Jose, California

Year	Equipment Description[1]	Fuel Type[1]	Annual Fuel Usage[1] (gal/year)	Offroad2017 Equipment[2]	Default HP[3]	Fuel Efficiency[3] (gal/hp-hr)	Calculated Annual Usage[4] (hp-hr/year)	Daily emissions[5,6] (lb/day)				Annual Emissions[6] (tpy)			
								VOC	NOx	PM_{10}	$PM_{2.5}$	VOC	NOx	PM_{10}	$PM_{2.5}$
Existing/Baseline	FORKLIFT 8000 LB	Gasoline	234	OFF - AirGrSupp - Forklift	50	0.03	7,157	0.03	0.03	0.00	0.00	0.01	0.01	0.00	0.00
	GAS CAN	Gasoline	2,417	OFF - AirGrSupp - Other GSE	50	0.05	46,029	0.58	0.40	0.01	0.01	0.11	0.07	0.00	0.00
	GAS CAN	Diesel	467	AirGrSupp - Other GSE	108	0.02	26,890	0.02	0.21	0.01	0.01	0.00	0.04	0.00	0.00
	GAS CAN/MISC EQ FUELING	Gasoline	111	OFF - AirGrSupp - Other GSE	50	0.05	2,110	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	GAS CAN-2ND KEY OF VEH 94611	Diesel	738	AirGrSupp - Other GSE	108	0.02	42,529	0.03	0.33	0.02	0.02	0.01	0.06	0.00	0.00
	HIGH PRESSURE RUBBER REMOVAL MACHINE	Diesel	757	OFF - Light Commercial - Pressure Washers	21	0.02	44,672	0.05	0.38	0.02	0.02	0.01	0.07	0.00	0.00
	SPECIALIZED MOWER SMALL	Gasoline	88	OFF - Agricultural - Agricultural Mowers	12	0.05	1,824	0.04	0.02	0.02	0.01	0.01	0.00	0.00	0.00
	SPECIALIZED PARKING LOT SWEEPER	Diesel	84	OFF - Industrial - Sweepers/Scrubbers	18	0.04	2,163	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.00
	SPECIALIZED SWEEPER AIR RUNWAY	Diesel	323	OFF - Industrial - Sweepers/Scrubbers	18	0.04	8,323	0.02	0.15	0.01	0.01	0.00	0.03	0.00	0.00
	TRACTOR LIGHT MOWER	Diesel	1,994	Agricultural - Agricultural Tractors	98	0.03	71,424	0.17	1.2	0.09	0.09	0.03	0.22	0.02	0.02
	TRAILER 10KW GENERATOR	Diesel	28	OFF - Light Commercial - Generator Sets	21	0.04	664	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	TRAILER RUNWAY CLOSURE MARKER	Diesel	52	AirGrSupp - Other GSE	108	0.02	2,986	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	TRAILER STEAM CLEANER	Gasoline	166	OFF - AirGrSupp - Other GSE	50	0.05	3,167	0.04	0.03	0.00	0.00	0.01	0.01	0.00	0.00
	TRUCK WITH SWEEPER	Gasoline	415	OFF - AirGrSupp - Sweeper	53	0.05	8,617	0.06	0.10	0.00	0.00	0.01	0.02	0.00	0.00
	VAN STEP WITH AERIAL	Diesel	143	AirGrSupp - Other GSE	108	0.02	8,266	0.01	0.06	0.00	0.00	0.00	0.01	0.00	0.00
							Existing/Baseline Total	**1.1**	**3.0**	**0.18**	**0.16**	**0.20**	**0.55**	**0.03**	**0.03**
Mid-Project	FORKLIFT 8000 LB	Gasoline	248	OFF - AirGrSupp - Forklift	50	0.03	7,577	0.04	0.03	0.00	0.00	0.01	0.01	0.00	0.00
	GAS CAN	Gasoline	2,564	OFF - AirGrSupp - Other GSE	50	0.05	49,219	0.57	0.32	0.01	0.01	0.10	0.06	0.00	0.00
	GAS CAN	Diesel	495	AirGrSupp - Other GSE	108	0.02	28,525	0.01	0.07	0.00	0.00	0.00	0.01	0.00	0.00
	GAS CAN/MISC EQ FUELING	Gasoline	118	OFF - AirGrSupp - Other GSE	50	0.05	2,256	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	GAS CAN-2ND KEY OF VEH 94611	Diesel	783	AirGrSupp - Other GSE	108	0.02	45,115	0.01	0.11	0.00	0.00	0.00	0.02	0.00	0.00
	HIGH PRESSURE RUBBER REMOVAL MACHINE	Diesel	803	OFF - Light Commercial - Pressure Washers	21	0.02	47,455	0.04	0.37	0.01	0.01	0.01	0.07	0.00	0.00
	SPECIALIZED MOWER SMALL	Gasoline	93	OFF - Agricultural - Agricultural Mowers	12	0.05	1,929	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00
	SPECIALIZED PARKING LOT SWEEPER	Diesel	89	OFF - Industrial - Sweepers/Scrubbers	18	0.04	2,292	0.01	0.04	0.00	0.00	0.00	0.01	0.00	0.00
	SPECIALIZED SWEEPER AIR RUNWAY	Diesel	342	OFF - Industrial - Sweepers/Scrubbers	18	0.04	8,817	0.02	0.15	0.01	0.01	0.00	0.03	0.00	0.00
	TRACTOR LIGHT MOWER	Diesel	2,116	Agricultural - Agricultural Tractors	98	0.03	75,774	0.11	0.69	0.06	0.05	0.02	0.13	0.01	0.01
	TRAILER 10KW GENERATOR	Diesel	30	OFF - Light Commercial - Generator Sets	21	0.04	705	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	TRAILER RUNWAY CLOSURE MARKER	Diesel	55	AirGrSupp - Other GSE	108	0.02	3,167	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00

Table 3.2-21. SJC-Owned Airside Equipment - Criteria Air Pollutant Emissions
Mineta San Jose International Airport
San Jose, California

Year	Equipment Description[1]	Fuel Type[1]	Annual Fuel Usage[1] (gal/year)	Offroad2017 Equipment[2]	Default HP[3]	Fuel Efficiency[3] (gal/hp-hr)	Calculated Annual Usage[4] (hp-hr/year)	Daily emissions[5,6] (lb/day)				Annual Emissions[6] (tpy)			
								VOC	NOx	PM_{10}	$PM_{2.5}$	VOC	NOx	PM_{10}	$PM_{2.5}$
Mid-Project	TRAILER STEAM CLEANER	Gasoline	176	OFF - AirGrSupp - Other GSE	50	0.05	3,387	0.04	0.02	0.00	0.00	0.01	0.00	0.00	0.00
	TRUCK WITH SWEEPER	Gasoline	440	OFF - AirGrSupp - Sweeper	53	0.05	9,044	0.05	0.08	0.00	0.00	0.01	0.01	0.00	0.00
	VAN STEP WITH AERIAL	Diesel	152	AirGrSupp - Other GSE	108	0.02	8,769	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
							Mid-Project Total	**1.0**	**2.0**	**0.12**	**0.10**	**0.18**	**0.36**	**0.02**	**0.02**
Proposed Project	FORKLIFT 8000 LB	Gasoline	356	OFF - AirGrSupp - Forklift	50	0.03	10,871	0.05	0.05	0.00	0.00	0.01	0.01	0.00	0.00
	GAS CAN	Gasoline	3,674	OFF - AirGrSupp - Other GSE	50	0.05	70,110	0.80	0.44	0.01	0.01	0.15	0.08	0.00	0.00
	GAS CAN	Diesel	709	AirGrSupp - Other GSE	108	0.02	40,880	0.01	0.05	0.00	0.00	0.00	0.01	0.00	0.00
	GAS CAN/MISC EQ FUELING	Gasoline	168	OFF - AirGrSupp - Other GSE	50	0.05	3,214	0.04	0.02	0.00	0.00	0.01	0.00	0.00	0.00
	GAS CAN-2ND KEY OF VEH 94611	Diesel	1,122	AirGrSupp - Other GSE	108	0.02	64,655	0.02	0.08	0.00	0.00	0.00	0.01	0.00	0.00
	HIGH PRESSURE RUBBER REMOVAL MACHINE	Diesel	1,150	OFF - Light Commercial - Pressure Washers	21	0.02	67,506	0.06	0.51	0.02	0.02	0.01	0.09	0.00	0.00
	SPECIALIZED MOWER SMALL	Gasoline	134	OFF - Agricultural - Agricultural Mowers	12	0.05	2,766	0.06	0.04	0.03	0.02	0.01	0.01	0.00	0.00
	SPECIALIZED PARKING LOT SWEEPER	Diesel	128	OFF - Industrial - Sweepers/Scrubbers	18	0.04	3,282	0.01	0.06	0.00	0.00	0.00	0.01	0.00	0.00
	SPECIALIZED SWEEPER AIR RUNWAY	Diesel	491	OFF - Industrial - Sweepers/Scrubbers	18	0.04	12,627	0.03	0.22	0.01	0.01	0.01	0.04	0.00	0.00
	TRACTOR LIGHT MOWER	Diesel	3,032	Agricultural - Agricultural Tractors	98	0.03	108,605	0.09	0.45	0.04	0.04	0.02	0.08	0.01	0.01
	TRAILER 10KW GENERATOR	Diesel	43	OFF - Light Commercial - Generator Sets	21	0.04	1,011	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	TRAILER RUNWAY CLOSURE MARKER	Diesel	79	AirGrSupp - Other GSE	108	0.02	4,539	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	TRAILER STEAM CLEANER	Gasoline	253	OFF - AirGrSupp - Other GSE	50	0.05	4,824	0.06	0.03	0.00	0.00	0.01	0.01	0.00	0.00
	TRUCK WITH SWEEPER	Gasoline	631	OFF - AirGrSupp - Sweeper	53	0.05	12,647	0.07	0.10	0.00	0.00	0.01	0.02	0.00	0.00
	VAN STEP WITH AERIAL	Diesel	218	AirGrSupp - Other GSE	108	0.02	12,566	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
							Proposed Project Total	**1.3**	**2.1**	**0.12**	**0.10**	**0.24**	**0.38**	**0.02**	**0.02**

Notes:

[1] Equipment and fuel usage is based on airport specific data for existing equipment for the Existing/Baseline scenario. For the Mid-Project and Proposed Project scenarios, the same equipment list is assumed to be used. Fuel consumption was scaled for the Mid-Project and Proposed Project scenarios based on million annual passengers.

[2] Equipment was matched to OFFROAD2017 equipment types.

[3] Horsepower and fuel efficiency are defaults for the equipment type in OFFROAD2017.

[4] Annual usage was calculated using the fuel usage and fuel efficiency.

[5] Daily emissions assume operations 365 days per year.

[6] Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.

Abbreviations:

g - grams
gal - gallon
hp - horsepower
hr - hour
NO_x - nitrogen oxide
PM - particulate matter
PM_{10}- PM less than 10 microns in diameter
$PM_{2.5}$ - PM less than 2.5 microns in diameter
ROG - reactive organic gases

Table 3.2-22. Boilers - Criteria Air Pollutant and Toxic Air Contaminant Emissions
Mineta San Jose International Airport
San Jose, California

Natural Gas Usage

Source	Boiler Rating[1] (MMBtu/hour)	Natural Gas Usage by Year[2] (MMscf/year)		
		Existing/ Baseline	Mid-Project	Proposed Project
Industrial Boiler (S#28)	8.0	7.3	7.8	11.1
Industrial Boiler (S#29)	8.0	7.3	7.8	11.1
Industrial Boiler (S#30)	5.2	4.8	5.0	7.2
Facility Total	**21.2**	**19**	**21**	**29**

Emission Factors[3,4] (lb/MMscf)

Scenario	Pollutant	VOC	NO_x	PM_{10}	$PM_{2.5}$	Benzene	Formaldehyde	Toluene
All	Factor	5.5	19	7.6	7.6	0.0021	0.075	0.0034

Scenario	Source	Daily Emissions[5,6] (lb/day)						
		VOC	NO_x	PM_{10}	$PM_{2.5}$	Benzene	Formaldehyde	Toluene
Existing/Baseline	Industrial Boiler (S#28)	0.11	0.38	0.15	0.15	0.00	0.00	0.00
	Industrial Boiler (S#29)	0.11	0.38	0.15	0.15	0.00	0.00	0.00
	Industrial Boiler (S#30)	0.07	0.25	0.10	0.10	0.00	0.00	0.00
	Facility Total	**0.29**	**1.0**	**0.40**	**0.40**	**0.00**	**0.00**	**0.00**
Mid-Project	Industrial Boiler (S#28)	0.12	0.40	0.16	0.16	0.00	0.00	0.00
	Industrial Boiler (S#29)	0.12	0.40	0.16	0.16	0.00	0.00	0.00
	Industrial Boiler (S#30)	0.08	0.26	0.11	0.11	0.00	0.00	0.00
	Facility Total	**0.31**	**1.1**	**0.43**	**0.43**	**0.00**	**0.00**	**0.00**
Proposed Project	Industrial Boiler (S#28)	0.17	0.57	0.23	0.23	0.00	0.00	0.00
	Industrial Boiler (S#29)	0.17	0.57	0.23	0.23	0.00	0.00	0.00
	Industrial Boiler (S#30)	0.11	0.37	0.15	0.15	0.00	0.00	0.00
	Facility Total	**0.44**	**1.5**	**0.61**	**0.61**	**0.00**	**0.01**	**0.00**

Table 3.2-22. Boilers - Criteria Air Pollutant and Toxic Air Contaminant Emissions
Mineta San Jose International Airport
San Jose, California

Scenario	Source	Annual Emissions[6] (ton/year)						
		VOC	NO_x	PM_{10}	$PM_{2.5}$	Benzene	Formaldehyde	Toluene
Existing/Baseline	Industrial Boiler (S#28)	0.02	0.07	0.03	0.03	0.00	0.00	0.00
	Industrial Boiler (S#29)	0.02	0.07	0.03	0.03	0.00	0.00	0.00
	Industrial Boiler (S#30)	0.01	0.04	0.02	0.02	0.00	0.00	0.00
	Facility Total	**0.05**	**0.18**	**0.07**	**0.07**	**0.00**	**0.00**	**0.00**
Mid-Project	Industrial Boiler (S#28)	0.02	0.07	0.03	0.03	0.00	0.00	0.00
	Industrial Boiler (S#29)	0.02	0.07	0.03	0.03	0.00	0.00	0.00
	Industrial Boiler (S#30)	0.01	0.05	0.02	0.02	0.00	0.00	0.00
	Facility Total	**0.06**	**0.19**	**0.08**	**0.08**	**0.00**	**0.00**	**0.00**
Proposed Project	Industrial Boiler (S#28)	0.03	0.10	0.04	0.04	0.00	0.00	0.00
	Industrial Boiler (S#29)	0.03	0.10	0.04	0.04	0.00	0.00	0.00
	Industrial Boiler (S#30)	0.02	0.07	0.03	0.03	0.00	0.00	0.00
	Facility Total	**0.08**	**0.28**	**0.11**	**0.11**	**0.00**	**0.00**	**0.00**

Notes:

[1] Boiler rating is for existing boilers.

[2] Facility total fuel usage for the Existing/Baseline scenario is based on utility meter reading for the Central Plant. Individual fuel usage proportioned by boiler rating. Fuel usage for the Mid-Project and Proposed Project scenarios was scaled by the change in annual passengers at the airport.

[3] Emission factors are from AP-42, Chapter 1, Section 4, Natural Gas Combustion and converted to MMscf/year using a heating value of 1,020 Btu/scf for natural gas.

[4] NO_x emissions based on BAAQMD limit of 15 ppm at 3 % O_2.

[5] Daily emissions are estimated from annual emissions assuming 365 days/year.

[6] Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.

Abbreviations:

Btu - British thermal unit
g - gram
lb - pound
MM - million
NO_x - nitrogen oxide
O_2 - oxygen
PM_{10} - PM less than 10 microns in diameter
$PM_{2.5}$ - PM less than 2.5 microns in diameter
ppm - parts per million
VOC - volatile organic compounds
scf - standard cubic foot

Sources:

EPA. AP 42 Chapter 1, Section 4. Natural Gas Combustion. July 1998. Available at: https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf. Accessed April 2019.

Table 3.2-23. Miscellaneous Natural Gas Combustion - Criteria Air Pollutant and Toxic Air Contaminant Emissions
Mineta San Jose International Airport
San Jose, California

Natural Gas Usage[1] (MMscf/year)

Source	Existing/ Baseline	Mid-Project	Proposed Project
Non-Central Plant Boiler Usage	1.8	1.9	2.7

Emission Factors[2] (lb/MMscf)

Pollutant	VOC	NO_X	PM_{10}	$PM_{2.5}$	Benzene	Formaldehyde	Toluene
Factor	5.5	100	7.6	7.6	0.0021	0.075	0.0034

Daily Emissions

	Daily Emissions[3,4] (lb/day)						
Scenario	VOC	NO_X	PM_{10}	$PM_{2.5}$	Benzene	Formaldehyde	Toluene
Existing/Baseline	0.03	0.50	0.04	0.04	0.00	0.00	0.00
Mid-Project	0.03	0.53	0.04	0.04	0.00	0.00	0.00
Proposed Project	0.04	0.75	0.06	0.06	0.00	0.00	0.00

Annual Emissions

	Annual Emissions[4] (ton/year)						
Scenario	VOC	NO_X	PM_{10}	$PM_{2.5}$	Benzene	Formaldehyde	Toluene
Existing/Baseline	0.00	0.09	0.01	0.01	0.00	0.00	0.00
Mid-Project	0.01	0.10	0.01	0.01	0.00	0.00	0.00
Proposed Project	0.01	0.14	0.01	0.01	0.00	0.00	0.00

Notes:

[1] Facility total fuel usage for the Existing/Baseline scenario is based on metered natural gas consumption from utility bills for all Airport locations excluding the Central Plant. Fuel usage for the Mid-Project and Proposed Project scenarios was scaled by the change in annual passengers at the airport.

[2] Emission factors are from AP-42, Chapter 1, Section 4, Natural Gas Combustion and converted to MMscf/year using a heating value of 1,020 Btu/scf for natural gas.

[3] Daily emissions are estimated from annual emissions assuming 365 days/year.

[4] Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.

Abbreviations:

Btu - British thermal unit
g - gram
lb - pound
MM - million
NOx - nitrogen oxide
O_2 - oxygen
PM_{10}- PM less than 10 microns in diameter
$PM_{2.5}$ - PM less than 2.5 microns in diameter
VOC - volatile organic compounds
scf - standard cubic foot

Sources:

EPA. AP 42 Chapter 1, Section 4. Natural Gas Combustion. July 1998. Available at: https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf. Accessed April 2019.

Table 3.2-24. Emergency Generators - Criteria Air Pollutant Emission Factors
Mineta San Jose International Airport
San Jose, California

Standby Diesel Engine ID[1]	Emission Factors[2]											
	VOC			NO_x			PM_{10}			$PM_{2.5}$		
	Factor	Unit	Source	Factor	Unit	Source	Factor	Unit	Source	Factor	Unit	Source
S-1	0.0025	lb/hp-hr	AP-42 Table 3.3-1	11	g/hp-hr	Manufacturer's Specs	0.30	g/hp-hr	Manufacturer's Specs	0.30	g/hp-hr	Manufacturer's Specs
S-3	0.0025	lb/hp-hr	AP-42 Table 3.3-1	8.0	g/hp-hr	Manufacturer's Specs	0.090	g/hp-hr	Manufacturer's Specs	0.090	g/hp-hr	Manufacturer's Specs
S-6	0.0025	lb/hp-hr	AP-42 Table 3.3-1	0.031	lb/hp-hr	AP-42 Table 3.3-1	0.0022	lb/hp-hr	AP-42 Table 3.3-1	0.0022	lb/hp-hr	AP-42 Table 3.3-1
S-8	0.0025	lb/hp-hr	AP-42 Table 3.3-1	6.4	g/hp-hr	Manufacturer's Specs	0.25	g/hp-hr	Manufacturer's Specs	0.25	g/hp-hr	Manufacturer's Specs
S-9	0.0025	lb/hp-hr	AP-42 Table 3.3-1	7.5	g/hp-hr	Manufacturer's Specs	0.0022	lb/hp-hr	AP-42 Table 3.3-1	0.0022	lb/hp-hr	AP-42 Table 3.3-1
S-10	0.0025	lb/hp-hr	AP-42 Table 3.3-1	8.9	g/hp-hr	Manufacturer's Specs	9.0E-04	g/hp-hr	Manufacturer's Specs	9.0E-04	g/hp-hr	Manufacturer's Specs
S-11	0.0025	lb/hp-hr	AP-42 Table 3.3-1	8.9	g/hp-hr	Manufacturer's Specs	9.0E-04	g/hp-hr	Manufacturer's Specs	9.0E-04	g/hp-hr	Manufacturer's Specs
S-12	0.0025	lb/hp-hr	AP-42 Table 3.3-1	9.0	g/hp-hr	Manufacturer's Specs	0.0022	lb/hp-hr	AP-42 Table 3.3-1	0.0022	lb/hp-hr	AP-42 Table 3.3-1
S-13	0.0025	lb/hp-hr	AP-42 Table 3.3-1	0.031	lb/hp-hr	AP-42 Table 3.3-1	0.0022	lb/hp-hr	AP-42 Table 3.3-1	0.0022	lb/hp-hr	AP-42 Table 3.3-1
S-14	0.0025	lb/hp-hr	AP-42 Table 3.3-1	6.1	g/hp-hr	Manufacturer's Specs	0.34	g/hp-hr	Manufacturer's Specs	0.34	g/hp-hr	Manufacturer's Specs
S-15	1.0	g/hp-hr	Manufacturer's Specs	6.9	g/hp-hr	Manufacturer's Specs	0.40	g/hp-hr	Manufacturer's Specs	0.40	g/hp-hr	Manufacturer's Specs
S-16	1.0	g/hp-hr	Manufacturer's Specs	6.9	g/hp-hr	Manufacturer's Specs	0.40	g/hp-hr	Manufacturer's Specs	0.40	g/hp-hr	Manufacturer's Specs
S-18	0.40	g/hp-hr	Off-Road certification	5.3	g/hp-hr	Off-Road certification	0.12	g/hp-hr	Off-Road certification	0.12	g/hp-hr	Off-Road certification
S-19	6.1	g/KW-hr	Off-Road certification	6.1	g/KW-hr	Off-Road certification	0.080	g/KW-hr	Off-Road certification	0.080	g/KW-hr	Off-Road certification
S-20	6.1	g/KW-hr	Off-Road certification	6.1	g/KW-hr	Off-Road certification	0.080	g/KW-hr	Off-Road certification	0.080	g/KW-hr	Off-Road certification
S-21	6.1	g/KW-hr	Off-Road certification	6.1	g/KW-hr	Off-Road certification	0.080	g/KW-hr	Off-Road certification	0.080	g/KW-hr	Off-Road certification
S-22	0.0025	lb/hp-hr	AP-42 Table 3.3-1	0.031	lb/hp-hr	AP-42 Table 3.3-1	0.0022	lb/hp-hr	AP-42 Table 3.3-1	0.0022	lb/hp-hr	AP-42 Table 3.3-1
S-23	5.3	g/KW-hr	Off-Road certification	5.3	g/KW-hr	Off-Road certification	0.10	g/KW-hr	Off-Road certification	0.10	g/KW-hr	Off-Road certification
S-24	6.1	g/KW-hr	Off-Road certification	6.1	g/KW-hr	Off-Road certification	0.080	g/KW-hr	Off-Road certification	0.080	g/KW-hr	Off-Road certification
S-25	5.8	g/KW-hr	Off-Road certification	5.8	g/KW-hr	Off-Road certification	0.17	g/KW-hr	Off-Road certification	0.17	g/KW-hr	Off-Road certification
S-27	3.8	g/KW-hr	Off-Road certification	3.8	g/KW-hr	Off-Road certification	0.13	g/KW-hr	Off-Road certification	0.13	g/KW-hr	Off-Road certification

Notes:

[1] Generator information is for existing equipment.

[2] Emission factors from ARB's California Off-Road Certification Database were used for the newer generators based on the engine family number. For older generators, the manufacturer's specification sheet was used where available. If neither the off-road certification nor the specification sheets were available, AP 42 was used.

Abbreviations:

g - gram
hp-hr - horsepower hours
KW-hr - kilowatt hour
lb - pound
NOx - nitrogen oxide
PM_{10}- PM less than 10 microns in diameter
$PM_{2.5}$ - PM less than 2.5 microns in diameter
VOC - volatile organic compounds

Sources:

ARB. California Off-Road Certification Database. Available at: https://ww3.arb.ca.gov/msprog/offroad/cert/cert.php
EPA. AP 42 Chapter 3, Section 3. Gasoline and Diesel Industrial Engines. October 1996. Available at: https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s03.pdf. Accessed April 2019.

Table 3.2-25. Emergency Generators - Criteria Air Pollutant Emissions
Mineta San Jose International Airport
San Jose, California

Standby Diesel Engine ID[1,5]	Horsepower[1]	Existing/ Baseline Operating Hours[2,5]	Abatement[3]	Daily Emissions[4,6]				Annual Emissions[6]			
			PM	VOC	NO_X	PM_{10}	$PM_{2.5}$	VOC	NO_X	PM_{10}	$PM_{2.5}$
			% Reduction	lb/day				ton/year			
S-1	67	17	0%	0.01	0.08	0.00	0.00	0.00	0.01	0.00	0.00
S-3	1,135	6.5	0%	0.05	0.36	0.00	0.00	0.01	0.06	0.00	0.00
S-6	416	8.1	0%	0.02	0.29	0.02	0.02	0.00	0.05	0.00	0.00
S-8	277	8.5	0%	0.02	0.09	0.00	0.00	0.00	0.02	0.00	0.00
S-9	170	5.2	0%	0.01	0.04	0.01	0.01	0.00	0.01	0.00	0.00
S-10	109	25	0%	0.02	0.15	0.00	0.00	0.00	0.03	0.00	0.00
S-11	109	156	0%	0.12	0.92	0.00	0.00	0.02	0.17	0.00	0.00
S-12	116	7.4	0%	0.01	0.05	0.01	0.01	0.00	0.01	0.00	0.00
S-13	102	--	--	--	--	--	--	--	--	--	--
S-14	269	129	0%	0.23	1.3	0.07	0.07	0.04	0.23	0.01	0.01
S-15	535	6.4	0%	0.02	0.14	0.01	0.01	0.00	0.03	0.00	0.00
S-16	535	6.5	0%	0.02	0.14	0.01	0.01	0.00	0.03	0.00	0.00
S-18	377	50	0%	0.05	0.60	0.01	0.01	0.01	0.11	0.00	0.00
S-19	2,200	10	85%	0.60	0.60	0.00	0.00	0.11	0.11	0.00	0.00
S-20	2,200	16	85%	1.0	1.0	0.00	0.00	0.18	0.18	0.00	0.00
S-21	2,200	10	85%	0.60	0.60	0.00	0.00	0.11	0.11	0.00	0.00
S-22	375	7.1	0%	0.02	0.23	0.02	0.02	0.00	0.04	0.00	0.00
S-23	2,937	6.1	85%	0.43	0.43	0.00	0.00	0.08	0.08	0.00	0.00
S-24	2,220	9.0	85%	0.55	0.55	0.00	0.00	0.10	0.10	0.00	0.00
S-25	2,206	7.1	85%	0.41	0.41	0.00	0.00	0.07	0.07	0.00	0.00
S-27	145	5.1	0%	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
			Facility Total	**4.2**	**7.9**	**0.17**	**0.17**	**0.76**	**1.4**	**0.03**	**0.03**

Notes:

[1] Generator information is for existing equipment. Emission factors for each generator are shown in Table 3.2-24.

[2] Existing/Baseline operating hours were based on actual usage. Operating hours are expected to stay the same in the Mid-Project and Proposed Project scenarios and there is no plan to replace the existing generators or add additional generators. Therefore, emissions in the Mid-Project and Proposed Project scenarios are assumed to be the same as in the Existing/Baseline scenario.

[3] Abatement is a California Air Resources Board-certified Level 3 diesel particulate filter (i.e., 85% reduction in DPM).

[4] Daily emissions are estimated from annual emissions assuming 365 days/year.

[5] Source S-13 was removed and is no longer operational at the Airport. Airport does not have data on S-18. It was conservatively assumed to operate up to the maximum number of permitted hours.

[6] Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.

Abbreviations:

lb - pound
NOx - nitrogen oxide
PM - particulate matter
PM_{10}- PM less than 10 microns in diameter
$PM_{2.5}$ - PM less than 2.5 microns in diameter
VOC - volatile organic compounds

Table 3.2-26. Jet Fuel Tank - Fugitive VOC Emissions
Mineta San Jose International Airport
San Jose, California

Tank Operator	Tank ID	Type	Existing or New?	Capacity (gal)[1]	Annual Fuel Throughput (gal/yr)[2]			JetA Tank Emissions[3] (lb/yr) Controlled VOCs[4]					
								Breathing Losses			Working Losses		
					Existing/ Baseline (2018)	Mid-Project (2027)	Proposed Project (2037)	Existing/ Baseline (2018)	Mid-Project (2027)	Proposed Project (2037)	Existing/ Baseline (2018)	Mid-Project (2027)	Proposed Project (2037)
Swissport	1	Vertical	existing	630,000	36,735,978	38,969,923	27,134,674	18	18	18	116	118	109
	2	Vertical	existing	630,000	36,735,978	38,969,923	27,134,674	18	18	18	116	118	109
	3	Vertical	existing	630,000	36,735,978	38,969,923	27,134,674	18	18	18	116	118	109
	4	Vertical	new	666,667	0	0	28,713,941	0	0	19	0	0	115
	5	Vertical	new	666,667	0	0	28,713,941	0	0	19	0	0	115
	6	Vertical	new	666,667	0	0	28,713,941	0	0	19	0	0	115
Atlantic	1	Horizontal	existing	20,000	1,458,153	1,304,833	1,763,631	2.5E-04	2.5E-04	2.5E-04	3.9	3.8	4.1
	2	Horizontal	existing	20,000	1,458,153	1,304,833	1,763,631	2.5E-04	2.5E-04	2.5E-04	3.9	3.8	4.1
	3	Horizontal	existing	20,000	1,458,153	1,304,833	1,763,631	2.5E-04	2.5E-04	2.5E-04	3.9	3.8	4.1
	4	Horizontal	existing	20,000	1,458,153	1,304,833	1,763,631	2.5E-04	2.5E-04	2.5E-04	3.9	3.8	4.1
Avbase	1	Horizontal	existing	20,000	1,458,153	1,304,833	1,763,631	2.5E-04	2.5E-04	2.5E-04	3.9	3.8	4.1
Signature	1	Horizontal	existing	20,000	1,458,153	1,304,833	1,763,631	2.5E-04	2.5E-04	2.5E-04	3.9	3.8	4.1
	2	Horizontal	existing	20,000	1,458,153	1,304,833	1,763,631	2.5E-04	2.5E-04	2.5E-04	3.9	3.8	4.1
	3	Horizontal	existing	20,000	1,458,153	1,304,833	1,763,631	2.5E-04	2.5E-04	2.5E-04	3.9	3.8	4.1
Total					**121,873,160**	**127,348,433**	**181,654,892**	**55**	**55**	**113**	**379**	**384**	**704**

Notes:

[1] Capacities for Project (new) tanks are based on evenly distributing the new 2,000,000 gal capacity over the 3 tanks to be built.

[2] Total throughput for 2018 reflects actual fuel consumption at SJC, and is allocated to each tank based on the existing tank capacities. Throughput for 2037 is scaled from 2018 throughput by the ratio of 2037 to 2018 passengers per year for commercial jet fuel (Swissport tanks), while 2037 throughput for general aviation jet fuel (Atlantic, Avbase and Signature tanks) is estimated by multiplying 2018 throughput by the ratio of 2037 to 2018 business jet flight activities.

[3] Emission calculations based on U.S. EPA AP-42 Chapter 7.1 Organic Liquid Storage Tanks. For vertical tanks, an assumed average liquid height of 50% full is used to determine vapor space. The vapor pressure - temperature correlation for JetA is obtained from Table 7.1-2 of U.S. EPA AP-42 for Jet Kerosene. The liquid molecular weight of jetA, 162 g/mol, is obtained from TANKS 4.0.9d. Available at: http://www.epa.gov/ttn/chief/ap42/ch07/final/c07s01.pdf Accessed April 2019.

[4] For jet fuel tanks, control efficiencies of 85% are assumed for working and breathing losses based on CARB's areawide source methodologies. Available at: https://www.arb.ca.gov/ei/areasrc/ccosmeth/att_h_petroleum_marketing.doc. Accessed: May 2019.

Abbreviations:

gal - gallon
JetA - Jet A-1 fuel
lb - pound
U.S. EPA - United States Environmental Protection Agency
VOC - volatile organic compound
yr - year

Table 3.2-27. Aviation Gasoline (AvGas) Tanks - Fugitive VOC Emissions
Mineta San Jose International Airport
San Jose, California

Scenario	Annual Fuel Consumption (gallons)[1]	Aviation Gas Tank VOC Emissions [2, 3] (lb/yr)					
		Loading[4]	Breathing[4]	Refueling[5]	Hose Permeation[4]	Spillage[4]	Total
Emission Factor (lb/1000gal)	--	*0.39*	*0.21*	*0.18*	*0.01*	*0.24*	
Existing/Baseline (2018)	69,744	27	15	12	0.63	17	**71**
Mid-Project (2027)	28,165	11	5.9	4.9	0.25	6.8	**29**
Proposed Project (2037)	29,692	11	6.2	5.2	0.27	7.1	**30**

Notes:

[1] There are two aviation gasoline tanks at SJC, one operated by Atlantic Aviation and another by Signature Flight Services, each with a capacity of 15,000 gallons. Throughput for 2018 reflects actual fuel consumption at SJC. Throughput for 2037 is scaled from 2018 throughput by the ratio of 2037 to 2018 general aviation and helicopter flights.

[2] Guidance from San Diego County indicates that aviation gasoline should be treated as gasoline when estimating tank fugitive emissions unless site specific information indicates otherwise:
https://www.sandiegocounty.gov/content/dam/sdc/apcd/PDF/Toxics_Program/APCD_gasdisp1.pdf Accessed: April 2019.

[3] Emission factors represent VOC as well as total organic emissions, because methane and ethane constitute a negligible fraction of gasoline evaporative emissions (for all products other than crude oil) - AP-42 Section 5.2:
https://www3.epa.gov/ttn/chief/ap42/ch05/final/c05s02.pdf Accessed: April 2019.

[4] Emission factor based on CARB Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities. Available at: https://www.arb.ca.gov/vapor/gdf-emisfactor/gdf%20umbrella%20document%20-%2020%20nov%202013.pdf. Accessed: January 2019.

[5] Emission factor based on CAPCOA Gasoline Service Station Risk Assessment Guidelines. Available at:
https://www.arb.ca.gov/ab2588/rrap-iwra/GasIWRA.pdf. Accessed: January 2019.

Abbreviations:
CARB - California Air Resources Board
CAPCOA - California Air Pollution Control Officers Association
gal - gallon
lb - pound
SCAQMD - South Coast Air Quality Management District
VOC - volatile organic compound
yr - year

Table 3.2-28. Gasoline Dispensing Facility - Fugitive VOC Emissions
Mineta San Jose International Airport
San Jose, California

Year	Annual Fuel Throughput (gal/yr)[1]	Controlled Unleaded Gasoline Tank VOC Emissions (lb/yr)[2, 3]
Existing/Baseline (2018)	31,792	34
Mid-Project (2027)	33,725	36
Proposed Project (2037)	48,333	51

Notes:

[1] The gasoline dispensing station is operated by the Airport Department, and has a 10,000-gallon horizontal unleaded gasoline storage tank. Throughput for 2018 reflects actual fuel consumption at SJC. Throughput for 2037 is scaled from 2018 throughput by the ratio of 2037 to 2018 passengers per year.

[2] Emission calculations based on BAAQMD Permit Handbook Section 3.2 Gasoline Dispensing Facilities, available at: http://www.baaqmd.gov/~/media/files/engineering/permit-handbook/baaqmd-permit-handbook.pdf?la=en Accessed: April 2019.

[3] Control efficiency of 95% assumed, based on Phase II recovery system efficiency used in BAAQMD Permit Handbook Section 3.2 Gasoline Dispensing Facilities, available at: http://www.baaqmd.gov/~/media/files/engineering/permit-handbook/baaqmd-permit-handbook.pdf?la=en Accessed: April 2019.

Abbreviations:

BAAQMD - Bay Area Air Quality Management District

gal - gallon

lb - pound

VOC - volatile organic compound

yr - year

Table 3.2-29. Toxic Air Contaminants Speciation Profile for Jet Fuel and Avgas Tank and Gas Dispensing Facility
Mineta San Jose International Airport
San Jose, California

Fuel	Criteria Air Pollutant	Speciation Profile	Speciated Toxic Air Contaminant	CAS	Weight Fraction[4]	Toxicity Factor Available [5]
Gasoline	VOC	BAAQMD - Gasoline Dispensing Facilities[1]	Benzene	71432	0.05	Yes
Gasoline			Toluene	108883	0.35	Yes
Gasoline			Xylenes	1330207	0.25	Yes
Gasoline			nHexane	110543	0.08	Yes
Gasoline			Naphthalene	91203	0.011	Yes
Gasoline			Styrene	100425	0.04	Yes
Jet Fuel		SCAQMD Liquid Organic Storage (Jet Kerosene)[2]	Hexane	110543	0.01	Yes
Jet Fuel			Benzene	71432	0	Yes
Jet Fuel			Toluene	108883	0.13	Yes
Jet Fuel			Ethylbenzene	100414	0.13	Yes
Jet Fuel			Xylenes	1330207	0.31	Yes
Avgas		SCAQMD Liquid Organic Storage (Gasoline)[3]	Hexane	110543	0.01	Yes
Avgas			Benzene	71432	0.018	Yes
Avgas			Isooctane	26635643	0.04	No
Avgas			Toluene	108883	0.07	Yes
Avgas			Ethylbenzene	100414	0.014	Yes
Avgas			Xylenes	1330207	0.07	Yes
Avgas			Isopropyl benzene	98828	0.005	No
Avgas			1,2,4-Trimethylbenzene	95636	0.025	No
Avgas			Cyclohexane	110827	0.0024	No

Notes:

[1] Based on gasoline speciation data from BAAQMD Permit Handbook Section 3.2 Gasoline Dispensing Facilities, available at: http://www.baaqmd.gov/~/media/files/engineering/permit-handbook/baaqmd-permit-handbook.pdf?la=en Accessed: April 2019.

[2] Based on jet kerosene speciation data from SCAQMD's Supplemental Instructions for Liquid Organic Storage, available at: http://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/supplemental-instructions-for-liquid-organic-storage-tanks.pdf. Note that California Air Resources Board speciation data for jet kerosene shows no present toxic air contaminants, as defined by Title 17, CCR, § 93000. Substances Identified As Toxic Air Contaminants, available at: https://www.arb.ca.gov/toxics/id/taclist.htm; SCAQMD data used to be conservative. Accessed April 2019.

[3] Based on gasoline speciation data from SCAQMD Supplemental Instructions for Liquid Organic Storage Tanks (2017). Available at: http://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/supplemental-instructions-for-liquid-organic-storage-tanks.pdf Accessed April 2019.

[4] Represents TAC weight fraction of the criteria air pollutant (VOC).

[5] TACs with available toxicity factors summarized in Table 3.3-9 are included in the HRA.

Abbreviations:

CAS - chemical abstract service

CARB - California Air Resource Board

HRA - Health Risk Assessment

SCAQMD - South Coast Air Quality Management District

TAC - Toxic Air Contaminant

VOC - volatile organic compounds

Table 3.2-30. VOC Emissions from Consumer Product Usage
Mineta San Jose International Airport
San Jose, California

Construction Project ID	Floor Area (square feet)	Project Type	Consumer Products VOC EF[1] (lb/sq ft/day)	Days per Year	Consumer Products VOC emissions (lb/year)
T-4	2,500,000	Parking Structure	3.5E-07	365	323
T-8 (part)	2,335,000	Parking Structure	3.5E-07	365	302
T-13 (gates 29-40)	375,000	Airport Facility	1.6E-05	365	2,217
T-13 (gates 41-42)	375,000	Airport Facility	1.6E-05	365	2,217
T-16	150,000	Building Structure *(hotel)*	1.6E-05	365	887
T-16	150,000	Parking Structure	3.5E-07	365	19
C-2	35,000	Airport Facility	1.6E-05	365	207
C-3	35,000	Airport Facility	1.6E-05	365	207
G-5 (part)	50,000	Airport Facility	1.6E-05	365	296
G-8 (part)	150,000	Airport Facility	1.6E-05	365	887
G-9	496,300	Airport Facility	1.6E-05	365	2,935
S-1 (part)	4,800	Airport Facility	1.6E-05	365	28
S-4, S-5, and S-6	125,000	Airport Facility	1.6E-05	365	739
		Total VOC Emissions - Project (ton/yr)			**5.6**

Notes:
[1] The consumer products VOC EF for airport facilties and building structure was derived using methodology consistent with CalEEMod® but with updated statewide parameters. The CalEEMod® default emissions factor assumes 2008 statewide VOC inventory and building square footage. An updated VOC inventory for 2017 was taken from the ARB and 2017 population estimates based on the State of California's Department of Finance demographic projections were used to estimate a statewide VOC EF for 2017.

The EFs for the parking land uses were taken as default values from the CalEEMod® User's Guide.

Abbreviations:
CalEEMod® - California Emissions Estimator Model
EF - emission factor
g - grams
L - liters
lb - pound
VOC - volatile organic compound

Table 3.2-31. VOC Emissions from Operational Architectural Coating
Mineta San Jose International Airport
San Jose, California

Coating Category	Interior	Exterior
VOC Content (g/L)[1]	100	150
Emission Factor (lb/ft^2)[2]	0.0046	0.0069

Land Use	Fraction of Surface Area Painted[2] (%)		Paint Reapplication Rate[3]	Painted Area Multiplier[2]
Non-Residential	75%	25%	10%	2
Parking	0%	6%		--

Construction Project ID	Floor Area (square feet)	Project Type	Painted Areas (square feet)		ROG Emissions (ton/year)
			Interior	Exterior	
T-4	2,500,000	Parking Structure	0	150,000	0.052
T-8 (part)	2,335,000	Parking Structure	0	140,100	0.049
T-13 (gates 29-40)	375,000	Airport Facility	562,500	187,500	0.20
T-13 (gates 41-42)	375,000	Airport Facility	562,500	187,500	0.20
T-16	150,000	Building Structure (hotel)	225,000	75,000	0.078
T-16	150,000	Parking Structure	0	9,000	0.0031
C-2	35,000	Airport Facility	52,500	17,500	0.018
C-3	35,000	Airport Facility	52,500	17,500	0.018
G-5 (part)	50,000	Airport Facility	75,000	25,000	0.026
G-8 (part)	150,000	Airport Facility	225,000	75,000	0.078
G-9	496,300	Airport Facility	744,450	248,150	0.26
S-1 (part)	4,800	Airport Facility	7,200	2,400	0.0025
S-4, S-5, and S-6	125,000	Airport Facility	187,500	62,500	0.065
				Total	**1.0**

Notes:

1. VOC content of paint is assumed to be consistent with BAAQMD Regulation 8, Rule 3. ROG and VOC can be used interchangeably for CEQA analysis.
2. CalEEMod default architectural coating emissions parameters and equations were used to calculate architectural coating VOC emissions.
3. Consistent with CalEEMod®, 10% of all surfaces are assumed to be coated each year.

Abbreviations:

BAAQMD - Bay Area Air Quality Management District
CalEEMod® - California Emissions Estimator MODel
CEQA - California Environmental Quality Act
g - gram
gal - gallons
L - liters
lb - pounds
ROG - reactive organic gas
ft^2 - square feet
VOC - volatile organic compound

Table 3.2-32. Criteria Air Pollutant Emissions from Hotel
Mineta San Jose International Airport
San Jose, California

Source[1]	VOC	NO_x	PM_{10} Exh	PM_{10} Fug	$PM_{2.5}$ Exh	$PM_{2.5}$ Fug
	(tons/yr)					
Area	0.68	0.00	0.00	0.00	0.00	0.00
Energy	0.04	0.33	0.02	0.00	0.02	0.00
Mobile	0.30	1.45	0.01	1.83	0.01	0.49
Total	**1.01**	**1.78**	**0.03**	**1.83**	**0.03**	**0.49**

Notes:

[1] Criteria air pollutant for emissions sources calculated using CalEEMod® version 2016.3.2, for the operations of hotel land use in 2037. Mobile emissions are specific to this land use only and are separate from mobile emissions associated with Airport related trips in Table 3.2-14.

Abbreviations:

Exh - exhaust
Fug - fugitive
NO_X - oxides of nitrogen
PM_{10} - particulate matter equal to or less than 10 microns in diameter
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
VOC - volatile organic compounds

Table 3.3-1a. Modeled Source Groups (Existing/Baseline Scenario)
Mineta San Jose International Airport
San Jose, California

Source Category	Modeled Source Group[1]	Aircraft Category[2]	Location	Emission Activities
Aircraft Taxi Emissions	TAXIW	GA Props, Business Jets, 50% Military	Existing west side taxiway segments	Taxi in and taxi out for all aircraft
	TAXIE	Commercial, Commuter, 50% Military	Existing east side taxiway segments	
Aircraft Terminal/Ramps	COMRAMP	GA Props, Business Jets, 50% Military	Commercial Terminals and Ramps (East Side)	Aircraft startup, GSE, APU use
	GARAMP	Commercial, Commuter, 50% Military	GA Terminals and Ramps (West Side)	
Gasoline Dispensing Facility	GASDSP	-	Gasoline Dispensing Facility	Gasoline dispensing evaporative emissions
SJC-owned Off-Road Equipment	AIRSIDE	-	Airside	Off-Road vehicles
Fuel Tanks	SW1	-	Swissport #1	Evaporative fugitive emissions
	SW2	-	Swissport #2	
	SW3	-	Swissport #3	
	SG1	-	Signature #1	
	SG2	-	Signature #2	
	SG3	-	Signature #3	
	SG4	-	Signature #4	
	AT1	-	Atlantic #1	
	AT2	-	Atlantic #2	
	AT3	-	Atlantic #3	
	AT4	-	Atlantic #4	
	AT5	-	Atlantic #5	
	AV1	-	Avbase #1	
Boilers	S28	-	Industrial Boiler S#28	Natural gas combustion
	S29	-	Industrial Boiler S#29	
	S30	-	Industrial Boiler S#30	
Runways	RA	All	Runway 30R-12L	All landing and takeoff ground roll
	RB	All	Runway 30L-12R	All landing and takeoff ground roll
Arrival Flights	CL01B	All	Track L1	All aircraft below 1000 ft
	CL03B	All	Track L3	
	CL06B	All	Track L6	
	CL10B	All	Track L10	
	CL01A	All	Track L1	All aircraft between 1000 ft and mixing height
	CL03A	All	Track L3	
	CL06A	All	Track L6	
	CL10A	All	Track L10	

Table 3.3-1a. Modeled Source Groups (Existing/Baseline Scenario)
Mineta San Jose International Airport
San Jose, California

Source Category	Modeled Source Group[1]	Aircraft Category[2]	Location	Emission Activities
Departure Flights	CT04B	Commercial	Track T04	Commercial aircraft below 1000 ft
	CT18B	Commercial	Track T18	
	CT23B	Commercial	Track T23	
	CT27B	Commercial	Track T27	
	CT04A	Commercial	Track T04	Commercial aircraft between 1000 ft and mixing height
	CT18A	Commercial	Track T18	
	CT23A	Commercial	Track T23	
	CT27A	Commercial	Track T27	
	BT04B	Business	Track T04	Business aircraft below 1000 ft
	BT14B	Business	Track T14	
	BT23B	Business	Track T23	
	BT27B	Business	Track T27	
	BT04A	Business	Track T04	Business aircraft between 1000 ft and mixing height
	BT14A	Business	Track T14	
	BT23A	Business	Track T23	
	BT27A	Business	Track T27	
	UT09B	Commuter	Track T09	Commuter props below 1000 ft
	UT20B	Commuter	Track T20	
	UT23B	Commuter	Track T23	
	UT27B	Commuter	Track T27	
	UT09A	Commuter	Track T09	Commuter props between 1000 ft and mixing height
	UT20A	Commuter	Track T20	
	UT23A	Commuter	Track T23	
	UT27A	Commuter	Track T27	
Departure Flights	GT21B	GA Props	Track T21	GA props below 1000 ft
	GT23B	GA Props	Track T23	
	GT21A	GA Props	Track T21	GA props between 1000 ft and mixing height
	GT23A	GA Props	Track T23	
	MT35B	Military	Track T35	Military below 1000 ft
	MT35A	Military	Track T35	Military between 1000 ft and mixing height

Notes:
[1] Modeled source group used in AERMOD.
[2] "-" refers to non-aircraft sources such as off-road equipment, and other stationary sources (boilers, fuel tanks).

Abbreviations:
APU - Auxiliary Power Unit
ft - feet
GSE - Ground Support Equipment
GA - General Aviation

Table 3.3-1b. Modeled Source Groups (Proposed Project Scenario)
Mineta San Jose International Airport
San Jose, California

Source Category	Modeled Source Group[1]	Aircraft Category[2]	Location	Emission Activities
Aircraft Taxi Emissions	TAXIWF	GA Props, Business Jets, 50% Military	Future taxiway segments	Taxi in and taxi out for all aircraft
	TAXIEF	Commercial, Commuter, 50% Military	Future taxiway segments	
Aircraft Terminal/Ramps	COMRAMPF	GA Props, Business Jets, 50% Military	Future Commercial Terminals and Ramps	Aircraft startup, GSE, APU use
	GARAMPF	Commercial, Commuter, 50% Military	Future GA Terminals and Ramps	
Gasoline Dispensing Facility	GASDSP	-	Gasoline Dispensing Facility	Gasoline dispensing evaporative emissions
SJC-owned Off-Road Equipment	AIRSIDE	-	SJC Airport	Off-Road vehicles
Fuel Tanks	SW1	-	Swissport #1	Evaporative fugitive emissions
	SW2	-	Swissport #2	
	SW3	-	Swissport #3	
	SG1	-	Signature #1	
	SG2	-	Signature #2	
	SG3	-	Signature #3	
	SG4	-	Signature #4	
	AT1	-	Atlantic #1	
	AT2	-	Atlantic #2	
	AT3	-	Atlantic #3	
	AT4	-	Atlantic #4	
	AT5	-	Atlantic #5	
	AV1	-	Avbase #1	
	FUT1	-	Swissport #4	
	FUT2	-	Swissport #5	
	FUT3	-	Swissport #6	
Boilers	S28	-	Industrial Boiler S#28	Natural gas combustion
	S29	-	Industrial Boiler S#29	
	S30	-	Industrial Boiler S#30	
Runways	FRA	All	Runway 30R-12L	All landing and takeoff ground roll
	FRB	All	Runway 30L-12R	All landing and takeoff ground roll
Arrival Flights	FCL01B	Commercial	Track L1	All aircraft below 1000 ft
	FCL03B	Commercial	Track L3	
	FCL06B	Commercial	Track L6	
	FCL10B	Commercial	Track L10	
	FCL01A	Commercial	Track L1	All aircraft between 1000 ft and mixing height
	FCL03A	Commercial	Track L3	
	FCL06A	Commercial	Track L6	
	FCL10A	Commercial	Track L10	

Table 3.3-1b. Modeled Source Groups (Proposed Project Scenario)
Mineta San Jose International Airport
San Jose, California

Source Category	Modeled Source Group[1]	Aircraft Category[2]	Location	Emission Activities
Departure Flights	FCT04B	Commercial	Track T04	Commercial aircraft below 1000 ft
	FCT18B	Commercial	Track T18	
	FCT23B	Commercial	Track T23	
	FCT27B	Commercial	Track T27	
	FCT04A	Commercial	Track T04	Commercial aircraft between 1000 ft and mixing height
	FCT18A	Commercial	Track T18	
	FCT23A	Commercial	Track T23	
	FCT27A	Commercial	Track T27	
	FBT04B	Business	Track T04	Business aircraft below 1000 ft
	FBT14B	Business	Track T14	
	FBT23B	Business	Track T23	
	FBT27B	Business	Track T27	
	FBT04A	Business	Track T04	Business aircraft between 1000 ft and mixing height
	FBT14A	Business	Track T14	
	FBT23A	Business	Track T23	
	FBT27A	Business	Track T27	
	FUT09B	Commuter	Track T09	Commuter props below 1000 ft
	FUT20B	Commuter	Track T20	
	FUT23B	Commuter	Track T23	
	FUT27B	Commuter	Track T27	
	FUT09A	Commuter	Track T09	Commuter props between 1000 ft and mixing height
	FUT20A	Commuter	Track T20	
	FUT23A	Commuter	Track T23	
	FUT27A	Commuter	Track T27	
	FGT21B	GA Props	Track T21	GA props below 1000 ft
	FGT23B	GA Props	Track T23	
	FGT21A	GA Props	Track T21	GA props between 1000 ft and mixing height
	FGT23A	GA Props	Track T23	
	FMT35B	Military	Track T35	Military below 1000 ft
	FMT35A	Military	Track T35	Military between 1000 ft and mixing height

Notes:

[1] Modeled source group used in AERMOD.

[2] "-" refers to non-aircraft sources such as off-road equipment, and other stationary sources (boilers, fuel tanks).

Abbreviations:

APU - Auxiliary Power Unit

ft - feet

GSE - Ground Support Equipment

GA - General Aviation

Table 3.3-2. AERMOD Source Parameters for Point Sources
Mineta San Jose International Airport
San Jose, California

Emission Source	Stack Height (m)	Exhaust Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
Central Plant Boilers[1]	3.66	739.8	45.3	1.9

Notes:

[1] In the absence of the specific source parameters for the SJC boilers, default source parameters for prime generators based on the San Francisco Community Risk Reduction Plan were used in the modeling.

Abbreviations:

K - Kelvin

m - meters

m/s - meters per second

Table 3.3-3. AERMOD Source Parameters for Area Sources
Mineta San Jose International Airport
San Jose, California

Emission Source	Mode	Location	Release Height (m)	Initial Vertical Dimension (m)	Source Width[4] (m)	Source Length[4] (m)
GA APU, GSE and engine startup[1]		GA Aprons and Hangars	1.5	3	--	--
Commercial APU, GSE and engine startup[1]		Commercial Gates and Aprons	1.5	3	--	--
GA, Business and Military Taxi In/Out[2]		West Taxiways	12	4.1	20	Based on taxiway path
Commercial, Commuter and Military Taxi In/Out[2]		East Taxiways	12	4.1	20	
Commercial Jets, Business Jets, Commuter Aircraft, GA Props, Military Aircraft[2]	Approach	Mixing height to 1,000 ft	621.6	4.1	20	200
		1,000 ft to Runway	Varies with Location			391.7
	Takeoff/Climb Out	Runway to 1,000 ft	Varies with Location			81.1 (commercial) 166.1 (business jets) 80 (commuter props) 143.3 (GA props) 180.8 (military)
		1,000 ft to Mixing height	621.6			200
All Aircraft[2]	Landing Ground Roll	Runway	12	4.1	20	20
	Takeoff Ground Roll	Runway				20
Airside vehicles[3]		Airside area	1.5	3	--	--

Notes:

[1] APU and GSE equipment and startup activities are "areapoly" sources located on the areas covering the aprons and hangars. Engine startup is calculated in AEDT for commercial and business jet departure activities only, and are allocated to apron and hangar areas based on AEDT modeling guidance. APU and GSE release height and initial vertical dimension based on LAX Air Quality and Source Apportionment Study. Volume 2. Phase III. Available at: https://www.lawa.org/-/media/lawa-web/environment/files/vol-2---lax-aqsas-2014-03-11s.ashx?la=en&hash=64E3AFD29F56BB75744405E6F40192BAC261FDB0.

[2] Release height, initial vertical dimension, and source width for aircraft emission sources (i.e., taxiways, flight paths) are based on the defaults from the AEDT Technical Manual. Available at: https://aedt.faa.gov/documents/aedt2d_techmanual.pdf.

[3] Modeling parameters for airside vehicles is assumed to be the same as GSEs.

[4] Based on AEDT Technical Manual and the AEDT vertical profiles for each aircraft type; only applicable for those modeled as line area sources.

Abbreviations:

AEDT - Aviation Environmental Design Tool
APU - Auxiliary Power Unit
ft - feet
GA - General Aviation
GSE - Ground Support Equipment
LAX - Los Angeles International Airport
m - meters

Table 3.3-4. AERMOD Source Parameters for Volume Sources
Mineta San Jose International Airport
San Jose, California

Emission Source	Release Height (m)	Initial Lateral Dimension (m)	Initial Vertical Dimension (m)
Jet Fuel Storage Tanks[1]	5	1	1
Aviation Gasoline Storage Tanks[1]	5	1	1
Airport Construction Projects[2]	5	Length divided by 4.3[6]	1.4
Gasoline Dispensing Facility[3]	1.03	1.98	1.0

Notes:

[1] Source parameters are based on AEDT default values for jet fuel storage tank dispersion parameters.

[2] Construction sources were represented as adjacent volume sources with dimensions of 10m x 10m following the configuration recommended in the SCAQMD LST Methodology, available at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf). Initial lateral dimension was calculated as volume source length of side (10 m) divided by 4.3 following the AERMOD User's Guide, available at: https://www3.epa.gov/scram001/7thconf/aermod/aermodugb.pdf.

[3] Release height and initial lateral dimension are based on the San Francisco Community Risk Reduction Plan defaults for gasoline dispensing facility. Initial lateral dimension was calculated following the AERMOD User's Guide.

Abbreviations:

AEDT - Aviation Environmental Design Tool

AERMOD - The American Meteorological Society/USEPA Regulatory Model

m - meters

SCAQMD - South Coast Air Quality Management District

Table 3.3-5. Hourly Operational Profiles for Modeled Sources
Mineta San Jose International Airport
San Jose, California

Year	Source Category[1]	Percent of Activity in Time Period[2]			Temporal Factors in AERMOD[3]		
		Daytime (7 am - 7 pm)	Evening (7 pm - 10 pm)	Nighttime (10 pm - 7 am)	Daytime (7 am - 7 pm)	Evening (7 pm - 10 pm)	Nighttime (10 pm - 7 am)
Existing/ Baseline	Aircraft Taxi in/out Taxiways - East	74%	18%	8%	1.473	1.460	0.216
	Aircraft Taxi in/out Taxiways - West	74%	18%	8%	1.473	1.460	0.216
	APU, GSE, Startup Terminal Ramps (Commercial, Commuter, Military Aircraft)	74%	18%	8%	1.473	1.460	0.216
	APU, GSE, Startup Terminal Ramps (Business, GA Props, Military Aircraft)	74%	18%	8%	1.473	1.460	0.216
	Aircraft Runway	74%	18%	8%	1.473	1.460	0.216
	Aircraft Arrival	72%	21%	7%	1.434	1.710	0.184
	Aircraft Departure	76%	15%	9%	1.512	1.210	0.247
Proposed Project	Aircraft Taxi in/out Taxiways - East	66%	14%	19%	1.325	1.144	0.519
	Aircraft Taxi in/out Taxiways - West	84%	10%	6%	1.677	0.777	0.172
	APU, GSE, Startup Terminal Ramps (Commercial, Commuter, Military Aircraft)	66%	14%	19%	1.325	1.144	0.519
	APU, GSE, Startup Terminal Ramps (Business, GA Props, Military Aircraft)	84%	10%	6%	1.677	0.777	0.172
	Aircraft Runway	70%	13%	17%	1.397	1.068	0.448
	Aircraft Arrival	68%	18%	14%	1.360	1.409	0.384
	Departure - Commercial	67%	9%	24%	1.348	0.694	0.638
	Departure- Commuter	75%	15%	10%	1.500	1.205	0.266
	Departure- Business	85%	8%	7%	1.698	0.617	0.196
	Departure - GA Props	86%	9%	5%	1.729	0.688	0.132
	Departure - Military	100%	0%	0%	2.000	0.000	0.000

Notes:

[1] Included only source categories with temporal variation of the emissions. Emissions for other sources are assumed to be 24 hours/day, 365 days/year.
[2] Based on the average daily operations of aircraft type in source category.
[3] Temporal factors were used in the AERMOD to temporally allocate emissions over hours of a day.

Abbreviations:
APU - Auxiliary Power Unit
GSE - Ground Support Equipment
GA - General Aviation

Table 3.3-6. Summary of Modeled Toxic Air Contaminant Emission Rates for 2018
Mineta San Jose International Airport
San Jose, California

Pollutant	CAS	Emission Rates in Gram per Second by Source Category								
		Airside Off-Road[1]	Aircraft - Arrivals[2]	Boilers	Aircraft - Depratures[2]	Gasoline Dispensing Facility	Aircraft - Runway[3]	Fuel Tanks	Aircraft - Taxiways[4]	Aircraft Startup, APU, GSE Terminals/Ramps[5]
1,3-Butadiene	106990	4.62E-05	8.21E-03	-	4.02E-04	-	8.68E-04	-	3.63E-02	1.43E-02
Acetaldehyde	75070	1.20E-05	2.09E-02	-	1.08E-03	-	2.21E-03	-	9.22E-02	3.29E-02
Acrolein (2-propenal)	107028		1.18E-02	-	5.43E-04	-	1.26E-03	-	5.25E-02	1.86E-02
Benzene	71432	2.09E-04	8.25E-03	5.86E-07	4.41E-04	2.42E-05	8.70E-04	1.84E-05	3.63E-02	1.95E-02
Copper	7440508		1.43E-04	-	1.92E-05	-	4.55E-05	-	8.45E-05	1.32E-04
DPM	9901	8.06E-04	-	-	-	-	-	-	-	1.25E-02
Ethylbenzene	100414	7.01E-05	8.43E-04	-	3.92E-05	-	8.93E-05	8.27E-04	3.73E-03	3.58E-03
Formaldehyde	50000	4.58E-05	6.08E-02	2.09E-05	3.42E-03	-	6.39E-03	-	2.67E-01	9.52E-02
Insolchlorine	7782505		4.76E-05	-	6.38E-06	-	1.51E-05	-	2.82E-05	4.40E-05
Lead	7439921		1.57E-03	-	8.33E-04	-	1.03E-04	-	7.62E-04	-
Manganese	7439965		1.21E-05	-	1.62E-06	-	3.86E-06	-	7.17E-06	1.12E-05
Methanol	67561	5.78E-06	8.25E-03	-	1.24E-04	-	8.92E-04	-	3.76E-02	1.39E-02
Methyl Ethyl Ketone (2-Butanone)	78933	2.48E-06	-	-	-	-	-	-	-	7.97E-05
m-Xylene	108383	1.24E-04	-	-	-	-	-	-	-	3.99E-03
Naphthalene	91203	3.30E-06	2.63E-03	-	1.30E-04	5.33E-06	2.79E-04	-	1.16E-02	4.22E-03
n-Hexane	110543	4.58E-05	-	-	-	3.88E-05	-	7.27E-05	-	1.47E-03
Nickel	7440020		2.43E-05	-	3.26E-06	-	7.74E-06	-	1.44E-05	2.25E-05
o-Xylene	95476	9.90E-05	8.16E-04	-	4.42E-05	-	8.60E-05	-	3.59E-03	4.45E-03
Phenol (carbolic acid)	108952		3.39E-03	-	8.99E-05	-	3.64E-04	-	1.53E-02	5.53E-03
Propylene	115071	1.37E-04	2.22E-02	-	1.15E-03	-	2.34E-03	-	9.78E-02	3.89E-02
p-Xylene	106423	8.29E-05	-	-	-	-	-	-	-	2.67E-03
Styrene	100425	8.25E-06	1.53E-03	-	8.85E-05	1.94E-05	1.61E-04	-	6.71E-03	2.62E-03
Sulfate	9960		1.52E-02	-	2.04E-03	-	4.85E-03	-	9.01E-03	1.41E-02
Toluene	108883	3.22E-04	3.09E-03	9.48E-07	1.33E-04	1.70E-04	3.28E-04	8.84E-04	1.37E-02	1.52E-02
Xylenes	1330207	-	1.37E-03	-	6.67E-05	1.21E-04	1.45E-04	2.01E-03	6.06E-03	2.15E-03

Notes:

[1] Includes emissions from airside off-road equipment.

[2] Includes aircraft airborne emissions below the mixing height (i.e., 3,000 ft) for the arrival and departure flights.

[3] Includes aircraft landing and take off ground roll emissions on the runways.

[4] Includes aircraft taxi in/out emissions.

[5] Includes aircraft engine startup, APU, and GSE emissions at terminal gates, aprons, and hangars.

Abbreviations:

APU - auxiliary power unit
CAS - chemical abstract service
GSE - Ground Support Equipment

Table 3.3-7 Summary of Modeled Toxic Air Contaminant Emission Rates for 2037
Mineta San Jose International Airport
San Jose, California

Pollutant	CAS	Emission Rates in Gram per Second by Source Category								
		Airside Off-Road[1]	Aircraft - Arrivals[2]	Boilers	Aircraft - Depratures[2]	Gasoline Dispensing Facility	Aircraft - Runway[3]	Fuel Tanks	Aircraft - Taxiways[4]	Aircraft Startup, APU, GSE Terminals/Ramps[5]
1,3-Butadiene	106990	6.32E-05	8.41E-03	-	1.87E-04		8.66E-04		3.08E-02	2.07E-02
Acetaldehyde	75070	1.64E-05	2.14E-02	-	4.97E-04		2.20E-03		7.81E-02	4.97E-02
Acrolein (2-propenal)	107028		1.22E-02	-	2.57E-04		1.26E-03		4.46E-02	2.83E-02
Benzene	71432	2.86E-04	8.41E-03	8.90E-07	2.02E-04	3.68E-05	8.65E-04	7.83E-06	3.07E-02	2.48E-02
Copper	7440508		2.71E-04	-	1.69E-05		6.27E-05		1.27E-04	1.98E-04
DPM	9901	4.06E-04		-						4.76E-03
Ethylbenzene	100414	9.60E-05	8.66E-04	-	1.85E-05		8.92E-05	1.53E-03	3.17E-03	3.81E-03
Formaldehyde	50000	6.27E-05	6.17E-02	3.18E-05	1.54E-03		6.34E-03		2.25E-01	1.43E-01
Insolchlorine	7782505		9.05E-05	-	5.63E-06		2.09E-05		4.23E-05	6.61E-05
Lead	7439921		6.05E-04	-	3.37E-04		3.89E-05		3.21E-04	
Manganese	7439965		2.30E-05	-	1.43E-06		5.32E-06		1.08E-05	1.68E-05
Methanol	67561	7.90E-06	8.79E-03	-	8.94E-05		9.14E-04		3.24E-02	2.10E-02
Methyl Ethyl Ketone (2-Butanone)	78933	3.39E-06		-						6.36E-05
m-Xylene	108383	1.69E-04		-						3.18E-03
Naphthalene	91203	4.52E-06	2.70E-03	-	6.05E-05	8.11E-06	2.78E-04		9.88E-03	6.34E-03
n-Hexane	110543	6.27E-05		-		5.90E-05		1.22E-04		1.18E-03
Nickel	7440020		4.62E-05	-	2.87E-06		1.07E-05		2.16E-05	3.38E-05
o-Xylene	95476	1.36E-04	8.31E-04	-	2.01E-05		8.54E-05		3.04E-03	4.46E-03
Phenol (carbolic acid)	108952		3.56E-03	-	5.05E-05		3.69E-04		1.31E-02	8.39E-03
Propylene	115071	1.88E-04	2.27E-02	-	5.28E-04		2.33E-03		8.29E-02	5.59E-02
p-Xylene	106423	1.13E-04		-						2.13E-03
Styrene	100425	1.13E-05	1.55E-03	-	3.98E-05	2.95E-05	1.59E-04		5.66E-03	3.78E-03
Sulfate	9960		2.89E-02	-	1.80E-03		6.68E-03		1.35E-02	2.12E-02
Toluene	108883	4.40E-04	3.19E-03	1.44E-06	6.42E-05	2.58E-04	3.29E-04	1.56E-03	1.17E-02	1.57E-02
Xylenes	1330207		1.41E-03	-	3.11E-05	1.84E-04	1.45E-04	3.67E-03	5.15E-03	3.26E-03

Notes:

[1] Includes emissions from airside off-road equipment.

[2] Includes aircraft airborne emissions below the mixing height (i.e., 3,000 ft) for the arrival and departure flights.

[3] Includes aircraft landing and take off ground roll emissions on the runways.

[4] Includes aircraft taxi in/out emissions.

[5] Includes aircraft engine startup, APU, and GSE emissions at terminal gates, aprons, and hangars.

Abbreviations:

APU - auxiliary power unit
CAS - chemical abstract service
GSE - Ground Support Equipment

Table 3.3-8. Sensitive Receptor Locations
Mineta San Jose International Airport
San Jose, California

Sensitive Receptor Name[1]	Location[2] (m)		Address				Receptor Type
	UTMx	UTMy	Street Address	City	State	Zip Code	
Asha Vyas Daycare	596,074	4,135,417	1469 San Juan Avenue	San Jose	CA	95110	Daycare
Bachrodt Elementary School[3]	596,284	4,135,718	102 Sonora Ave	San Jose	CA	95110	School
Pasitos School[3]	596,405	4,135,626	102 Sonora Ave	San Jose	CA	95110	School
Susana Mathena, Daycare	596,611	4,135,207	1246 Arnold Avenue	San Jose	CA	95110	Daycare
Carol Chavez, Daycare	596,624	4,135,082	130 Ferrari Ave.	San Jose	CA	95110	Daycare
Barbara Jacome, Daycare	596,634	4,135,106	110 Ferrari Avenue	San Jose	CA	95110	Daycare
Tinoco, Maria & Victor, Daycare	596,670	4,135,255	1252 Keoncrest Avenue	San Jose	CA	95110	Daycare
Bachrodt Child Development Center[3]	596,315	4,135,704	102 Sonora Ave	San Jose	CA	95110	Daycare

Notes:

[1] Sensitive receptors summarized above are the discrete sensitive receptors provided by EDRNet.

[2] Locations provided above refer to the UTM coordinates of the modeled receptor.

[3] The Bachrodt Elementary School, Bachrodt Child Development Center, and Pasitos Preschool are located on the same street address but were modeled at three distinct building centroids.

Abbreviations:

m - meters

UTMx - x-coordinate in the Universal Transverse Mercator coordinate system

UTMy - y-coordinate in the Universal Transverse Mercator coordinate system

References:

EDR. EDR Offsite Receptor Report. January 2019.

Table 3.3-9. Toxicologial Values for Toxic Air Contaminants included in HRA
Mineta San Jose International Airport
San Jose, California

Chemical	CAS Number	Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$	Chronic Reference Exposure Level ($\mu g/m^3$)	Acute Reference Exposure Level ($\mu g/m^3$)
Acetaldehyde	75-07-0	0.010	140	470
Acrolein	107-02-8	--	0.35	2.5
Benzene	71-43-2	0.10	3.0	27
1,3-Butadiene	106-99-0	0.60	2.0	660
Copper	7440-50-8	--	--	100
Diesel PM	9901	1.1	5.0	--
Ethylbenzene	100-41-4	0.0087	2,000	--
Formaldehyde	50-00-0	0.021	9.0	55
Hexane	110-54-3	--	7,000	--
Chlorine	7782-50-5	--	0.20	210
Lead	7439-92-1	0.042	--	--
Manganese	7439-96-5	--	0.09	--
Methyl alcohol	67-56-1	--	4,000	28,000
Methyl Ethyl Ketone	78-93-3	--	--	13,000
Naphthalene	91-20-3	0.12	9.0	--
Nickel	7440-02-0	0.91	0.014	0.20
Phenol	108-95-2	--	200	5800
Propylene	115-07-1	--	3,000	--
Styrene	100-42-5	--	900	21,000
Sulfate	9960	--	--	120
Toluene	108-88-3	--	300	37,000
m-Xylene	108-38-3	--	700	22,000
m,p-Xylene	1330-20-7	--	700	22,000
o-Xylene	95-47-6	--	700	22,000
p-Xylene	106-42-3	--	700	22,000

Abbreviations:
kg - kilogram
mg - milligram
µg - microgram
m^3 - cubic meter
ARB - California Air Resources Board
CAS - Chemical Abstracts Service
OEHHA - Office of Environmental Health Hazard Assessment

References:

OEHHA. 2018. Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values. August. Available from https://www.arb.ca.gov/toxics/healthval/contable.pdf.

Table 3.3-10. Exposure Parameters
Mineta San Jose International Airport
San Jose, California

Phase	Population	Age Group	Exposure Parameters						
			Daily Breathing Rate (DBR)[1]	Exposure Duration (ED)[2]	Fraction of Time at Home (FAH)[3]	Exposure Frequency (EF)[4]	Age Sensitivity Factor [5]	Averaging Time (AT)	Intake Factor, Inhalation (IFinh) [6]
			[L/kg-day]	[years]	[unitless]	[days/year]	[unitless]	[days]	[m^3/kg-day]
Construction	Resident	3rd Trimester	361	0.25	1	350	10	25,550	0.0124
		Age 0-<2 Years	1,090	2.0	1		10		0.2986
		Age 2-<16 Years	572	14	1		3		0.3291
		Age 16-<30 Years	261	1.8	0.73		1		0.0046
Operations		3rd Trimester	361	0.25	1		10		0.0124
		Age 0-<2 Years	1,090	2.0	1		10		0.2986
		Age 2-<16 Years	572	14	1		3		0.3291
		Age 16-<30 Years	261	14	0.73		1		0.0365

Notes:

1. The daily breathing rates for residents reflect default breathing rates from OEHHA (2015) and recommendations from California Air Resources Board (ARB 2015) as follows: 95th percentile 24-hour daily breathing rate for 3rd trimester and age 0-<2 years; 80th percentile for ages 2 years and older (per ARB's 2015 Risk Management Guidance).
2. The exposure duration for residents is assumed to be the duration of the construction for the construction scenario or 30 years for the operational scenario.
3. The fraction of time (FAH) spent at home is conservatively assumed to be 1 (i.e., 24 hours/day) for age groups from the third trimester to less than 16 years old for residents assuming the children attend daycares or schools near their home. The FAH for adults over age 16 reflects default value from OEHHA (2015).
4. The exposure frequency for residents reflects default exposure frequencies from OEHHA (2015).
5. The age sensitivity factors are as recommended in the 2015 OEHHA Hot Spots Guidance (OEHHA 2015) for each age group.
6. The inhalation intake factor is calculated using the following equation:
   IFinh = DBR * FAH * EF * ED * ASF * CF / AT
   CF = 0.001 (m^3/L)

Abbreviations:

ARB - Air Resources Board
ASF - Age Sensitivity Factor
AT - averaging time
CF - conversion factor
DBR - daily breathing rate
ED - exposure duration
EF - exposure frequency
FAH - fraction of time at home
IFinh - intake factor
kg - kilogram
L - liter
m^3 - cubic meter
OEHHA - Office of Environmental Health Hazard Assessment

References:

California Air Resources Board (ARB). 2015. Risk Management Guidance for Stationary Sources of Air Toxics. July.
OEHHA. 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments. February.

Table 5.1-1a. Construction NO_X Emissions Summary
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Year[2]																	
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Average Daily NO_X Emissions for Landside Projects (lb/day)[3,4]																		
T-4	--	--	46	46	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-6 (part)	7.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-8 (part)	55	55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-13 (gates 29-40)	--	--	--	--	17	17	--	--	--	--	--	--	--	--	--	--	--	--
T-13 (gates 41-42)	--	--	--	--	--	--	--	--	--	--	--	--	--	11	11	--	--	--
T-16	--	--	--	--	--	--	15	15	--	--	--	--	--	--	--	--	--	--
C-2	20	--	--	--	--	--	--	--	20	--	--	--	--	--	--	--	--	--
C-3	--	18	18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-4	33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
G-5 (part)	20	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
G-8 (part)	--	--	--	17	17	--	--	--	--	--	--	--	--	--	--	--	--	--
G-9	--	--	--	20	20	--	--	--	--	--	--	--	--	--	--	--	--	--
S-1 (part)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.7	6.7	--
S-4, S-5 and S-6	21	--	--	--	--	--	--	--	21	--	--	--	--	--	--	--	--	--
Average Daily NO_X Emissions for Airside Projects (lb/day)[4,5]																		
A-17 (part)	--	15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-23 (part)	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-26-1	--	--	35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-26-2	--	--	--	22	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-27	11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-37-1	38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-37-2	48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-38	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-42	17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-44	26	--	--	--	--	--	--	--	8.5	--	--	--	--	--	--	--	--	--
A-43-1	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-43-2	9.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 5.1-1a. Construction NO_X Emissions Summary
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Year[2]																	
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Average Daily NO_X Emissions for Airside Projects (lb/day)[4,5]																		
A-41	0.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-45	3.2	--	--	--	--	--	--	--	1.1	--	--	--	--	--	--	--	--	--
Total Average Daily NO_X Emissions (lb/day)[4]	352	108	99	105	53.7	17	15	15	51	0	0	0	0	11	11	6.7	6.7	0
Significance Threshold[6]	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
ABOVE THRESHOLD?	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

Notes:

[1] Based on Project Description as provided in the EIR.

[2] The "--" indicates that the project is not expected or assumed to occur in that year.

[3] Construction year was only provided for landside projects T-4, T-8, T-13, T-16, C-3, G-8, G-9, and S-1. For landside projects without a defined year, construction emissions are conservatively assumed to occur in the first year of the project's construction phase. Construction emissions are conservatively calculated assuming that landside projects without a defined year start in CY 2020.

[4] Average Daily Emissions for airside and landside projects are calculated following BAAQMD May 2017 CEQA Guidelines (Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en). For each project, average daily emissions that would occur throughout the entire construction period are calculated based on the number of work days for that period and added to emissions from other construction projects that are anticipated to overlap in the construction schedule. In cases where the exact timing of construction projects is not known, any projects that could overlap are summed for the purposes of calculating total average daily emissions to be conservative.

[5] Construction year was only provided for airside projects A-17 and A-26. For airside projects without a defined year, construction emissions are conservatively assumed to occur in the first year of the project's construction phase. Construction emissions are conservatively calculated assuming that all airside projects start in CY 2020.

[6] Construction Significance Threshold values are obtained from BAAQMD May 2017 CEQA Guidelines, Table 2-1 Air Quality CEQA Thresholds of Significance.

Abbreviations:

BAAQMD - Bay Area Air Quality Management District

CEQA - California Environmental Quality Act

CY - calendar year

lb - pound

NO_X - oxides of nitrogen

Table 5.1-1b. Construction ROG Emissions Summary
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Year[2]																	
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Average Daily ROG Emissions for Landside Projects (lb/day)[3,4]																		
T-4	--	--	7.5	7.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-6 (part)	0.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-8 (part)	8.1	8.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-13 (gates 29-40)	--	--	--	--	15	15	--	--	--	--	--	--	--	--	--	--	--	--
T-13 (gates 41-42)	--	--	--	--	--	--	--	--	--	--	--	--	--	15	15	--	--	--
T-16	--	--	--	--	--	--	7.1	7.1	--	--	--	--	--	--	--	--	--	--
C-2	3.4	--	--	--	--	--	--	--	3.4	--	--	--	--	--	--	--	--	--
C-3	--	3.2	3.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-4	3.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
G-5 (part)	3.9	3.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
G-8 (part)	--	--	--	6.7	6.7	--	--	--	--	--	--	--	--	--	--	--	--	--
G-9	--	--	--	15	15	--	--	--	--	--	--	--	--	--	--	--	--	--
S-1 (part)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3	1.3	--
S-4, S-5 and S-6	6.4	--	--	--	--	--	--	--	6.4	--	--	--	--	--	--	--	--	--
Average Daily ROG Emissions for Airside Projects (lb/day)[4,5]																		
A-17 (part)	--	1.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-23 (part)	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-26-1	--	--	3.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-26-2	--	--	--	2.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-27	1.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-37-1	4.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-37-2	5.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-38	2.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-42	2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-44	2.9	--	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	--	--
A-43-1	1.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-43-2	1.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 5.1-1b. Construction ROG Emissions Summary
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Year[2]																	
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Average Daily ROG Emissions for Airside Projects (lb/day)[4,5]																		
A-41	0.091	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-45	0.29	--	--	--	--	--	--	--	0.10	--	--	--	--	--	--	--	--	--
Total Average Daily ROG Emissions (lb/day)[4,6]	49	17	15	32	37	15	7.1	7.1	11	0	0	0	0	15	15	1.3	1.3	0
Significance Threshold[7]	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
ABOVE THRESHOLD?	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

Notes:

[1] Based on Project Description as provided in the EIR.

[2] The "--" indicates that the project is not expected or assumed to occur in that year.

[3] Construction year was only provided for landside projects T-4, T-8, T-13, T-16, C-3, G-8, G-9, and S-1. For landside projects without a defined year, construction emissions are conservatively assumed to occur in the first year of the project's construction phase. Construction emissions are conservatively calculated assuming that landside projects without a defined year start in CY 2020.

[4] Average Daily Emissions for airside and landside projects are calculated following BAAQMD May 2017 CEQA Guidelines (Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en). For each project, average daily emissions that would occur throughout the entire construction period are calculated based on the number of work days for that period and added to emissions from other construction projects that are anticipated to overlap in the construction schedule. In cases where the exact timing of construction projects is not known, any projects that could overlap are summed for the purposes of calculating total average daily emissions to be conservative.

[5] Construction year was only provided for airside projects A-17 and A-26. For airside projects without a defined year, construction emissions are conservatively assumed to occur in the first year of the project's construction phase. Construction emissions are conservatively calculated assuming that all airside projects start in CY 2020.

[6] Total Average Daily ROG (i.e., VOC) Emissions include emissions from mobile sources and off-gassing.

[7] Construction Significance Threshold values are obtained from BAAQMD May 2017 CEQA Guidelines, Table 2-1 Air Quality CEQA Thresholds of Significance.

Abbreviations:

BAAQMD - Bay Area Air Quality Management District
CEQA - California Environmental Quality Act
CY - calendar year
lb - pound
VOC - volatile organic compound

Table 5.1-1c. Construction PM_{10} Emissions Summary
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Year[2]																	
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Average Daily PM_{10} Emissions for Landside Projects (lb/day)[3,4]																		
T-4	--	--	0.92	0.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-6 (part)	0.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-8 (part)	1.3	1.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-13 (gates 29-40)	--	--	--	--	0.61	0.61	--	--	--	--	--	--	--	--	--	--	--	--
T-13 (gates 41-42)	--	--	--	--	--	--	--	--	--	--	--	--	--	0.17	0.17	--	--	--
T-16	--	--	--	--	--	--	0.53	0.53	--	--	--	--	--	--	--	--	--	--
C-2	1.1	--	--	--	--	--	--	--	1.1	--	--	--	--	--	--	--	--	--
C-3	--	0.94	0.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-4	1.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
G-5 (part)	1.1	1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
G-8 (part)	--	--	--	0.73	0.73	--	--	--	--	--	--	--	--	--	--	--	--	--
G-9	--	--	--	0.73	0.73	--	--	--	--	--	--	--	--	--	--	--	--	--
S-1 (part)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.084	0.084	--
S-4, S-5 and S-6	1.1	--	--	--	--	--	--	--	1.1	--	--	--	--	--	--	--	--	--
Average Daily PM_{10} Emissions for Airside Projects (lb/day)[4,5]																		
A-17 (part)	--	0.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-23 (part)	0.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-26-1	--	--	1.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-26-2	--	--	--	0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-27	0.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-37-1	1.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-37-2	1.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-38	0.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-42	0.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-44	0.92	--	--	--	--	--	--	--	0.31	--	--	--	--	--	--	--	--	--
A-43-1	0.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-43-2	0.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 5.1-1c. Construction PM_{10} Emissions Summary
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Year[2]																	
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Average Daily PM_{10} Emissions for Airside Projects (lb/day)4,5																		
A-41	0.030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-45	0.10	--	--	--	--	--	--	--	0.034	--	--	--	--	--	--	--	--	--
Total Average Daily PM_{10} Emissions (lb/day)[4,6]	14	3.9	3.1	3.2	2.1	0.61	0.53	0.53	2.5	0	0	0	0	0.17	0.17	0.084	0.084	0
Significance Threshold[7]	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82
ABOVE THRESHOLD?	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

Notes:

[1] Based on Project Description as provided in the EIR.

[2] The "--" indicates that the project is not expected or assumed to occur in that year.

[3] Construction year was only provided for landside projects T-4, T-8, T-13, T-16, C-3, G-8, G-9, and S-1. For landside projects without a defined year, construction emissions are conservatively assumed to occur in the first year of the project's construction phase. Construction emissions are conservatively calculated assuming that landside projects without a defined year start in CY 2020.

[4] Average Daily Emissions for airside and landside projects are calculated following BAAQMD May 2017 CEQA Guidelines (Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en). For each project, average daily emissions that would occur throughout the entire construction period are calculated based on the number of work days for that period and added to emissions from other construction projects that are anticipated to overlap in the construction schedule. In cases where the exact timing of construction projects is not known, any projects that could overlap are summed for the purposes of calculating total average daily emissions to be conservative.

[5] Construction year was only provided for airside projects A-17 and A-26. For airside projects without a defined year, construction emissions are conservatively assumed to occur in the first year of the project's construction phase. Construction emissions are conservatively calculated assuming that all airside projects start in CY 2020.

[6] Total Average Daily PM_{10} Emissions conservatively includes exhaust emissions from on-road mobile sources (e.g., on-road haul trucks and worker commute motor vehicles) in addition to exhaust emissions from construction equipment.

[7] Construction Significance Threshold values are obtained from BAAQMD May 2017 CEQA Guidelines, Table 2-1 Air Quality CEQA Thresholds of Significance.

Abbreviations:

BAAQMD - Bay Area Air Quality Management District

CEQA - California Environmental Quality Act

CY - calendar year

lb - pound

PM_{10} - respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less

Table 5.1-1d. Construction $PM_{2.5}$ Emissions Summary
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Year[2]																	
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Average Daily $PM_{2.5}$ Emissions for Landside Projects (lb/day)[3,4]																		
T-4	--	--	0.86	0.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-6 (part)	0.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-8 (part)	1.2	1.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-13 (gates 29-40)	--	--	--	--	0.57	0.57	--	--	--	--	--	--	--	--	--	--	--	--
T-13 (gates 41-42)	--	--	--	--	--	--	--	--	--	--	--	--	--	0.17	0.17	--	--	--
T-16	--	--	--	--	--	--	0.50	0.50	--	--	--	--	--	--	--	--	--	--
C-2	1.0	--	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	--	--
C-3	--	0.88	0.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-4	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
G-5 (part)	1.0	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
G-8 (part)	--	--	--	0.68	0.68	--	--	--	--	--	--	--	--	--	--	--	--	--
G-9	--	--	--	0.68	0.68	--	--	--	--	--	--	--	--	--	--	--	--	--
S-1 (part)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.084	0.084	--
S-4, S-5 and S-6	1.0	--	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	--	--
Average Daily $PM_{2.5}$ Emissions for Airside Projects (lb/day)[4,5]																		
A-17 (part)	--	0.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-23 (part)	0.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-26-1	--	--	1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-26-2	--	--	--	0.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-27	0.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-37-1	1.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-37-2	1.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-38	0.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-42	0.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-44	0.84	--	--	--	--	--	--	--	0.28	--	--	--	--	--	--	--	--	--
A-43-1	0.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-43-2	0.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 5.1-1d. Construction $PM_{2.5}$ Emissions Summary
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Year[2]																	
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Average Daily $PM_{2.5}$ Emissions for Airside Projects (lb/day)[4,5]																		
A-41	0.027	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-45	0.095	--	--	--	--	--	--	--	0.032	--	--	--	--	--	--	--	--	--
Total Average Daily $PM_{2.5}$ Emissions (lb/day)[4,6]	13	3.6	2.9	3.0	1.9	0.57	0.50	0.50	2.4	0	0	0	0	0.17	0.17	0.084	0.084	0
Significance Threshold[7]	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
ABOVE THRESHOLD?	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

Notes:

[1] Based on Project Description as provided in the EIR.

[2] The "--" indicates that the project is not expected or assumed to occur in that year.

[3] Construction year was only provided for landside projects T-4, T-8, T-13, T-16, C-3, G-8, G-9, and S-1. For landside projects without a defined year, construction emissions are conservatively assumed to occur in the first year of the project's construction phase. Construction emissions are conservatively calculated assuming that landside projects without a defined year start in CY 2020.

[4] Average Daily Emissions for airside and landside projects are calculated following BAAQMD May 2017 CEQA Guidelines (Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en). For each project, average daily emissions that would occur throughout the entire construction period are calculated based on the number of work days for that period and added to emissions from other construction projects that are anticipated to overlap in the construction schedule. In cases where the exact timing of construction projects is not known, any projects that could overlap are summed for the purposes of calculating total average daily emissions to be conservative.

[5] Construction year was only provided for airside projects A-17 and A-26. For airside projects without a defined year, construction emissions are conservatively assumed to occur in the first year of the project's construction phase. Construction emissions are conservatively calculated assuming that all airside projects start in CY 2020.

[6] Total Average Daily $PM_{2.5}$ Emissions conservatively includes exhaust emissions from on-road mobile sources (e.g., on-road haul trucks and worker commute motor vehicles) in addition to exhaust emissions from construction equipment.

[7] Construction Significance Threshold values are obtained from BAAQMD May 2017 CEQA Guidelines, Table 2-1 Air Quality CEQA Thresholds of Significance.

Abbreviations:

BAAQMD - Bay Area Air Quality Management District

CEQA - California Environmental Quality Act

CY - calendar year

lb - pound

$PM_{2.5}$ - fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less

Table 5.1-1e. Construction NO_X Emissions Summary with Mitigation
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Year[2]																	
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Average Daily NO_X Emissions for Landside Projects with Mitigation (lb/day)[3,4]																		
T-4	--	--	31	31	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-6 (part)	0.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-8 (part)	36	36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-13 (gates 29-40)	--	--	--	--	5.6	5.6	--	--	--	--	--	--	--	--	--	--	--	--
T-13 (gates 41-42)	--	--	--	--	--	--	--	--	--	--	--	--	--	5.2	5.2	--	--	--
T-16	--	--	--	--	--	--	4.8	4.8	--	--	--	--	--	--	--	--	--	--
C-2	2.6	--	--	--	--	--	--	--	2.6	--	--	--	--	--	--	--	--	--
C-3	--	2.5	2.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-4	2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
G-5 (part)	2.7	2.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
G-8 (part)	--	--	--	3.5	3.5	--	--	--	--	--	--	--	--	--	--	--	--	--
G-9	--	--	--	6.9	6.9	--	--	--	--	--	--	--	--	--	--	--	--	--
S-1 (part)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.4	3.4	--
S-4, S-5 and S-6	3.7	--	--	--	--	--	--	--	3.7	--	--	--	--	--	--	--	--	--
Average Daily NO_X Emissions for Airside Projects with Mitigation (lb/day)[4,5]																		
A-17 (part)	--	5.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-23 (part)	4.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-26-1	--	--	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-26-2	--	--	--	8.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-27	3.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-37-1	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-37-2	19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-38	7.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-42	5.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-44	10	--	--	--	--	--	--	--	3.3	--	--	--	--	--	--	--	--	--
A-43-1	3.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-43-2	3.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 5.1-1e. Construction NO_X Emissions Summary with Mitigation
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Year[2]																	
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Average Daily NO_X Emissions for Airside Projects with Mitigation (lb/day)[4,5]																		
A-41	0.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-45	1.5	--	--	--	--	--	--	--	0.49	--	--	--	--	--	--	--	--	--
Total Average Daily NO_X Emissions (lb/day)[4]	120	46	47	50	16	5.6	4.8	4.8	10	0	0	0	0	5.2	5.2	3.4	3.4	0
Significance Threshold[6]	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
ABOVE THRESHOLD?	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

Notes:

[1] Based on Project Description as provided in the EIR.

[2] The "--" indicates that the project is not expected or assumed to occur in that year.

[3] Construction year was only provided for landside projects T-4, T-8, T-13, T-16, C-3, G-8, G-9, and S-1. For landside projects without a defined year, construction emissions are conservatively assumed to occur in the first year of the project's construction phase. Construction emissions are conservatively calculated assuming that landside projects without a defined year start in CY 2020.

[4] Average Daily Emissions for airside and landside projects are calculated following BAAQMD May 2017 CEQA Guidelines (Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en). For each project, average daily emissions that would occur throughout the entire construction period are calculated based on the number of work days for that period and added to emissions from other construction projects that are anticipated to overlap in the construction schedule. In cases where the exact timing of construction projects is not known, any projects that could overlap are summed for the purposes of calculating total average daily emissions to be conservative.

[5] Construction year was only provided for airside projects A-17 and A-26. For airside projects without a defined year, construction emissions are conservatively assumed to occur in the first year of the project's construction phase. Construction emissions are conservatively calculated assuming that all airside projects start in CY 2020.

[6] Construction Significance Threshold values are obtained from BAAQMD May 2017 CEQA Guidelines, Table 2-1 Air Quality CEQA Thresholds of Significance.

Abbreviations:

BAAQMD - Bay Area Air Quality Management District
CEQA - California Environmental Quality Act
CY - calendar year
lb - pound
NO_X - oxides of nitrogen

Table 5.1-1f. Construction ROG Emissions Summary with Mitigation
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Year[2]																	
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Average Daily ROG Emissions for Landside Projects with Mitigation (lb/day)[3,4]																		
T-4	--	--	6.1	6.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-6 (part)	0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-8 (part)	6.3	6.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-13 (gates 29-40)	--	--	--	--	14	14	--	--	--	--	--	--	--	--	--	--	--	--
T-13 (gates 41-42)	--	--	--	--	--	--	--	--	--	--	--	--	--	14	14	--	--	--
T-16	--	--	--	--	--	--	6.1	6.1	--	--	--	--	--	--	--	--	--	--
C-2	1.6	--	--	--	--	--	--	--	1.6	--	--	--	--	--	--	--	--	--
C-3	--	1.6	1.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-4	0.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
G-5 (part)	2.1	2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
G-8 (part)	--	--	--	5.4	5.4	--	--	--	--	--	--	--	--	--	--	--	--	--
G-9	--	--	--	14	14	--	--	--	--	--	--	--	--	--	--	--	--	--
S-1 (part)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	0.50	--
S-4, S-5 and S-6	4.6	--	--	--	--	--	--	--	4.6	--	--	--	--	--	--	--	--	--
Average Daily ROG Emissions for Airside Projects with Mitigation (lb/day)[4,5]																		
A-17 (part)	--	1.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-23 (part)	1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-26-1	--	--	2.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-26-2	--	--	--	1.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-27	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-37-1	2.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-37-2	3.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-38	1.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-42	1.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-44	2.0	--	--	--	--	--	--	--	0.67	--	--	--	--	--	--	--	--	--
A-43-1	0.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-43-2	0.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 5.1-1f. Construction ROG Emissions Summary with Mitigation
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Year[2]																	
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Average Daily ROG Emissions for Airside Projects with Mitigation (lb/day)[4,5]																		
A-41	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-45	0.20	--	--	--	--	--	--	--	0.07	--	--	--	--	--	--	--	--	--
Total Average Daily ROG Emissions (lb/day)[4,6]	31	11	10	27	33	14	6.1	6.1	6.9	0	0	0	0	14	14	0.50	0.50	0
Significance Threshold[7]	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
ABOVE THRESHOLD?	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

Notes:

[1] Based on Project Description as provided in the EIR.

[2] The "--" indicates that the project is not expected or assumed to occur in that year.

[3] Construction year was only provided for landside projects T-4, T-8, T-13, T-16, C-3, G-8, G-9, and S-1. For landside projects without a defined year, construction emissions are conservatively assumed to occur in the first year of the project's construction phase. Construction emissions are conservatively calculated assuming that landside projects without a defined year start in CY 2020.

[4] Average Daily Emissions for airside and landside projects are calculated following BAAQMD May 2017 CEQA Guidelines (Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en). For each project, average daily emissions that would occur throughout the entire construction period are calculated based on the number of work days for that period and added to emissions from other construction projects that are anticipated to overlap in the construction schedule. In cases where the exact timing of construction projects is not known, any projects that could overlap are summed for the purposes of calculating total average daily emissions to be conservative.

[5] Construction year was only provided for airside projects A-17 and A-26. For airside projects without a defined year, construction emissions are conservatively assumed to occur in the first year of the project's construction phase. Construction emissions are conservatively calculated assuming that all airside projects start in CY 2020.

[6] Total Average Daily ROG (i.e., VOC) Emissions include emissions from mobile sources and off-gassing.

[7] Construction Significance Threshold values are obtained from BAAQMD May 2017 CEQA Guidelines, Table 2-1 Air Quality CEQA Thresholds of Significance.

Abbreviations:

BAAQMD - Bay Area Air Quality Management District
CEQA - California Environmental Quality Act
CY - calendar year
lb - pound
VOC - volatile organic compound

Table 5.1-1g. Construction PM_{10} Emissions Summary with Mitigation
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Year[2]																	
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Average Daily PM_{10} Emissions for Landside Projects with Mitigation (lb/day)[3,4]																		
T-4	--	--	0.13	0.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-6 (part)	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-8 (part)	0.21	0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-13 (gates 29-40)	--	--	--	--	0.05	0.05	--	--	--	--	--	--	--	--	--	--	--	--
T-13 (gates 41-42)	--	--	--	--	--	--	--	--	--	--	--	--	--	0.05	0.05	--	--	--
T-16	--	--	--	--	--	--	0.05	0.05	--	--	--	--	--	--	--	--	--	--
C-2	0.04	--	--	--	--	--	--	--	0.04	--	--	--	--	--	--	--	--	--
C-3	--	0.04	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-4	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
G-5 (part)	0.04	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
G-8 (part)	--	--	--	0.04	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--
G-9	--	--	--	0.06	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--
S-1 (part)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.03	0.03	--
S-4, S-5 and S-6	0.05	--	--	--	--	--	--	--	0.05	--	--	--	--	--	--	--	--	--
Average Daily PM_{10} Emissions for Airside Projects with Mitigation (lb/day)[4,5]																		
A-17 (part)	--	0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-23 (part)	0.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-26-1	--	--	0.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-26-2	--	--	--	0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-27	0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-37-1	0.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-37-2	0.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-38	0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-42	0.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-44	0.25	--	--	--	--	--	--	--	0.08	--	--	--	--	--	--	--	--	--
A-43-1	0.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-43-2	0.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 5.1-1g. Construction PM_{10} Emissions Summary with Mitigation
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Year[2]																	
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Average Daily PM_{10} Emissions for Airside Projects with Mitigation (lb/day)[4,5]																		
A-41	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-45	0.03	--	--	--	--	--	--	--	0.01	--	--	--	--	--	--	--	--	--
Total Average Daily PM_{10} Emissions (lb/day)[4,6]	2.3	0.45	0.51	0.45	0.15	0.05	0.05	0.05	0.19	0	0	0	0	0.05	0.05	0.03	0.03	0
Significance Threshold[7]	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82
ABOVE THRESHOLD?	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

Notes:
[1] Based on Project Description as provided in the EIR.

[2] The "--" indicates that the project is not expected or assumed to occur in that year.

[3] Construction year was only provided for landside projects T-4, T-8, T-13, T-16, C-3, G-8, G-9, and S-1. For landside projects without a defined year, construction emissions are conservatively assumed to occur in the first year of the project's construction phase. Construction emissions are conservatively calculated assuming that landside projects without a defined year start in CY 2020.

[4] Average Daily Emissions for airside and landside projects are calculated following BAAQMD May 2017 CEQA Guidelines (Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en). For each project, average daily emissions that would occur throughout the entire construction period are calculated based on the number of work days for that period and added to emissions from other construction projects that are anticipated to overlap in the construction schedule. In cases where the exact timing of construction projects is not known, any projects that could overlap are summed for the purposes of calculating total average daily emissions to be conservative.

[5] Construction year was only provided for airside projects A-17 and A-26. For airside projects without a defined year, construction emissions are conservatively assumed to occur in the first year of the project's construction phase. Construction emissions are conservatively calculated assuming that all airside projects start in CY 2020.

[6] Total Average Daily PM_{10} Emissions conservatively includes exhaust emissions from on-road mobile sources (e.g., on-road haul trucks and worker commute motor vehicles) in addition to exhaust emissions from construction equipment.

[7] Construction Significance Threshold values are obtained from BAAQMD May 2017 CEQA Guidelines, Table 2-1 Air Quality CEQA Thresholds of Significance.

Abbreviations:
BAAQMD - Bay Area Air Quality Management District
CEQA - California Environmental Quality Act
CY - calendar year
lb - pound
PM_{10} - respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less

Table 5.1-1h. Construction $PM_{2.5}$ Emissions Summary with Mitigation
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Year[2]																	
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Average Daily $PM_{2.5}$ Emissions for Landside Projects with Mitigation (lb/day)[3,4]																		
T-4	--	--	0.13	0.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-6 (part)	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-8 (part)	0.20	0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-13 (gates 29-40)	--	--	--	--	0.05	0.05	--	--	--	--	--	--	--	--	--	--	--	--
T-13 (gates 41-42)	--	--	--	--	--	--	--	--	--	--	--	--	--	0.05	0.05	--	--	--
T-16	--	--	--	--	--	--	0.05	0.05	--	--	--	--	--	--	--	--	--	--
C-2	0.04	--	--	--	--	--	--	--	0.04	--	--	--	--	--	--	--	--	--
C-3	--	0.04	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-4	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
G-5 (part)	0.04	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
G-8 (part)	--	--	--	0.05	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--
G-9	--	--	--	0.06	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--
S-1 (part)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.03	0.03	--
S-4, S-5 and S-6	0.05	--	--	--	--	--	--	--	0.05	--	--	--	--	--	--	--	--	--
Average Daily $PM_{2.5}$ Emissions for Airside Projects with Mitigation (lb/day)[4,5]																		
A-17 (part)	--	0.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-23 (part)	0.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-26-1	--	--	0.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-26-2	--	--	--	0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-27	0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-37-1	0.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-37-2	0.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-38	0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-42	0.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-44	0.24	--	--	--	--	--	--	--	0.08	--	--	--	--	--	--	--	--	--
A-43-1	0.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-43-2	0.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 5.1-1h. Construction $PM_{2.5}$ Emissions Summary with Mitigation
Mineta San Jose International Airport
San Jose, California

Project ID[1]	Year[2]																	
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Average Daily $PM_{2.5}$ Emissions for Airside Projects with Mitigation (lb/day)[4,5]																		
A-41	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A-45	0.03	--	--	--	--	--	--	--	0.01	--	--	--	--	--	--	--	--	--
Total Average Daily $PM_{2.5}$ Emissions (lb/day)[4,6]	2.3	0.43	0.50	0.44	0.15	0.05	0.05	0.05	0.18	0	0	0	0	0.05	0.05	0.03	0.03	0
Significance Threshold[7]	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
ABOVE THRESHOLD?	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

Notes:

[1] Based on Project Description as provided in the EIR.

[2] The "--" indicates that the project is not expected or assumed to occur in that year.

[3] Construction year was only provided for landside projects T-4, T-8, T-13, T-16, C-3, G-8, G-9, and S-1. For landside projects without a defined year, construction emissions are conservatively assumed to occur in the first year of the project's construction phase. Construction emissions are conservatively calculated assuming that landside projects without a defined year start in CY 2020.

[4] Average Daily Emissions for airside and landside projects are calculated following BAAQMD May 2017 CEQA Guidelines (Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en). For each project, average daily emissions that would occur throughout the entire construction period are calculated based on the number of work days for that period and added to emissions from other construction projects that are anticipated to overlap in the construction schedule. In cases where the exact timing of construction projects is not known, any projects that could overlap are summed for the purposes of calculating total average daily emissions to be conservative.

[5] Construction year was only provided for airside projects A-17 and A-26. For airside projects without a defined year, construction emissions are conservatively assumed to occur in the first year of the project's construction phase. Construction emissions are conservatively calculated assuming that all airside projects start in CY 2020.

[6] Total Average Daily $PM_{2.5}$ Emissions conservatively includes exhaust emissions from on-road mobile sources (e.g., on-road haul trucks and worker commute motor vehicles) in addition to exhaust emissions from construction equipment.

[7] Construction Significance Threshold values are obtained from BAAQMD May 2017 CEQA Guidelines, Table 2-1 Air Quality CEQA Thresholds of Significance.

Abbreviations:

BAAQMD - Bay Area Air Quality Management District

CEQA - California Environmental Quality Act

CY - calendar year

lb - pound

$PM_{2.5}$ - fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less

Table 5.1-2. Operational Criteria Air Pollutant Emissions - Existing/Baseline (2018)
Mineta San Jose International Airport
San Jose, California

Source	Daily Emissions (pounds/day)[1]				Annual Emissions (tons per year)[1]			
	ROG	NO_x	PM_{10}[2]	$PM_{2.5}$[2]	ROG	NOx	PM_{10}	$PM_{2.5}$
Aircraft and GSE								
Aircraft	650	3,024	27	27	119	552	5.0	5.0
APU	7.1	96	12	12	1.3	17	2.2	2.2
GSE	34	106	5.0	4.8	6.3	19	0.92	0.87
Mobile								
Traffic	260	614	315	76	47	112	57	14
Airport Shuttle Bus	0.36	1.9	0.41	0.16	0.07	0.35	0.08	0.03
Airside Vehicles	1.1	3.0	0.18	0.16	0.20	0.55	0.03	0.03
Stationary								
Boilers	0.29	1.00	0.40	0.40	0.05	0.18	0.07	0.07
Miscellaneous Natural Gas Combustion	0.03	0.50	0.04	0.04	0.00	0.09	0.01	0.01
Emergency Generators	4.2	7.9	0.17	0.17	0.76	1.4	0.03	0.03
Jet A Fuel Tanks	1.2	--	--	--	0.22	--	--	--
Avgas Fuel Tanks	0.19	--	--	--	0.04	--	--	--
Gasoline Dispensing Facility	0.09	--	--	--	0.02	--	--	--
Total	**958**	**3,853**	**361**	**121**	**175**	**703**	**66**	**22**

Notes:

[1] Existing/Baseline (2018) emissions are calculated in prior tables. Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.

[2] PM_{10} and $PM_{2.5}$ totals include exhaust and fugitive emissions from each source.

Abbreviations:

APU - auxiliary power unit

GSE - ground support equipment

NO_x - nitrogen oxides

PM - particulate matter

PM_{10}- PM less than 10 microns in diameter

$PM_{2.5}$ - PM less than 2.5 microns in diameter

ROG - reactive organic gases

Table 5.1-3. Operational Incremental Criteria Air Pollutant Emissions - Proposed Project (2037)
Mineta San Jose International Airport
San Jose, California

	Daily Incremental Emissions (pounds/day)[1,2]				Annual Incremental Emissions (tons per year)[1,2]			
Source	**ROG**	**NOx**	**PM_{10}**	**$PM_{2.5}$**	**ROG**	**NOx**	**PM_{10}**	**$PM_{2.5}$**
Aircraft and GSE								
Aircraft	8.9	5,606	16	16	1.6	1,023	3.0	3.0
APU	4.8	26	6.0	6.0	0.88	4.8	1.1	1.1
GSE	-2.9	-38	-0.25	-0.30	-0.52	-6.9	-0.05	-0.05
Mobile								
Traffic	-103	-278	147	27	-19	-51	27	4.8
Airport Shuttle Bus[3]	-0.36	-1.9	-0.41	-0.16	-0.07	-0.35	-0.08	-0.03
Airside Vehicles	0.21	-0.91	-0.06	-0.06	0.04	-0.17	-0.01	-0.01
Stationary								
Boilers	0.15	0.52	0.21	0.21	0.03	0.10	0.04	0.04
Miscellaneous Natural Gas Combustion	0.01	0.26	0.02	0.02	0.00	0.05	0.00	0.00
Emergency Generators[4]	0	0	0	0	0	0	0	0
Jet A Fuel Tanks	1.0	--	--	--	0.19	--	--	--
Avgas Fuel Tanks	-0.11	--	--	--	-0.02	--	--	--
Gasoline Dispensing Facility	0.05	--	--	--	0.01	--	--	--
New Land Use Type								
Hotel[5]	5.5	10	10	2.9	1.0	1.8	1.9	0.52
Area Source								
Consumer Products[6]	31	--	--	--	5.6	--	--	--
Architectural Coating[6]	5.7	--	--	--	1.0	--	--	--
Significance								
Total Incremental Emissions	-49.4	5,325	179	52	-9.0	972	33	9.4
Significance Threshold	54	54	82	54	10	10	15	10
ABOVE THRESHOLD?	NO	**YES**	**YES**	NO	NO	**YES**	**YES**	NO

Notes:

[1] Proposed Project (2037) emissions are calculated in prior tables.

[2] Change in emissions associated with the Proposed Project scenario is the difference between Proposed Project (2037) and Existing/Baseline (2018) emissions. Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.

[3] SJC shuttle buses are expected to be converted from CNG to electric buses in 2037, and therefore have no direct CAP emissions in this year.

[4] Emergency generator emissions in 2037 are assumed to be the same as in 2018 as the operating hours are expected to stay the same.

[5] The hotel is assumed to be operational by 2027, following the construction schedule presented in the Amended Master Plan. CAP Emission totals for the hotel include emissions from area, energy and mobile sources attributable to operation of the hotel.

[6] Consumer product and architectural coating VOCs are calculated from all new landside developments constructed in Phase 1 and Phase 2 of the Amended Master Plan.

Abbreviations:

APU - auxiliary power unit
GSE - ground support equipment
NOx - nitrogen oxide
PM - particulate matter
PM_{10}- PM less than 10 microns in diameter
$PM_{2.5}$ - PM less than 2.5 microns in diameter
ROG - reactive organic gases

Table 5.1-4. Construction and Incremental Operational Criteria Air Pollutant Emissions - Mid-Project (2027)
Mineta San Jose International Airport
San Jose, California

Source	Construction and Incremental Operational Daily Emissions (pounds/day)[1,2]				Construction and Incremental Operational Annual Emissions (tons per year)[1,2]			
	ROG	**NOx**	**PM_{10}**	**$PM_{2.5}$**	**ROG**	**NOx**	**PM_{10}**	**$PM_{2.5}$**
Aircraft and GSE								
Aircraft	41	432	3.9	3.9	7.5	79	0.72	0.72
APU	-0.26	8.9	0.16	0.16	-0.05	1.6	0.03	0.03
GSE	-10	-48	-1.3	-1.2	-1.8	-8.8	-0.23	-0.22
Mobile								
Traffic	-106	-329	11	-2.9	-19	-60	2.0	-0.52
Airport Shuttle Bus[3]	0	0	0	0	0	0	0	0
Airside Vehicles	-0.11	-1.0	-0.06	-0.06	-0.02	-0.19	-0.01	-0.01
Stationary								
Boilers	0.02	0.06	0.02	0.02	0.00	0.01	0.00	0.00
Miscellaneous Natural Gas Combustion	0.00	0.03	0.00	0.00	0.00	0.01	0.00	0.00
Emergency Generators[4]	0	0	0	0	0	0	0	0
Jet A Fuel Tanks	0.01	--	--	--	0.00	--	--	--
Avgas Fuel Tanks	-0.12	--	--	--	-0.02	--	--	--
Gasoline Dispensing Facility	0.01	--	--	--	0.00	--	--	--
New Land Use Type								
Hotel[5]	5.5	10	10	2.9	1.0	1.8	1.9	0.52
Area Source								
Consumer Products[6]	25	--	--	--	4.5	--	--	--
Architectural Coating[6]	2.9	--	--	--	0.52	--	--	--
Construction								
Construction in 2027[7]	43	5.0	0.46	0.27	0.82	0.09	0.01	0.01
Significance								
Total	**1.2**	**77**	**24**	**3.1**	**-6.9**	**13**	**4.4**	**0.52**
Significance Threshold	54	54	82	54	10	10	15	10
ABOVE THRESHOLD?	NO	**YES**	NO	NO	NO	**YES**	NO	NO

Notes:
[1] Mid-Project (2027) emissions are calculated in prior tables.
[2] Change in operational emissions associated with the Mid-Project scenario is the difference between Mid-Project (2037) and Existing/Baseline (2018) emissions. Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.
[3] Emissions from airport shuttle buses in 2027 are conservatively assumed to be the same as 2018, since they are only expected to be converted to electric buses by 2037.
[4] Emergency generator emissions in 2027 are assumed to be the same as in 2018 as the operating hours are expected to stay the same.
[5] The hotel is assumed to be operational by 2027, following the construction schedule presented in the Amended Master Plan. CAP Emission totals for the hotel include emissions from area, energy and mobile sources attributable to operation of the hotel.
[6] Consumer product and architectural coating VOCs are calculated from all new landside developments constructed in Phase 1 of the Amended Master Plan. All emissions from airport facilities constructed by projects C-2, S-5 and S-6 are conservatively included in these totals, though some of the development could potentially occur in Phase 2.
[7] Construction emissions are from construction activity scheduled to occur in 2027. PM_{10} and $PM_{2.5}$ emissions include exhaust and fugitive emissions.

Abbreviations:
APU - auxiliary power unit
GSE - ground support equipment
NOx - nitrogen oxide
PM - particulate matter
PM_{10}- PM less than 10 microns in diameter
$PM_{2.5}$ - PM less than 2.5 microns in diameter
ROG - reactive organic gases

Table 5.2-1. Construction Health Risk Assessment Summary
Mineta San Jose International Airport
San Jose, California

Health Endpoint[1]	Unit of Measure	Maximum Impacts from Construction (Phase 1 and 2 Projects)[2]	Significance Threshold	Above Significance?
Cancer Risk	Risk in 1 million	5.7	>10	NO
Chronic Non-Cancer Hazard Index	Hazard Index	0.0064	>1.0	NO
Maximum Annual $PM_{2.5}$ Concentration[3]	$\mu g/m^3$	0.032	0.3	NO

Notes:

[1] Health endpoints are evaluated at all sensitive receptors, including residential, daycare, and school receptors.

[2] Construction activities from the Proposed Project would result in impacts equal to or lower than the maximum value shown in this table at all receptors.

[3] The maximum annual $PM_{2.5}$ concentration occurs in 2021.

[4] Chronic and acute HI impacts from diesel PM are generally negligible and therefore are not included in this analysis.

Abbreviations:

$PM_{2.5}$ - Particulate matter less than 2.5 micrometers in diameter

$\mu g/m^3$ - micrograms per cubic meter

Table 5.2-2. Construction Cumulative Health Risk Assessment Summary
Mineta San Jose International Airport
San Jose, California

Project Construction MEI Location

MEI Location	Cancer Risk	Chronic Hazard Index	$PM_{2.5}$ Concentration
UTMx (m)	596,420		
UTMy (m)	4,134,840		

Cumulative Health Impacts

Source	Cancer Risk in a million	Chronic Hazard Index unitless	$PM_{2.5}$ Concentration $\mu g/m^3$
Project Construction	5.7	0.01	0.03
Nearby Stationary Sources[2]	2.9	0.01	0.004
Nearby Major Streets[3,4]	1.3	--	0.03
Nearby Highways/Freeways[3]	52	--	1.4
Nearby Railways[3]	12	--	0.02
Nearby Roadways[5]	--	--	--
Nearby Construction Projects[6]	--	--	--
Total	**73**	**0.01**	**1.5**
Threshold	100	10	0.80

Notes:

[1] Health impacts were calculated using BAAQMD Screening Tools.

[2] Consistent with BAAQMD guidance, Ramboll included all permitted facilities within 1,000 feet of the proposed Project as per the BAAQMD Stationary Source Screening Analysis Tool. Facility information was obtained with geographic data from the Santa Clara County Stationary Source Screening Tool with additional details provided by facility-specific emissions and health risk data. There was one stationary source within 1,000 ft of the construction MEI that belonged to Plant No. 8476, Transportation Agency (865 feet from MEI). The values were adjusted using BAAQMD's distance multiplier tools for generic source types.

[3] Nearby roadway, major streets/highway, and railway cancer and $PM_{2.5}$ impacts were taken from BAAQMD raster files for the Project area. The BAAQMD's raster screening tools did not estimate chronic hazards since they were below screening levels. Thus, there are no chronic hazard values associated with highways, railways, or major streets.

[4] Major streets, as evaluated in the BAAQMD raster screening tools, include all streets with average daily traffic above 30,000 trips per day.

[5] Per BAAQMD guidance, Ramboll searched for additional nearby roadways with 10,000 to 30,000 average daily trips. However, there were no roadways with average daily traffic between 10,000 and 30,000 trips per day within 1,000 ft of the construction MEI.

[6] Ramboll searched for additional construction projects nearby the MEI. However, there were no publicly-documented construction projects within 1,000 ft of the construction MEI.

Abbreviations:

$\mu g/m^3$ - micrograms per cubic meter

BAAQMD - Bay Area Air Quality Management District

m - meter

MEI - maximally exposed individual

$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter

Table 5.2-3. Operational Health Risk Summary
Mineta San Jose International Airport
San Jose, California

Health Endpoint[1]	Unit of Measure	Proposed Project 2037 (Maximum Incremental Impact)[2]	Significance Threshold	Above Significance?
Cancer Risk	Risk in 1 million	-0.65	>10	NO
Chronic Non-Cancer Hazard Index	Hazard Index	0.033	>1.0	NO
Acute Non-Cancer Hazard Index	Hazard Index	0.28	>1.0	NO
Maximum Annual $PM_{2.5}$ Concentration	$\mu g/m^3$	0.15	0.3	NO

Notes:

[1] Health endpoints are evaluated at all sensitive receptors, including residential, daycare and school receptors.

[2] Maximum incremental impacts are calculated as the maximum value of the difference between Proposed Project (2037) impacts and Existing/Baseline (2018) impacts, evaluated over all receptors. The Proposed Project would result in impacts equal to or lower than the maximum incremental value shown in this table at all receptors. A negative value indicates that the health risk is lower in 2037 compared to the 2018 baseline.

[3] Chronic and acute HI impacts from diesel PM are generally negligible and therefore are not included in this analysis.

Abbreviations:

$PM_{2.5}$ - Particulate matter less than 2.5 micrometers in diameter

$\mu g/m^3$ - micrograms per cubic meter

Table 5.2-4. Operational Cumulative Health Risk Assessment Summary
Mineta San Jose International Airport
San Jose, California

Project Operational MEI Locations

MEI Location	Cancer Risk	Chronic Hazard Index	$PM_{2.5}$ Concentration
UTMx (m)	594,620	596,260	596,260
UTMy (m)	4,133,840	4,135,080	4,135,080

Cumulative Health Impacts[1]

Source	Cancer Risk in a million	Chronic Hazard Index unitless	$PM_{2.5}$ Concentration $\mu g/m^3$
Project Operation	-0.65	0.03	0.15
Nearby Stationary Sources[2]	--	--	--
Nearby Major Streets[3,4]	3.4	--	0.03
Nearby Highways/Freeways[3]	21	--	1.8
Nearby Railways[3]	14	--	0.02
Nearby Roadways[5]	--	--	--
Total	**38**	**0.03**	**2.0**
Threshold	100	10	0.80

Notes

[1] Health impacts were calculated using BAAQMD Screening Tools.

[2] Consistent with BAAQMD guidance, Ramboll included all facilities within 1,000 feet of the proposed Project as per the BAAQMD Stationary Source Screening Analysis Tool. Facility information was obtained from the Santa Clara County Stationary Source Screening Tool with additional details provided by BAAQMD. There were no stationary sources within 1,000 ft of any of the operational MEIs.

[3] Nearby roadway, major streets/highway, and railway cancer and $PM_{2.5}$ impacts were taken from BAAQMD raster files for the Project area. The BAAQMD's raster screening tools do not estimate chronic hazards since the screening levels were found to be extremely low. Thus, there are no chronic hazard values associated with highways, railways, or major streets.

[4] Major streets, as evaluated in the BAAQMD raster screening tools, include all streets with average daily traffic above 30,000 trips per day.

[5] Per BAAQMD guidance, Ramboll searched for additional nearby roads between 10,000 to 30,000 average daily trips. However, there were no roadways with average daily traffic between 10,000 and 30,000 trips per day within 1,000 ft of any of the operational MEIs.

Abbreviations

$\mu g/m^3$ - micrograms per cubic meter
BAAQMD - Bay Area Air Quality Management District
ft - feet
m - meter
MEI - maximally exposed individual
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter

Table 5.2-5. Construction Plus Operation Cumulative Health Risk Assessment Summary
Mineta San Jose International Airport
San Jose, California

Project Cumulative MEI Location

MEI Location	Cancer Risk[2]	Chronic Hazard Index[3]	$PM_{2.5}$ Concentration[4]
UTMx (m)	596,420	596,260	596,260
UTMy (m)	4,134,840	4,135,080	4,135,080

Cumulative Health Impacts

Source[1]	Cancer Risk[2] in a million	Chronic Hazard Index[3] unitless	$PM_{2.5}$ Concentration[4] $\mu g/m^3$
Project Construction	5.7	0.01	0.03
Project Operation	0	0.03	0.15
Nearby Stationary Sources[5]	2.9	--	--
Nearby Major Streets[5]	1.3	--	0.03
Nearby Highways/Freeways[5]	52	--	1.8
Nearby Railways[5]	12	--	0.02
Nearby Roadways[5]	--	--	--
Nearby Construction Projects[5]	--	--	--
Total	**73**	**0.04**	**2.0**
Threshold	100	10	0.80

Notes:

[1] Maximum Health impacts from Project Construction and Project Operation were summarized in Tables 5.2-2 and 5.2-4. This analysis conservatively assumes that Project Construction and Project Operation health impacts are additive at the MEI.

[2] The Project (and thus Cumulative) Cancer Risk MEI is collocated at the Project Construction MEI. However, a value of zero was conservatively listed for cancer risk from Project Operation at the MEI, since the Project Operation cancer risk is negative due to decreases in HAP emissions over time.

[3] The Project Chronic Hazard Index MEI is collocated at the operational MEI, since Project construction plus operational modeled health impacts are highest at this point.

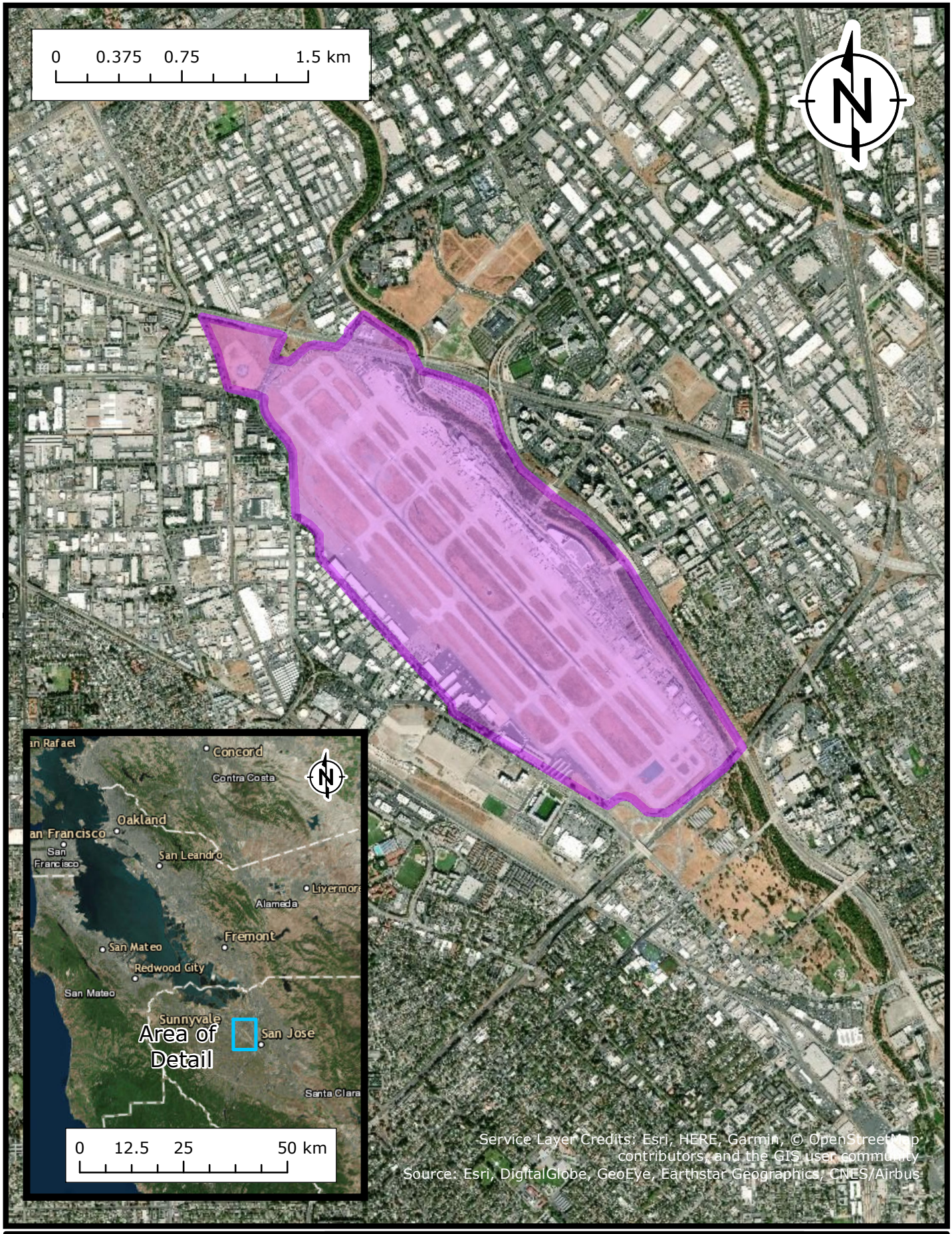
[4] The Maximum Annual Average $PM_{2.5}$ MEI occurs during Project Operation since annual average $PM_{2.5}$ concentrations were highest during this time period. However, the maximum annual $PM_{2.5}$ impacts from Project Constructions were conservatively listed here as well, in order to demonstrate a worst case year scenario.

[5] Impacts from Nearby Sources were calculated using the BAAQMD's Screening tools, as presented in previous tables. However, the BAAQMD's Screening tools did not estimate chronic hazards since they were below screening levels at the MEI.

Abbreviations:

$\mu g/m^3$ - micrograms per cubic meter
BAAQMD - Bay Area Air Quality Management District
m - meter
MEI - maximally exposed individual
$PM_{2.5}$ - particulate matter less than 2.5 microns in diameter

FIGURES



RAMBOLL

Airport Location
Regional and Vicinity
San Jose Airport
San Jose, CA

FIGURE
1

DRAFTED BY: LK | DATE: 5/20/2019 | PROJECT: 1690010078

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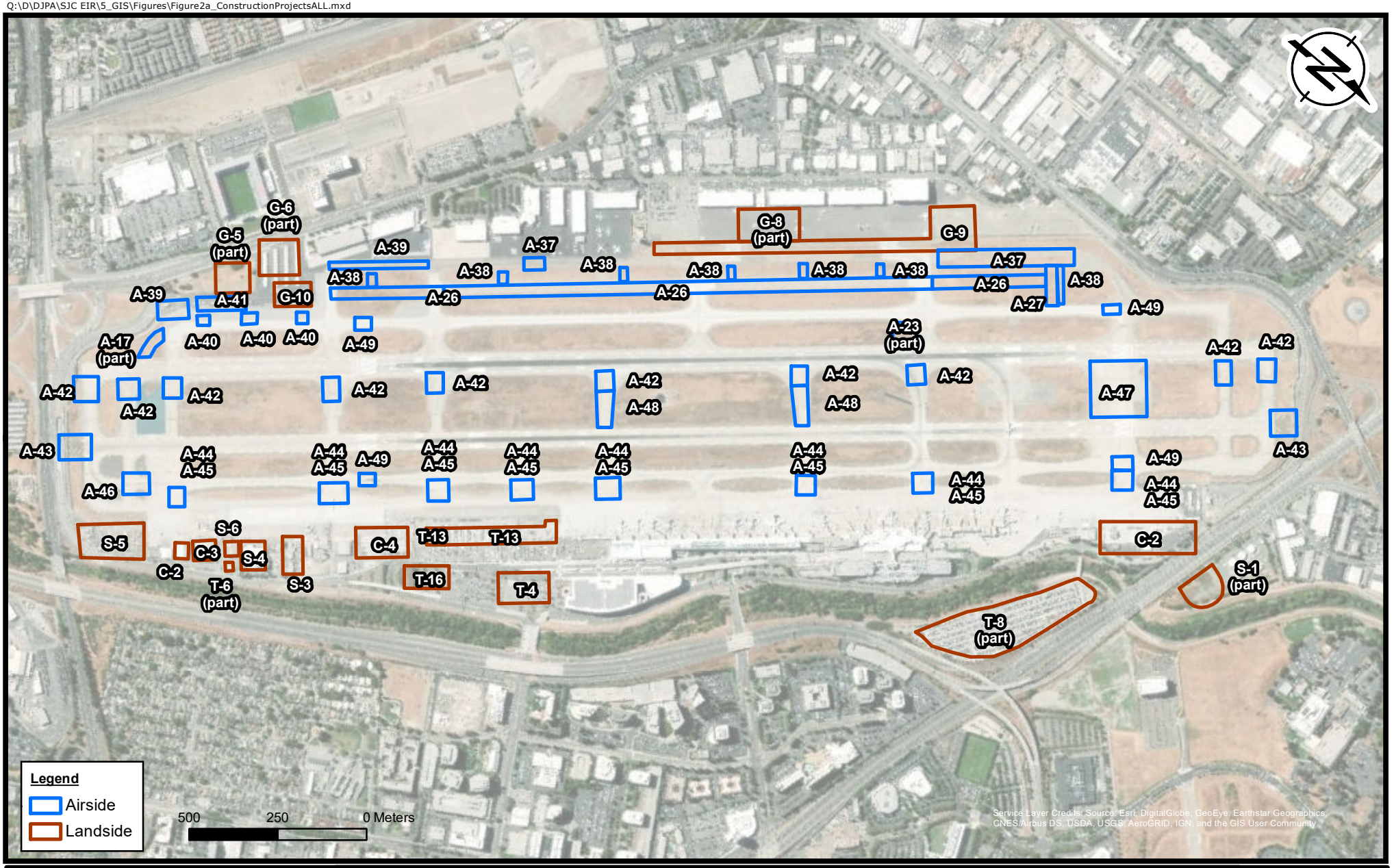

RAMBOLL

DRAFTED BY:

DATE: 5/20/2019

SJC Construction Projects

Mineta San Jose International Airport
San Jose, California

FIGURE
2a

PROJECT: 1690010078

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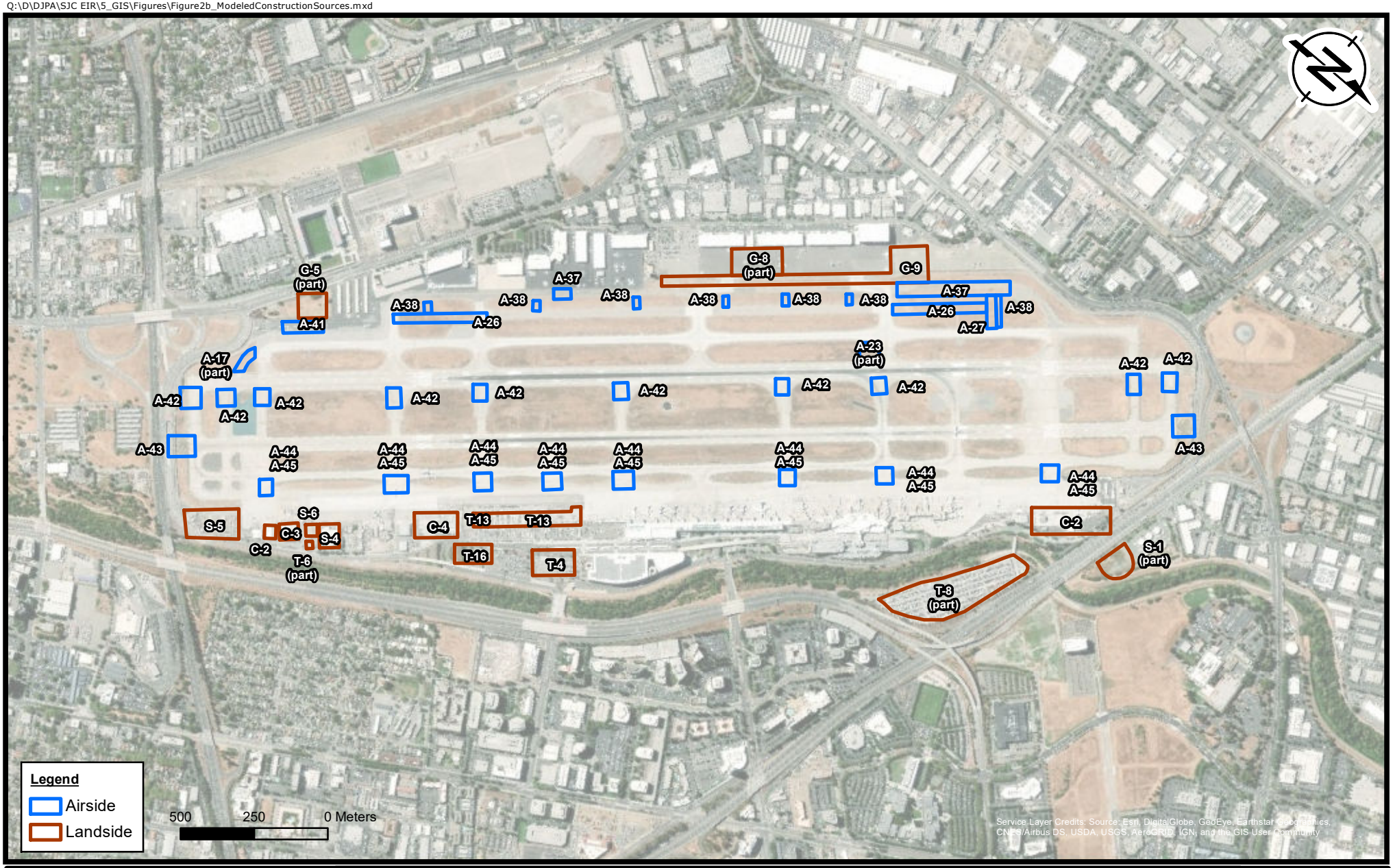

RAMBOLL

DRAFTED BY:

DATE: 5/20/2019

Modeled Source Locations for Construction Projects

Mineta San Jose International Airport
San Jose, California

FIGURE
2b

PROJECT: 1690010078

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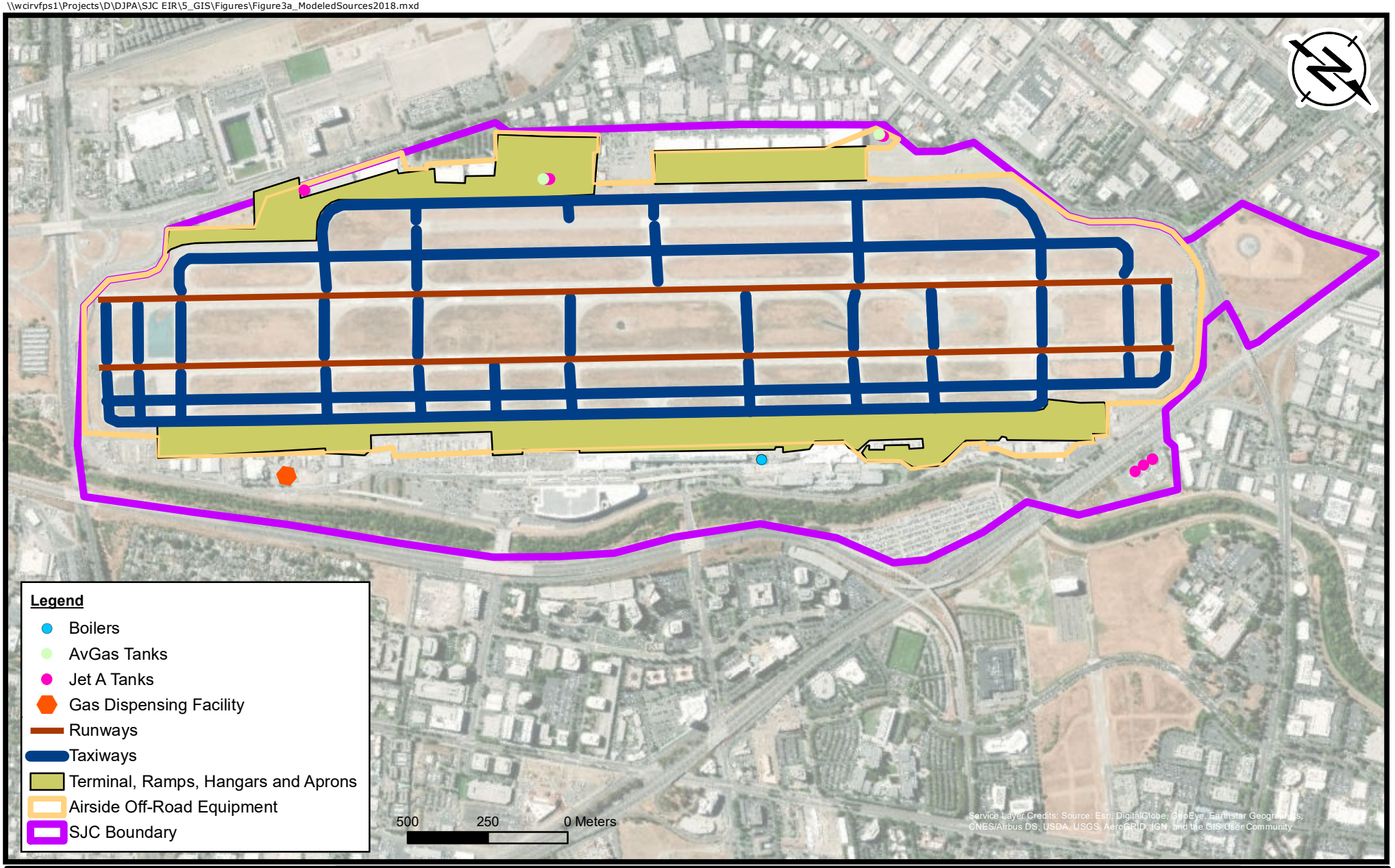

RAMBOLL

Modeled Source Locations for 2018 Operational Ground Sources

Mineta San Jose International Airport
San Jose, California

FIGURE
3a

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DATE: 5/21/2019

PROJECT: 1690010078

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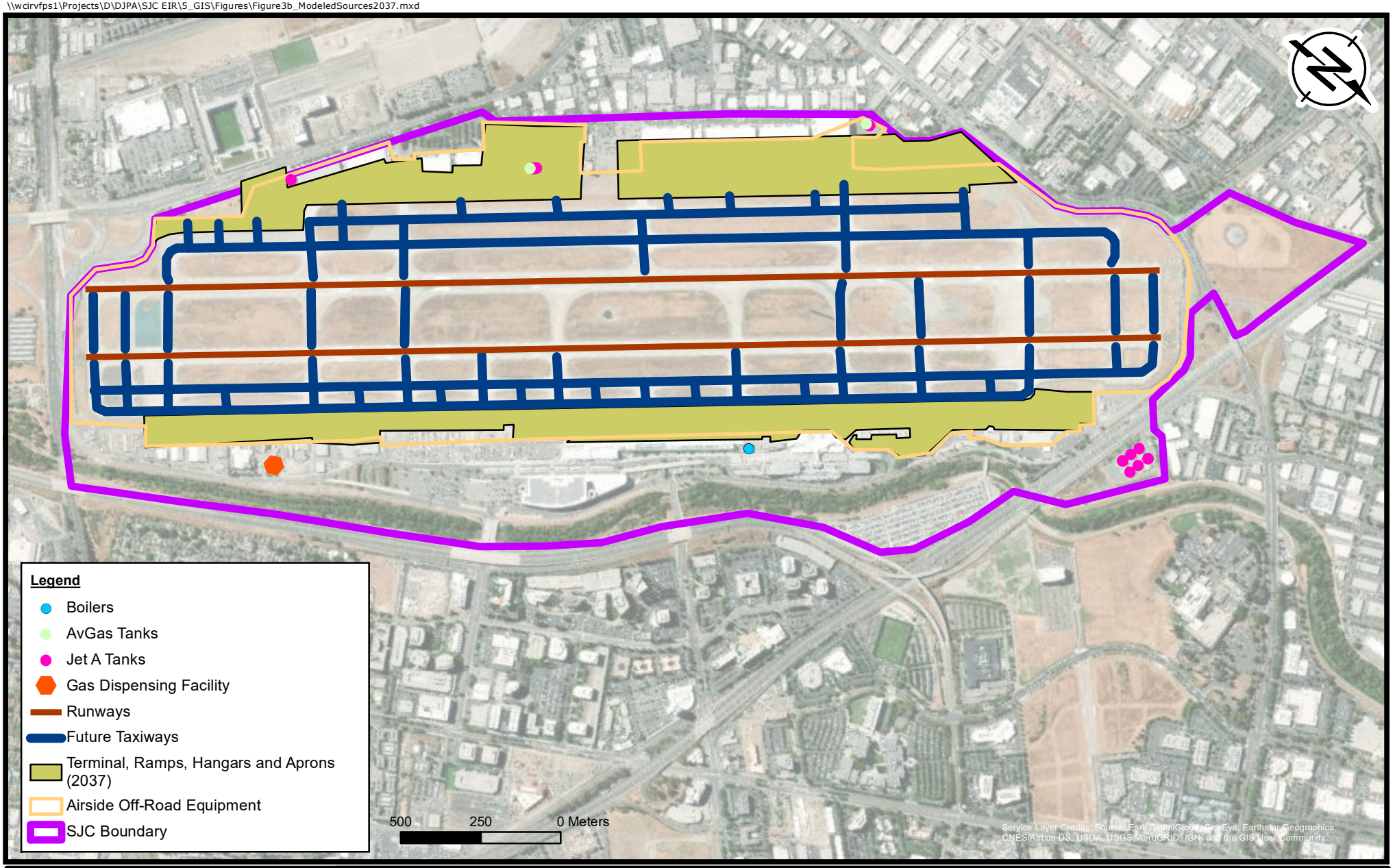

RAMBOLL

Modeled Source Locations for 2037 Operational Ground Sources

Mineta San Jose International Airport
San Jose, California

FIGURE
3b

DRAFTED BY:

DATE: 5/20/2019

PROJECT: 1690010078

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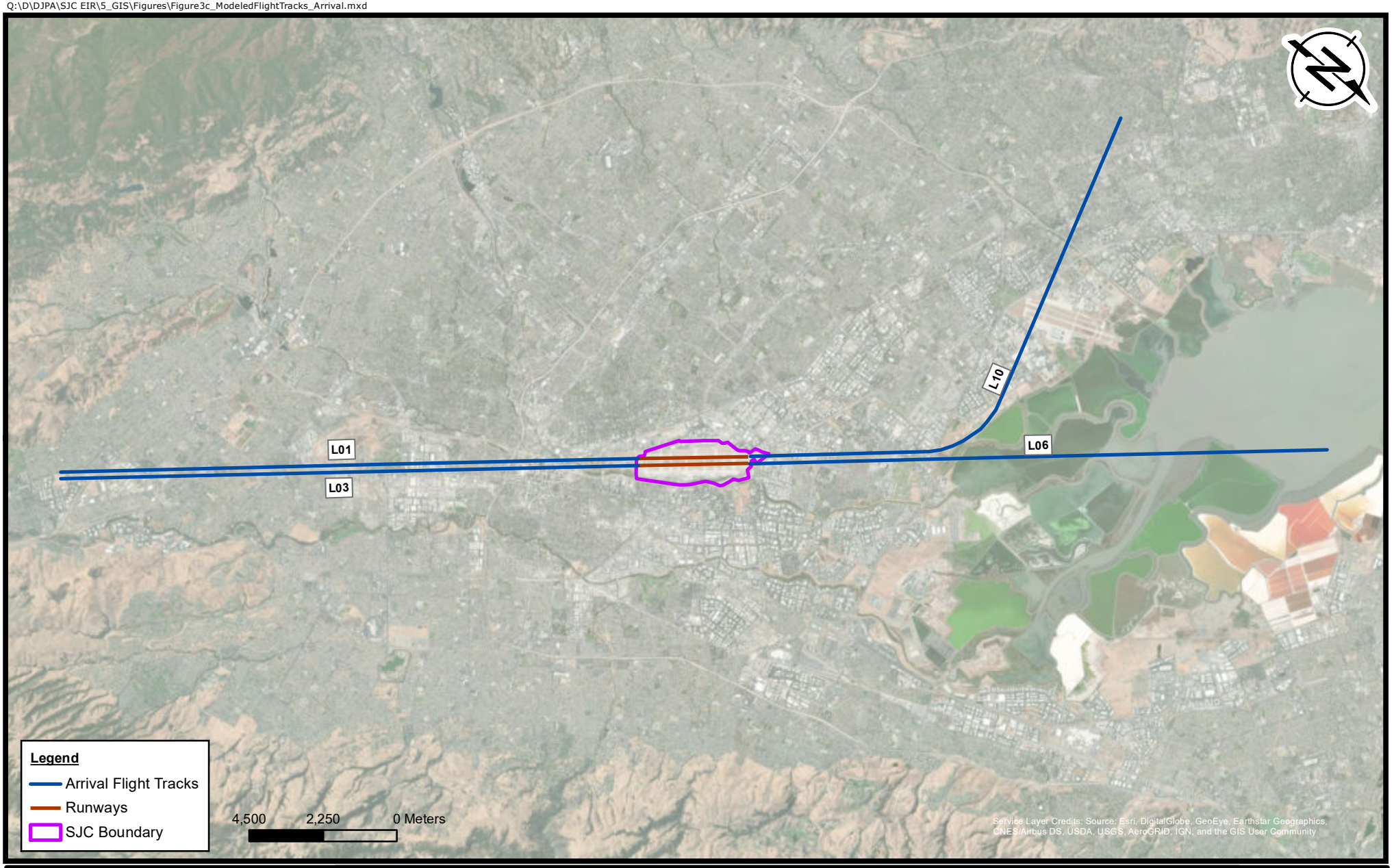

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DRAFTED BY:

DATE: 5/20/2019

Modeled Source Locations for Arrival Flight Tracks

Mineta San Jose International Airport
San Jose, California

FIGURE
3c

PROJECT: 1690010078

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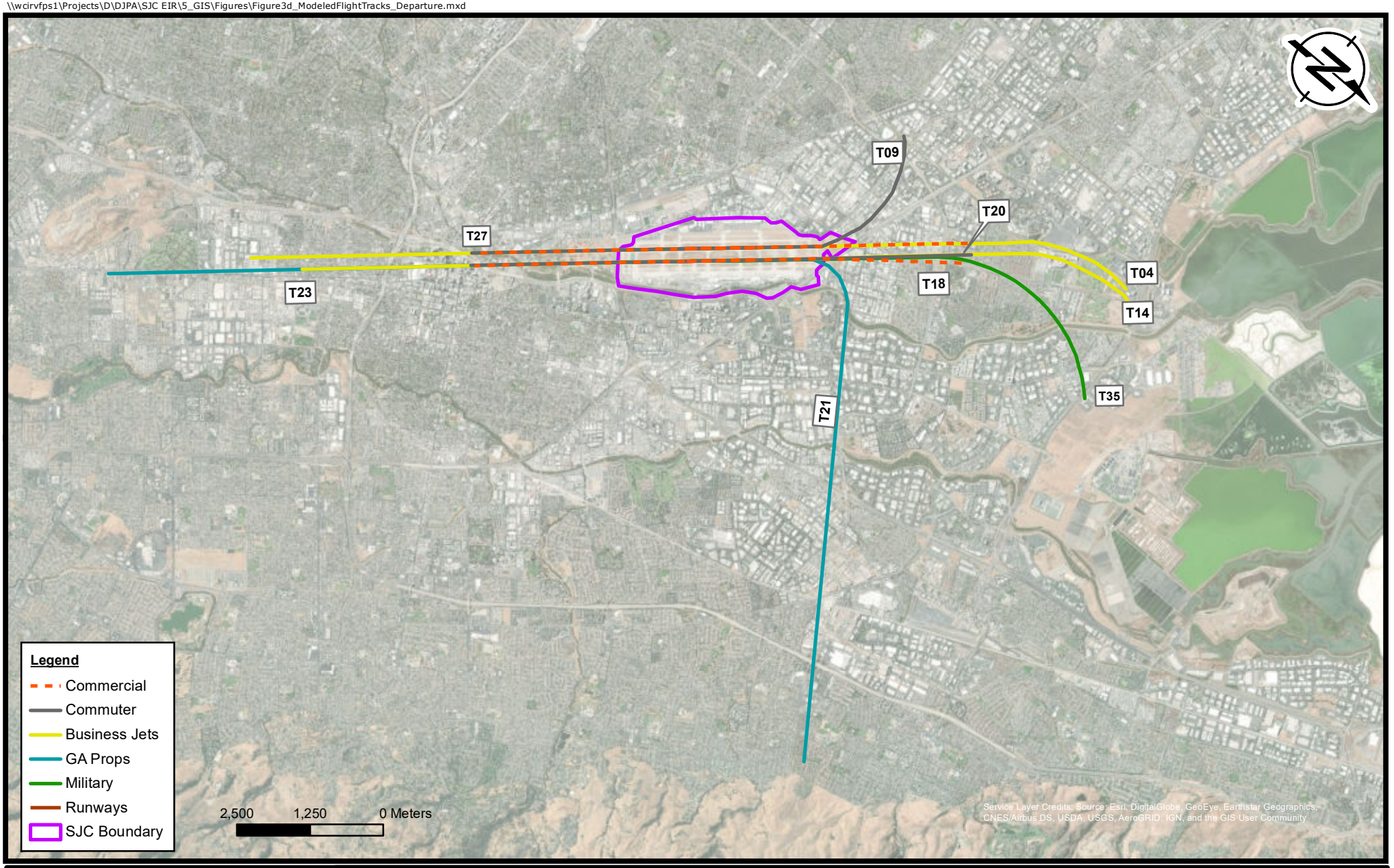


RAMBOLL

Modeled Source Locations for Departure Flight Tracks

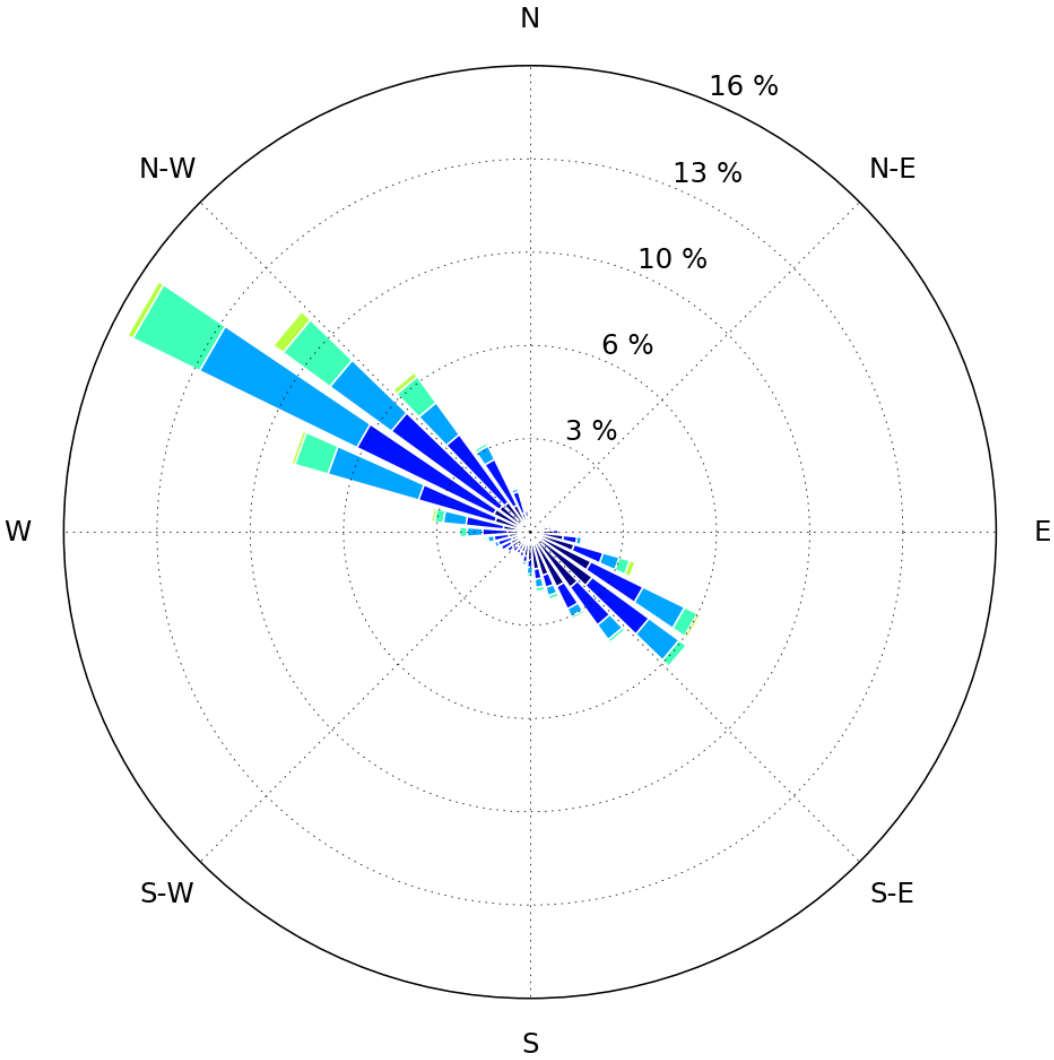
Mineta San Jose International Airport
San Jose, California

FIGURE
3d

DRAFTED BY:

DATE: 5/21/2019

PROJECT: 1690010078



RAMBOLL

DRAFTED BY: LK | DATE: 5/20/2019

Wind Rose for San Jose International Airport

San Jose Airport
San Jose, CA

FIGURE
4

PROJECT: 1690010078

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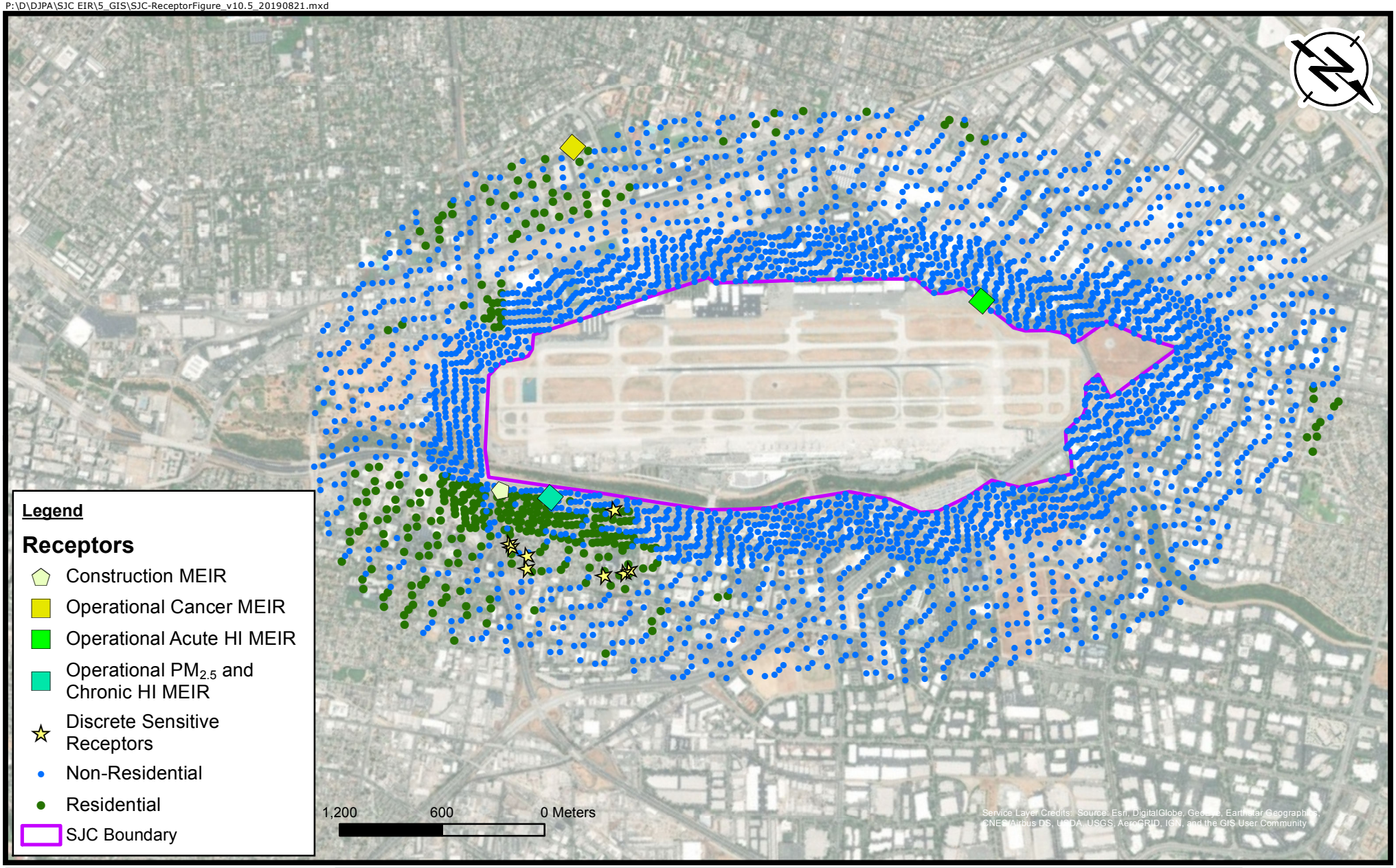

RAMBOLL

Modeled Receptor and MEIR Locations

Mineta San Jose International Airport
San Jose, California

FIGURE
5

DRAFTED BY:

DATE: 8/21/2019

PROJECT: 1690010078

APPENDIX A
CALEEMOD® AND ACEIT RUNS

APPENDIX A-1
CALEEMOD® OUTPUTS

Project T-4 (Run 1)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	5,000.00	Space	11.50	2,500,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Parking Structure

Land Use - Landside Development

Vehicle Trips - Construction Only

Consumer Products - Construction Only

Area Coating - Construction Only

Landscape Equipment - Construction Only

Energy Use - Construction Only

Water And Wastewater - Construction Only

Project T-4 (Run 1) - Santa Clara County, Annual

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_EF_Residential_Exterior	150	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Parking	150000	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	0
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	T24E	3.92	0.00
tblLandUse	LandUseSquareFeet	2,000,000.00	2,500,000.00
tblLandUse	LotAcreage	45.00	11.50
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00

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					
2022	0.6955	6.7514	5.6517	0.0225	1.3272	0.1392	1.4664	0.4042	0.1302	0.5344	0.0000	2,083.8422	2,083.8422	0.1553	0.0000	2,087.7235
2023	0.8067	2.4376	2.5097	0.0106	0.5691	0.0452	0.6143	0.1545	0.0424	0.1969	0.0000	982.7015	982.7015	0.0596	0.0000	984.1911
Maximum	**0.8067**	**6.7514**	**5.6517**	**0.0225**	**1.3272**	**0.1392**	**1.4664**	**0.4042**	**0.1302**	**0.5344**	**0.0000**	**2,083.8422**	**2,083.8422**	**0.1553**	**0.0000**	**2,087.7235**

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					
2022	0.6955	6.7514	5.6517	0.0225	1.3272	0.1392	1.4664	0.4042	0.1302	0.5344	0.0000	2,083.8418	2,083.8418	0.1553	0.0000	2,087.7231
2023	0.8067	2.4376	2.5097	0.0106	0.5691	0.0452	0.6143	0.1545	0.0424	0.1969	0.0000	982.7013	982.7013	0.0596	0.0000	984.1909
Maximum	**0.8067**	**6.7514**	**5.6517**	**0.0225**	**1.3272**	**0.1392**	**1.4664**	**0.4042**	**0.1302**	**0.5344**	**0.0000**	**2,083.8418**	**2,083.8418**	**0.1553**	**0.0000**	**2,087.7231**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2022	3-31-2022	1.2417	1.2417
2	4-1-2022	6-30-2022	2.0448	2.0448
3	7-1-2022	9-30-2022	2.0673	2.0673
4	10-1-2022	12-31-2022	2.1000	2.1000
5	1-1-2023	3-31-2023	1.6769	1.6769
6	4-1-2023	6-30-2023	1.2850	1.2850
7	7-1-2023	9-30-2023	0.2728	0.2728
		Highest	2.1000	2.1000

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	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

Project T-4 (Run 1) - Santa Clara County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2022	1/28/2022	5	20	
2	Site Preparation	Site Preparation	1/29/2022	2/11/2022	5	10	
3	Grading	Grading	2/12/2022	3/25/2022	5	30	
4	Building Construction	Building Construction	3/26/2022	5/19/2023	5	300	
5	Paving	Paving	5/20/2023	6/16/2023	5	20	
6	Architectural Coating	Architectural Coating	6/17/2023	7/14/2023	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 11.5

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 150,000 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,050.00	410.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	210.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0264	0.2572	0.2059	3.9000e-004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e-003	0.0000	34.2289
Total	**0.0264**	**0.2572**	**0.2059**	**3.9000e-004**		**0.0124**	**0.0124**		**0.0116**	**0.0116**	**0.0000**	**33.9902**	**33.9902**	**9.5500e-003**	**0.0000**	**34.2289**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.9000e-004	3.1500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9490	0.9490	2.0000e-005	0.0000	0.9495
Total	**4.3000e-004**	**2.9000e-004**	**3.1500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9490**	**0.9490**	**2.0000e-005**	**0.0000**	**0.9495**

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	0.0264	0.2572	0.2059	3.9000e-004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e-003	0.0000	34.2289
Total	**0.0264**	**0.2572**	**0.2059**	**3.9000e-004**		**0.0124**	**0.0124**		**0.0116**	**0.0116**	**0.0000**	**33.9902**	**33.9902**	**9.5500e-003**	**0.0000**	**34.2289**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.9000e-004	3.1500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9490	0.9490	2.0000e-005	0.0000	0.9495
Total	**4.3000e-004**	**2.9000e-004**	**3.1500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9490**	**0.9490**	**2.0000e-005**	**0.0000**	**0.9495**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	**0.0159**	**0.1654**	**0.0985**	**1.9000e-004**	**0.0903**	**8.0600e-003**	**0.0984**	**0.0497**	**7.4200e-003**	**0.0571**	**0.0000**	**16.7197**	**16.7197**	**5.4100e-003**	**0.0000**	**16.8549**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.7000e-004	1.8900e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5694	0.5694	1.0000e-005	0.0000	0.5697
Total	**2.6000e-004**	**1.7000e-004**	**1.8900e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5694**	**0.5694**	**1.0000e-005**	**0.0000**	**0.5697**

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	**0.0159**	**0.1654**	**0.0985**	**1.9000e-004**	**0.0903**	**8.0600e-003**	**0.0984**	**0.0497**	**7.4200e-003**	**0.0571**	**0.0000**	**16.7197**	**16.7197**	**5.4100e-003**	**0.0000**	**16.8549**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.7000e-004	1.8900e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5694	0.5694	1.0000e-005	0.0000	0.5697
Total	**2.6000e-004**	**1.7000e-004**	**1.8900e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5694**	**0.5694**	**1.0000e-005**	**0.0000**	**0.5697**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0544	0.5827	0.4356	9.3000e-004		0.0245	0.0245		0.0226	0.0226	0.0000	81.8019	81.8019	0.0265	0.0000	82.4633
Total	**0.0544**	**0.5827**	**0.4356**	**9.3000e-004**	**0.1301**	**0.0245**	**0.1546**	**0.0540**	**0.0226**	**0.0765**	**0.0000**	**81.8019**	**81.8019**	**0.0265**	**0.0000**	**82.4633**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.6000e-004	5.7000e-004	6.3100e-003	2.0000e-005	2.3800e-003	1.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.5000e-004	0.0000	1.8981	1.8981	4.0000e-005	0.0000	1.8991
Total	**8.6000e-004**	**5.7000e-004**	**6.3100e-003**	**2.0000e-005**	**2.3800e-003**	**1.0000e-005**	**2.3900e-003**	**6.3000e-004**	**1.0000e-005**	**6.5000e-004**	**0.0000**	**1.8981**	**1.8981**	**4.0000e-005**	**0.0000**	**1.8991**

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					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0544	0.5827	0.4356	9.3000e-004		0.0245	0.0245		0.0226	0.0226	0.0000	81.8018	81.8018	0.0265	0.0000	82.4632
Total	**0.0544**	**0.5827**	**0.4356**	**9.3000e-004**	**0.1301**	**0.0245**	**0.1546**	**0.0540**	**0.0226**	**0.0765**	**0.0000**	**81.8018**	**81.8018**	**0.0265**	**0.0000**	**82.4632**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.6000e-004	5.7000e-004	6.3100e-003	2.0000e-005	2.3800e-003	1.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.5000e-004	0.0000	1.8981	1.8981	4.0000e-005	0.0000	1.8991
Total	**8.6000e-004**	**5.7000e-004**	**6.3100e-003**	**2.0000e-005**	**2.3800e-003**	**1.0000e-005**	**2.3900e-003**	**6.3000e-004**	**1.0000e-005**	**6.5000e-004**	**0.0000**	**1.8981**	**1.8981**	**4.0000e-005**	**0.0000**	**1.8991**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1706	1.5616	1.6363	2.6900e-003		0.0809	0.0809		0.0761	0.0761	0.0000	231.7252	231.7252	0.0555	0.0000	233.1131
Total	**0.1706**	**1.5616**	**1.6363**	**2.6900e-003**		**0.0809**	**0.0809**		**0.0761**	**0.0761**	**0.0000**	**231.7252**	**231.7252**	**0.0555**	**0.0000**	**233.1131**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1248	3.9826	1.0563	0.0110	0.2698	8.1200e-003	0.2779	0.0780	7.7600e-003	0.0858	0.0000	1,051.8602	1,051.8602	0.0442	0.0000	1,052.9650
Worker	0.3019	0.2009	2.2077	7.3400e-003	0.8328	5.1200e-003	0.8379	0.2215	4.7200e-003	0.2262	0.0000	664.3284	664.3284	0.0141	0.0000	664.6800
Total	**0.4267**	**4.1836**	**3.2640**	**0.0183**	**1.1025**	**0.0132**	**1.1158**	**0.2995**	**0.0125**	**0.3120**	**0.0000**	**1,716.1886**	**1,716.1886**	**0.0583**	**0.0000**	**1,717.6449**

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	0.1706	1.5616	1.6363	2.6900e-003		0.0809	0.0809		0.0761	0.0761	0.0000	231.7250	231.7250	0.0555	0.0000	233.1128
Total	**0.1706**	**1.5616**	**1.6363**	**2.6900e-003**		**0.0809**	**0.0809**		**0.0761**	**0.0761**	**0.0000**	**231.7250**	**231.7250**	**0.0555**	**0.0000**	**233.1128**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1248	3.9826	1.0563	0.0110	0.2698	8.1200e-003	0.2779	0.0780	7.7600e-003	0.0858	0.0000	1,051.8602	1,051.8602	0.0442	0.0000	1,052.9650
Worker	0.3019	0.2009	2.2077	7.3400e-003	0.8328	5.1200e-003	0.8379	0.2215	4.7200e-003	0.2262	0.0000	664.3284	664.3284	0.0141	0.0000	664.6800
Total	**0.4267**	**4.1836**	**3.2640**	**0.0183**	**1.1025**	**0.0132**	**1.1158**	**0.2995**	**0.0125**	**0.3120**	**0.0000**	**1,716.1886**	**1,716.1886**	**0.0583**	**0.0000**	**1,717.6449**

3.5 Building Construction - 2023

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	0.0786	0.7192	0.8122	1.3500e-003		0.0350	0.0350		0.0329	0.0329	0.0000	115.9024	115.9024	0.0276	0.0000	116.5917
Total	**0.0786**	**0.7192**	**0.8122**	**1.3500e-003**		**0.0350**	**0.0350**		**0.0329**	**0.0329**	**0.0000**	**115.9024**	**115.9024**	**0.0276**	**0.0000**	**116.5917**

3.5 Building Construction - 2023

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	0.0470	1.5091	0.4744	5.3200e-003	0.1349	1.7600e-003	0.1367	0.0390	1.6800e-003	0.0407	0.0000	510.9773	510.9773	0.0188	0.0000	511.4476
Worker	0.1413	0.0904	1.0156	3.5300e-003	0.4164	2.5100e-003	0.4189	0.1107	2.3100e-003	0.1131	0.0000	319.5468	319.5468	6.3000e-003	0.0000	319.7044
Total	**0.1884**	**1.5995**	**1.4900**	**8.8500e-003**	**0.5513**	**4.2700e-003**	**0.5556**	**0.1497**	**3.9900e-003**	**0.1537**	**0.0000**	**830.5241**	**830.5241**	**0.0251**	**0.0000**	**831.1520**

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	0.0786	0.7192	0.8122	1.3500e-003		0.0350	0.0350		0.0329	0.0329	0.0000	115.9022	115.9022	0.0276	0.0000	116.5915
Total	**0.0786**	**0.7192**	**0.8122**	**1.3500e-003**		**0.0350**	**0.0350**		**0.0329**	**0.0329**	**0.0000**	**115.9022**	**115.9022**	**0.0276**	**0.0000**	**116.5915**

3.5 Building Construction - 2023

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	0.0470	1.5091	0.4744	5.3200e-003	0.1349	1.7600e-003	0.1367	0.0390	1.6800e-003	0.0407	0.0000	510.9773	510.9773	0.0188	0.0000	511.4476
Worker	0.1413	0.0904	1.0156	3.5300e-003	0.4164	2.5100e-003	0.4189	0.1107	2.3100e-003	0.1131	0.0000	319.5468	319.5468	6.3000e-003	0.0000	319.7044
Total	**0.1884**	**1.5995**	**1.4900**	**8.8500e-003**	**0.5513**	**4.2700e-003**	**0.5556**	**0.1497**	**3.9900e-003**	**0.1537**	**0.0000**	**830.5241**	**830.5241**	**0.0251**	**0.0000**	**831.1520**

3.6 Paving - 2023

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	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0103**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0269**	**20.0269**	**6.4800e-003**	**0.0000**	**20.1888**

3.6 Paving - 2023

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	4.0000e-004	2.6000e-004	2.9000e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9130	0.9130	2.0000e-005	0.0000	0.9134
Total	**4.0000e-004**	**2.6000e-004**	**2.9000e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9130**	**0.9130**	**2.0000e-005**	**0.0000**	**0.9134**

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	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0103**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0268**	**20.0268**	**6.4800e-003**	**0.0000**	**20.1888**

3.6 Paving - 2023

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	4.0000e-004	2.6000e-004	2.9000e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9130	0.9130	2.0000e-005	0.0000	0.9134
Total	**4.0000e-004**	**2.6000e-004**	**2.9000e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9130**	**0.9130**	**2.0000e-005**	**0.0000**	**0.9134**

3.7 Architectural Coating - 2023

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	0.5214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**0.5234**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

3.7 Architectural Coating - 2023

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	5.6500e-003	3.6100e-003	0.0406	1.4000e-004	0.0167	1.0000e-004	0.0168	4.4300e-003	9.0000e-005	4.5200e-003	0.0000	12.7819	12.7819	2.5000e-004	0.0000	12.7882
Total	**5.6500e-003**	**3.6100e-003**	**0.0406**	**1.4000e-004**	**0.0167**	**1.0000e-004**	**0.0168**	**4.4300e-003**	**9.0000e-005**	**4.5200e-003**	**0.0000**	**12.7819**	**12.7819**	**2.5000e-004**	**0.0000**	**12.7882**

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	0.5214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	**0.5234**	**0.0130**	**0.0181**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.5000e-004**	**0.0000**	**2.5571**

3.7 Architectural Coating - 2023

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	5.6500e-003	3.6100e-003	0.0406	1.4000e-004	0.0167	1.0000e-004	0.0168	4.4300e-003	9.0000e-005	4.5200e-003	0.0000	12.7819	12.7819	2.5000e-004	0.0000	12.7882
Total	**5.6500e-003**	**3.6100e-003**	**0.0406**	**1.4000e-004**	**0.0167**	**1.0000e-004**	**0.0168**	**4.4300e-003**	**9.0000e-005**	**4.5200e-003**	**0.0000**	**12.7819**	**12.7819**	**2.5000e-004**	**0.0000**	**12.7882**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking Structure	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Enclosed Parking Structure	0.00	0.00	0.00	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
Enclosed Parking Structure	0.614951	0.035734	0.181842	0.104158	0.013506	0.005015	0.012793	0.021727	0.002177	0.001514	0.005249	0.000632	0.000704

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
Enclosed Parking Structure	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking Structure	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Project T-6 (Run 2)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-Rail	11.00	1000sqft	0.25	11,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Parking Structure

Land Use - Landside Development

Construction Phase -

Vehicle Trips - Construction Only

Consumer Products - Construction Only

Area Coating - Construction Only

Landscape Equipment - Construction Only

Energy Use - Construction Only

Water And Wastewater - Construction Only

Solid Waste - Construction Only

Project T-6 (Run 2) - Santa Clara County, Annual

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_EF_Residential_Exterior	150	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	5500	0
tblAreaCoating	Area_Nonresidential_Interior	16500	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	0
tblEnergyUse	LightingElect	1.62	0.00
tblEnergyUse	NT24E	7.99	0.00
tblEnergyUse	NT24NG	3.06	0.00
tblEnergyUse	T24E	0.14	0.00
tblEnergyUse	T24NG	0.73	0.00
tblSolidWaste	SolidWasteGenerationRate	10.34	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	1.68	0.00

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					
2020	4.5000e-003	0.0395	0.0394	6.0000e-005	4.0000e-004	2.3400e-003	2.7400e-003	1.1000e-004	2.2300e-003	2.3400e-003	0.0000	5.5439	5.5439	9.9000e-004	0.0000	5.5687
Maximum	**4.5000e-003**	**0.0395**	**0.0394**	**6.0000e-005**	**4.0000e-004**	**2.3400e-003**	**2.7400e-003**	**1.1000e-004**	**2.2300e-003**	**2.3400e-003**	**0.0000**	**5.5439**	**5.5439**	**9.9000e-004**	**0.0000**	**5.5687**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	4.5000e-003	0.0395	0.0394	6.0000e-005	4.0000e-004	2.3400e-003	2.7400e-003	1.1000e-004	2.2300e-003	2.3400e-003	0.0000	5.5438	5.5438	9.9000e-004	0.0000	5.5686
Maximum	**4.5000e-003**	**0.0395**	**0.0394**	**6.0000e-005**	**4.0000e-004**	**2.3400e-003**	**2.7400e-003**	**1.1000e-004**	**2.2300e-003**	**2.3400e-003**	**0.0000**	**5.5438**	**5.5438**	**9.9000e-004**	**0.0000**	**5.5686**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2020**	**3-31-2020**	0.0440	0.0440
		Highest	0.0440	0.0440

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.8070	4.0042	4.8112	0.0831	1.9900e-003	7.4823
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.8070**	**4.0042**	**4.8112**	**0.0831**	**1.9900e-003**	**7.4823**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.8070	4.0042	4.8112	0.0831	1.9900e-003	7.4823
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.8070**	**4.0042**	**4.8112**	**0.0831**	**1.9900e-003**	**7.4823**

	ROG	NOx	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	1/1/2020	1/14/2020	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.3400e-003	0.0394	0.0381	6.0000e-005		2.3400e-003	2.3400e-003		2.2300e-003	2.2300e-003	0.0000	5.2038	5.2038	9.8000e-004	0.0000	5.2284
Total	**4.3400e-003**	**0.0394**	**0.0381**	**6.0000e-005**		**2.3400e-003**	**2.3400e-003**		**2.2300e-003**	**2.2300e-003**	**0.0000**	**5.2038**	**5.2038**	**9.8000e-004**	**0.0000**	**5.2284**

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	1.7000e-004	1.2000e-004	1.2500e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3401	0.3401	1.0000e-005	0.0000	0.3403
Total	**1.7000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3401**	**0.3401**	**1.0000e-005**	**0.0000**	**0.3403**

3.2 Demolition - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.3400e-003	0.0394	0.0381	6.0000e-005		2.3400e-003	2.3400e-003		2.2300e-003	2.2300e-003	0.0000	5.2038	5.2038	9.8000e-004	0.0000	5.2284
Total	**4.3400e-003**	**0.0394**	**0.0381**	**6.0000e-005**		**2.3400e-003**	**2.3400e-003**		**2.2300e-003**	**2.2300e-003**	**0.0000**	**5.2038**	**5.2038**	**9.8000e-004**	**0.0000**	**5.2284**

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	1.7000e-004	1.2000e-004	1.2500e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3401	0.3401	1.0000e-005	0.0000	0.3403
Total	**1.7000e-004**	**1.2000e-004**	**1.2500e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3401**	**0.3401**	**1.0000e-005**	**0.0000**	**0.3403**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Refrigerated Warehouse-Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Refrigerated Warehouse-Rail	0.00	0.00	0.00	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Refrigerated Warehouse-Rail	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.8112	0.0831	1.9900e-003	7.4823
Unmitigated	4.8112	0.0831	1.9900e-003	7.4823

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	2.54375 / 0	4.8112	0.0831	1.9900e-003	7.4823
Total		**4.8112**	**0.0831**	**1.9900e-003**	**7.4823**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	2.54375 / 0	4.8112	0.0831	1.9900e-003	7.4823
Total		**4.8112**	**0.0831**	**1.9900e-003**	**7.4823**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Project T-8 (Run 3)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	6,000.00	Space	10.70	2,335,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Parking Structure

Land Use - Landside Development

Vehicle Trips - Construction Only

Consumer Products - Construction Only

Area Coating - Construction Only

Landscape Equipment - Construction Only

Energy Use - Construction Only

Water And Wastewater - Construction Only

Solid Waste -

Project T-8 (Run 3) - Santa Clara County, Annual

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_EF_Residential_Exterior	150	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Parking	140100	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	0
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	NT24E	0.19	0.00
tblEnergyUse	T24E	3.92	0.00
tblLandUse	LandUseSquareFeet	2,400,000.00	2,335,000.00
tblLandUse	LotAcreage	54.00	10.70
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00

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					
2020	0.8186	7.8772	6.1724	0.0223	1.2650	0.1999	1.4649	0.3873	0.1872	0.5745	0.0000	2,055.2773	2,055.2773	0.1615	0.0000	2,059.3149
2021	0.8107	3.0342	2.6381	0.0103	0.5214	0.0615	0.5829	0.1415	0.0577	0.1993	0.0000	951.6456	951.6456	0.0627	0.0000	953.2134
Maximum	**0.8186**	**7.8772**	**6.1724**	**0.0223**	**1.2650**	**0.1999**	**1.4649**	**0.3873**	**0.1872**	**0.5745**	**0.0000**	**2,055.2773**	**2,055.2773**	**0.1615**	**0.0000**	**2,059.3149**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.8186	7.8772	6.1724	0.0223	1.2650	0.1999	1.4649	0.3873	0.1872	0.5745	0.0000	2,055.2769	2,055.2769	0.1615	0.0000	2,059.3145
2021	0.8107	3.0342	2.6381	0.0103	0.5214	0.0615	0.5829	0.1415	0.0577	0.1993	0.0000	951.6454	951.6454	0.0627	0.0000	953.2132
Maximum	**0.8186**	**7.8772**	**6.1724**	**0.0223**	**1.2650**	**0.1999**	**1.4649**	**0.3873**	**0.1872**	**0.5745**	**0.0000**	**2,055.2769**	**2,055.2769**	**0.1615**	**0.0000**	**2,059.3145**

Project T-8 (Run 3) - Santa Clara County, Annual

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2020**	**3-31-2020**	1.6023	1.6023
2	**4-1-2020**	**6-30-2020**	2.3195	2.3195
3	**7-1-2020**	**9-30-2020**	2.3449	2.3449
4	**10-1-2020**	**12-31-2020**	2.3862	2.3862
5	**1-1-2021**	**3-31-2021**	2.1073	2.1073
6	**4-1-2021**	**6-30-2021**	1.5242	1.5242
7	**7-1-2021**	**9-30-2021**	0.2389	0.2389
		Highest	2.3862	2.3862

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	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

Project T-8 (Run 3) - Santa Clara County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	1/28/2020	5	20	
2	Site Preparation	Site Preparation	1/29/2020	2/11/2020	5	10	
3	Grading	Grading	2/12/2020	3/24/2020	5	30	
4	Building Construction	Building Construction	3/25/2020	5/18/2021	5	300	
5	Paving	Paving	5/19/2021	6/15/2021	5	20	
6	Architectural Coating	Architectural Coating	6/16/2021	7/13/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 10.7

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 140,100 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	981.00	383.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	196.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**		**0.0166**	**0.0166**		**0.0154**	**0.0154**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2386**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**5.0000e-004**	**3.6000e-004**	**3.7500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0202**	**1.0202**	**3.0000e-005**	**0.0000**	**1.0209**

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	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**		**0.0166**	**0.0166**		**0.0154**	**0.0154**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2385**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**5.0000e-004**	**3.6000e-004**	**3.7500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0202**	**1.0202**	**3.0000e-005**	**0.0000**	**1.0209**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	**0.0204**	**0.2121**	**0.1076**	**1.9000e-004**	**0.0903**	**0.0110**	**0.1013**	**0.0497**	**0.0101**	**0.0598**	**0.0000**	**16.7153**	**16.7153**	**5.4100e-003**	**0.0000**	**16.8505**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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-004	2.1000e-004	2.2500e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6121	0.6121	2.0000e-005	0.0000	0.6125
Total	**3.0000e-004**	**2.1000e-004**	**2.2500e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6121**	**0.6121**	**2.0000e-005**	**0.0000**	**0.6125**

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	**0.0204**	**0.2121**	**0.1076**	**1.9000e-004**	**0.0903**	**0.0110**	**0.1013**	**0.0497**	**0.0101**	**0.0598**	**0.0000**	**16.7153**	**16.7153**	**5.4100e-003**	**0.0000**	**16.8505**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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-004	2.1000e-004	2.2500e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6121	0.6121	2.0000e-005	0.0000	0.6125
Total	**3.0000e-004**	**2.1000e-004**	**2.2500e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6121**	**0.6121**	**2.0000e-005**	**0.0000**	**0.6125**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0668	0.7530	0.4794	9.3000e-004		0.0326	0.0326		0.0300	0.0300	0.0000	81.7264	81.7264	0.0264	0.0000	82.3872
Total	**0.0668**	**0.7530**	**0.4794**	**9.3000e-004**	**0.1301**	**0.0326**	**0.1627**	**0.0540**	**0.0300**	**0.0840**	**0.0000**	**81.7264**	**81.7264**	**0.0264**	**0.0000**	**82.3872**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	7.2000e-004	7.5100e-003	2.0000e-005	2.3800e-003	2.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.5000e-004	0.0000	2.0405	2.0405	5.0000e-005	0.0000	2.0417
Total	**1.0000e-003**	**7.2000e-004**	**7.5100e-003**	**2.0000e-005**	**2.3800e-003**	**2.0000e-005**	**2.3900e-003**	**6.3000e-004**	**1.0000e-005**	**6.5000e-004**	**0.0000**	**2.0405**	**2.0405**	**5.0000e-005**	**0.0000**	**2.0417**

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					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0668	0.7530	0.4794	9.3000e-004		0.0326	0.0326		0.0300	0.0300	0.0000	81.7263	81.7263	0.0264	0.0000	82.3871
Total	**0.0668**	**0.7530**	**0.4794**	**9.3000e-004**	**0.1301**	**0.0326**	**0.1627**	**0.0540**	**0.0300**	**0.0840**	**0.0000**	**81.7263**	**81.7263**	**0.0264**	**0.0000**	**82.3871**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	7.2000e-004	7.5100e-003	2.0000e-005	2.3800e-003	2.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.5000e-004	0.0000	2.0405	2.0405	5.0000e-005	0.0000	2.0417
Total	**1.0000e-003**	**7.2000e-004**	**7.5100e-003**	**2.0000e-005**	**2.3800e-003**	**2.0000e-005**	**2.3900e-003**	**6.3000e-004**	**1.0000e-005**	**6.5000e-004**	**0.0000**	**2.0405**	**2.0405**	**5.0000e-005**	**0.0000**	**2.0417**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2141	1.9378	1.7017	2.7200e-003		0.1128	0.1128		0.1061	0.1061	0.0000	233.9261	233.9261	0.0571	0.0000	235.3528
Total	**0.2141**	**1.9378**	**1.7017**	**2.7200e-003**		**0.1128**	**0.1128**		**0.1061**	**0.1061**	**0.0000**	**233.9261**	**233.9261**	**0.0571**	**0.0000**	**235.3528**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1533	4.4046	1.1731	0.0106	0.2545	0.0218	0.2763	0.0736	0.0209	0.0944	0.0000	1,011.3391	1,011.3391	0.0464	0.0000	1,012.4986
Worker	0.3291	0.2365	2.4796	7.4500e-003	0.7858	5.0800e-003	0.7909	0.2090	4.6800e-003	0.2137	0.0000	673.8989	673.8989	0.0165	0.0000	674.3122
Total	**0.4824**	**4.6411**	**3.6527**	**0.0180**	**1.0403**	**0.0269**	**1.0672**	**0.2826**	**0.0256**	**0.3081**	**0.0000**	**1,685.2380**	**1,685.2380**	**0.0629**	**0.0000**	**1,686.8108**

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	0.2141	1.9378	1.7017	2.7200e-003		0.1128	0.1128		0.1061	0.1061	0.0000	233.9258	233.9258	0.0571	0.0000	235.3526
Total	**0.2141**	**1.9378**	**1.7017**	**2.7200e-003**		**0.1128**	**0.1128**		**0.1061**	**0.1061**	**0.0000**	**233.9258**	**233.9258**	**0.0571**	**0.0000**	**235.3526**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1533	4.4046	1.1731	0.0106	0.2545	0.0218	0.2763	0.0736	0.0209	0.0944	0.0000	1,011.3391	1,011.3391	0.0464	0.0000	1,012.4986
Worker	0.3291	0.2365	2.4796	7.4500e-003	0.7858	5.0800e-003	0.7909	0.2090	4.6800e-003	0.2137	0.0000	673.8989	673.8989	0.0165	0.0000	674.3122
Total	**0.4824**	**4.6411**	**3.6527**	**0.0180**	**1.0403**	**0.0269**	**1.0672**	**0.2826**	**0.0256**	**0.3081**	**0.0000**	**1,685.2380**	**1,685.2380**	**0.0629**	**0.0000**	**1,686.8108**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0932	0.8542	0.8122	1.3200e-003		0.0470	0.0470		0.0442	0.0442	0.0000	113.5023	113.5023	0.0274	0.0000	114.1868
Total	**0.0932**	**0.8542**	**0.8122**	**1.3200e-003**		**0.0470**	**0.0470**		**0.0442**	**0.0442**	**0.0000**	**113.5023**	**113.5023**	**0.0274**	**0.0000**	**114.1868**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0612	1.9285	0.5134	5.0700e-003	0.1235	4.2800e-003	0.1277	0.0357	4.0900e-003	0.0398	0.0000	486.1205	486.1205	0.0212	0.0000	486.6501
Worker	0.1481	0.1025	1.0996	3.4900e-003	0.3812	2.4000e-003	0.3836	0.1014	2.2100e-003	0.1036	0.0000	315.5931	315.5931	7.1800e-003	0.0000	315.7725
Total	**0.2093**	**2.0310**	**1.6130**	**8.5600e-003**	**0.5047**	**6.6800e-003**	**0.5114**	**0.1371**	**6.3000e-003**	**0.1434**	**0.0000**	**801.7136**	**801.7136**	**0.0284**	**0.0000**	**802.4226**

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	0.0932	0.8542	0.8122	1.3200e-003		0.0470	0.0470		0.0442	0.0442	0.0000	113.5021	113.5021	0.0274	0.0000	114.1867
Total	**0.0932**	**0.8542**	**0.8122**	**1.3200e-003**		**0.0470**	**0.0470**		**0.0442**	**0.0442**	**0.0000**	**113.5021**	**113.5021**	**0.0274**	**0.0000**	**114.1867**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0612	1.9285	0.5134	5.0700e-003	0.1235	4.2800e-003	0.1277	0.0357	4.0900e-003	0.0398	0.0000	486.1205	486.1205	0.0212	0.0000	486.6501
Worker	0.1481	0.1025	1.0996	3.4900e-003	0.3812	2.4000e-003	0.3836	0.1014	2.2100e-003	0.1036	0.0000	315.5931	315.5931	7.1800e-003	0.0000	315.7725
Total	**0.2093**	**2.0310**	**1.6130**	**8.5600e-003**	**0.5047**	**6.6800e-003**	**0.5114**	**0.1371**	**6.3000e-003**	**0.1434**	**0.0000**	**801.7136**	**801.7136**	**0.0284**	**0.0000**	**802.4226**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0126**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854
Total	**4.6000e-004**	**3.2000e-004**	**3.4300e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9848**	**0.9848**	**2.0000e-005**	**0.0000**	**0.9854**

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	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0126**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854
Total	**4.6000e-004**	**3.2000e-004**	**3.4300e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9848**	**0.9848**	**2.0000e-005**	**0.0000**	**0.9854**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4870					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**0.4892**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0400e-003	4.1800e-003	0.0448	1.4000e-004	0.0156	1.0000e-004	0.0156	4.1300e-003	9.0000e-005	4.2200e-003	0.0000	12.8682	12.8682	2.9000e-004	0.0000	12.8755
Total	**6.0400e-003**	**4.1800e-003**	**0.0448**	**1.4000e-004**	**0.0156**	**1.0000e-004**	**0.0156**	**4.1300e-003**	**9.0000e-005**	**4.2200e-003**	**0.0000**	**12.8682**	**12.8682**	**2.9000e-004**	**0.0000**	**12.8755**

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	0.4870					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**0.4892**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0400e-003	4.1800e-003	0.0448	1.4000e-004	0.0156	1.0000e-004	0.0156	4.1300e-003	9.0000e-005	4.2200e-003	0.0000	12.8682	12.8682	2.9000e-004	0.0000	12.8755
Total	**6.0400e-003**	**4.1800e-003**	**0.0448**	**1.4000e-004**	**0.0156**	**1.0000e-004**	**0.0156**	**4.1300e-003**	**9.0000e-005**	**4.2200e-003**	**0.0000**	**12.8682**	**12.8682**	**2.9000e-004**	**0.0000**	**12.8755**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Enclosed Parking with Elevator	0.00	0.00	0.00	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
Enclosed Parking with Elevator	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Project T-13 (Run 4a)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-Rail	375.00	1000sqft	4.60	375,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - (Gates 29-40)

Land Use - SJC Modeling Basis

Vehicle Trips - Construction only

Consumer Products - Construction Only

Area Coating - Construction Only

Landscape Equipment - Construction only

Energy Use - construction only

Water And Wastewater - Construction only

Solid Waste - Construction only

Architectural Coating -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_EF_Residential_Exterior	150	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	187500	0
tblAreaCoating	Area_Nonresidential_Interior	562500	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	0
tblEnergyUse	LightingElect	1.62	0.00
tblEnergyUse	NT24E	7.99	0.00

tblEnergyUse	NT24NG	3.06	0.00
tblEnergyUse	T24E	0.14	0.00
tblEnergyUse	T24NG	0.73	0.00
tblLandUse	LotAcreage	8.61	4.60
tblSolidWaste	SolidWasteGenerationRate	352.50	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00

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					
2024	0.2662	2.4204	2.6382	6.6700e-003	0.2628	0.0873	0.3501	0.0903	0.0818	0.1721	0.0000	598.4614	598.4614	0.0866	0.0000	600.6271
2025	1.9664	0.0873	0.1437	2.5000e-004	4.5400e-003	3.9300e-003	8.4700e-003	1.2100e-003	3.6700e-003	4.8800e-003	0.0000	22.0174	22.0174	5.1100e-003	0.0000	22.1452
Maximum	**1.9664**	**2.4204**	**2.6382**	**6.6700e-003**	**0.2628**	**0.0873**	**0.3501**	**0.0903**	**0.0818**	**0.1721**	**0.0000**	**598.4614**	**598.4614**	**0.0866**	**0.0000**	**600.6271**

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					
2024	0.2662	2.4204	2.6382	6.6700e-003	0.2628	0.0873	0.3501	0.0903	0.0818	0.1721	0.0000	598.4611	598.4611	0.0866	0.0000	600.6267
2025	1.9664	0.0873	0.1437	2.5000e-004	4.5400e-003	3.9300e-003	8.4700e-003	1.2100e-003	3.6700e-003	4.8800e-003	0.0000	22.0174	22.0174	5.1100e-003	0.0000	22.1452
Maximum	**1.9664**	**2.4204**	**2.6382**	**6.6700e-003**	**0.2628**	**0.0873**	**0.3501**	**0.0903**	**0.0818**	**0.1721**	**0.0000**	**598.4611**	**598.4611**	**0.0866**	**0.0000**	**600.6267**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2024	3-31-2024	0.7023	0.7023
2	4-1-2024	6-30-2024	0.6527	0.6527
3	7-1-2024	9-30-2024	0.6599	0.6599
4	10-1-2024	12-31-2024	0.6635	0.6635
5	1-1-2025	3-31-2025	1.9598	1.9598
		Highest	1.9598	1.9598

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	27.5119	0.0000	27.5119	2.8257	0.0667	118.0382
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**27.5119**	**0.0000**	**27.5119**	**2.8257**	**0.0667**	**118.0382**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	27.5119	0.0000	27.5119	2.8257	0.0667	118.0382
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**27.5119**	**0.0000**	**27.5119**	**2.8257**	**0.0667**	**118.0382**

	ROG	NOx	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	1/1/2024	1/26/2024	5	20	
2	Site Preparation	Site Preparation	1/27/2024	2/2/2024	5	5	
3	Grading	Grading	2/3/2024	2/14/2024	5	8	
4	Building Construction	Building Construction	2/15/2024	1/1/2025	5	230	
5	Paving	Paving	1/2/2025	1/27/2025	5	18	
6	Architectural Coating	Architectural Coating	1/28/2025	2/20/2025	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 562,500; Non-Residential Outdoor: 187,500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	158.00	61.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	32.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2024

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	0.0224	0.2088	0.1971	3.9000e-004		9.6000e-003	9.6000e-003		8.9200e-003	8.9200e-003	0.0000	33.9961	33.9961	9.5100e-003	0.0000	34.2338
Total	**0.0224**	**0.2088**	**0.1971**	**3.9000e-004**		**9.6000e-003**	**9.6000e-003**		**8.9200e-003**	**8.9200e-003**	**0.0000**	**33.9961**	**33.9961**	**9.5100e-003**	**0.0000**	**34.2338**

3.2 Demolition - 2024

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	3.8000e-004	2.3000e-004	2.6900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.8771	0.8771	2.0000e-005	0.0000	0.8775
Total	**3.8000e-004**	**2.3000e-004**	**2.6900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.8771**	**0.8771**	**2.0000e-005**	**0.0000**	**0.8775**

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	0.0224	0.2088	0.1971	3.9000e-004		9.6000e-003	9.6000e-003		8.9200e-003	8.9200e-003	0.0000	33.9960	33.9960	9.5100e-003	0.0000	34.2338
Total	**0.0224**	**0.2088**	**0.1971**	**3.9000e-004**		**9.6000e-003**	**9.6000e-003**		**8.9200e-003**	**8.9200e-003**	**0.0000**	**33.9960**	**33.9960**	**9.5100e-003**	**0.0000**	**34.2338**

3.2 Demolition - 2024

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	3.8000e-004	2.3000e-004	2.6900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.8771	0.8771	2.0000e-005	0.0000	0.8775
Total	**3.8000e-004**	**2.3000e-004**	**2.6900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.8771**	**0.8771**	**2.0000e-005**	**0.0000**	**0.8775**

3.3 Site Preparation - 2024

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6500e-003	0.0679	0.0458	1.0000e-004		3.0700e-003	3.0700e-003		2.8300e-003	2.8300e-003	0.0000	8.3643	8.3643	2.7100e-003	0.0000	8.4319
Total	**6.6500e-003**	**0.0679**	**0.0458**	**1.0000e-004**	**0.0452**	**3.0700e-003**	**0.0482**	**0.0248**	**2.8300e-003**	**0.0277**	**0.0000**	**8.3643**	**8.3643**	**2.7100e-003**	**0.0000**	**8.4319**

3.3 Site Preparation - 2024

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	7.0000e-005	8.1000e-004	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2631	0.2631	0.0000	0.0000	0.2633
Total	**1.1000e-004**	**7.0000e-005**	**8.1000e-004**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2631**	**0.2631**	**0.0000**	**0.0000**	**0.2633**

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6500e-003	0.0679	0.0458	1.0000e-004		3.0700e-003	3.0700e-003		2.8300e-003	2.8300e-003	0.0000	8.3643	8.3643	2.7100e-003	0.0000	8.4319
Total	**6.6500e-003**	**0.0679**	**0.0458**	**1.0000e-004**	**0.0452**	**3.0700e-003**	**0.0482**	**0.0248**	**2.8300e-003**	**0.0277**	**0.0000**	**8.3643**	**8.3643**	**2.7100e-003**	**0.0000**	**8.4319**

3.3 Site Preparation - 2024

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	7.0000e-005	8.1000e-004	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2631	0.2631	0.0000	0.0000	0.2633
Total	**1.1000e-004**	**7.0000e-005**	**8.1000e-004**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2631**	**0.2631**	**0.0000**	**0.0000**	**0.2633**

3.4 Grading - 2024

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6500e-003	0.0681	0.0590	1.2000e-004		2.9000e-003	2.9000e-003		2.6700e-003	2.6700e-003	0.0000	10.4256	10.4256	3.3700e-003	0.0000	10.5099
Total	**6.6500e-003**	**0.0681**	**0.0590**	**1.2000e-004**	**0.0262**	**2.9000e-003**	**0.0291**	**0.0135**	**2.6700e-003**	**0.0161**	**0.0000**	**10.4256**	**10.4256**	**3.3700e-003**	**0.0000**	**10.5099**

3.4 Grading - 2024

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	1.5000e-004	9.0000e-005	1.0800e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3509	0.3509	1.0000e-005	0.0000	0.3510
Total	**1.5000e-004**	**9.0000e-005**	**1.0800e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3509**	**0.3509**	**1.0000e-005**	**0.0000**	**0.3510**

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6500e-003	0.0681	0.0590	1.2000e-004		2.9000e-003	2.9000e-003		2.6700e-003	2.6700e-003	0.0000	10.4256	10.4256	3.3700e-003	0.0000	10.5099
Total	**6.6500e-003**	**0.0681**	**0.0590**	**1.2000e-004**	**0.0262**	**2.9000e-003**	**0.0291**	**0.0135**	**2.6700e-003**	**0.0161**	**0.0000**	**10.4256**	**10.4256**	**3.3700e-003**	**0.0000**	**10.5099**

3.4 Grading - 2024

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	1.5000e-004	9.0000e-005	1.0800e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3509	0.3509	1.0000e-005	0.0000	0.3510
Total	**1.5000e-004**	**9.0000e-005**	**1.0800e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3509**	**0.3509**	**1.0000e-005**	**0.0000**	**0.3510**

3.5 Building Construction - 2024

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	0.1685	1.5393	1.8511	3.0900e-003		0.0702	0.0702		0.0661	0.0661	0.0000	265.4672	265.4672	0.0628	0.0000	267.0366
Total	**0.1685**	**1.5393**	**1.8511**	**3.0900e-003**		**0.0702**	**0.0702**		**0.0661**	**0.0661**	**0.0000**	**265.4672**	**265.4672**	**0.0628**	**0.0000**	**267.0366**

3.5 Building Construction - 2024

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	0.0155	0.5077	0.1561	1.8000e-003	0.0460	5.9000e-004	0.0466	0.0133	5.7000e-004	0.0139	0.0000	172.9296	172.9296	6.2800e-003	0.0000	173.0865
Worker	0.0458	0.0281	0.3245	1.1700e-003	0.1435	8.5000e-004	0.1443	0.0382	7.8000e-004	0.0389	0.0000	105.7877	105.7877	1.9600e-003	0.0000	105.8366
Total	**0.0613**	**0.5358**	**0.4806**	**2.9700e-003**	**0.1894**	**1.4400e-003**	**0.1909**	**0.0515**	**1.3500e-003**	**0.0528**	**0.0000**	**278.7172**	**278.7172**	**8.2400e-003**	**0.0000**	**278.9231**

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	0.1685	1.5393	1.8511	3.0900e-003		0.0702	0.0702		0.0661	0.0661	0.0000	265.4669	265.4669	0.0628	0.0000	267.0363
Total	**0.1685**	**1.5393**	**1.8511**	**3.0900e-003**		**0.0702**	**0.0702**		**0.0661**	**0.0661**	**0.0000**	**265.4669**	**265.4669**	**0.0628**	**0.0000**	**267.0363**

3.5 Building Construction - 2024

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	0.0155	0.5077	0.1561	1.8000e-003	0.0460	5.9000e-004	0.0466	0.0133	5.7000e-004	0.0139	0.0000	172.9296	172.9296	6.2800e-003	0.0000	173.0865
Worker	0.0458	0.0281	0.3245	1.1700e-003	0.1435	8.5000e-004	0.1443	0.0382	7.8000e-004	0.0389	0.0000	105.7877	105.7877	1.9600e-003	0.0000	105.8366
Total	**0.0613**	**0.5358**	**0.4806**	**2.9700e-003**	**0.1894**	**1.4400e-003**	**0.1909**	**0.0515**	**1.3500e-003**	**0.0528**	**0.0000**	**278.7172**	**278.7172**	**8.2400e-003**	**0.0000**	**278.9231**

3.5 Building Construction - 2025

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	6.8000e-004	6.2300e-003	8.0400e-003	1.0000e-005		2.6000e-004	2.6000e-004		2.5000e-004	2.5000e-004	0.0000	1.1596	1.1596	2.7000e-004	0.0000	1.1664
Total	**6.8000e-004**	**6.2300e-003**	**8.0400e-003**	**1.0000e-005**		**2.6000e-004**	**2.6000e-004**		**2.5000e-004**	**2.5000e-004**	**0.0000**	**1.1596**	**1.1596**	**2.7000e-004**	**0.0000**	**1.1664**

3.5 Building Construction - 2025

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	7.0000e-005	2.1900e-003	6.6000e-004	1.0000e-005	2.0000e-004	0.0000	2.0000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.7503	0.7503	3.0000e-005	0.0000	0.7509
Worker	1.9000e-004	1.1000e-004	1.3100e-003	0.0000	6.3000e-004	0.0000	6.3000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.4433	0.4433	1.0000e-005	0.0000	0.4435
Total	**2.6000e-004**	**2.3000e-003**	**1.9700e-003**	**1.0000e-005**	**8.3000e-004**	**0.0000**	**8.3000e-004**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**1.1935**	**1.1935**	**4.0000e-005**	**0.0000**	**1.1944**

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	6.8000e-004	6.2300e-003	8.0400e-003	1.0000e-005		2.6000e-004	2.6000e-004		2.5000e-004	2.5000e-004	0.0000	1.1596	1.1596	2.7000e-004	0.0000	1.1664
Total	**6.8000e-004**	**6.2300e-003**	**8.0400e-003**	**1.0000e-005**		**2.6000e-004**	**2.6000e-004**		**2.5000e-004**	**2.5000e-004**	**0.0000**	**1.1596**	**1.1596**	**2.7000e-004**	**0.0000**	**1.1664**

3.5 Building Construction - 2025

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	7.0000e-005	2.1900e-003	6.6000e-004	1.0000e-005	2.0000e-004	0.0000	2.0000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.7503	0.7503	3.0000e-005	0.0000	0.7509
Worker	1.9000e-004	1.1000e-004	1.3100e-003	0.0000	6.3000e-004	0.0000	6.3000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.4433	0.4433	1.0000e-005	0.0000	0.4435
Total	**2.6000e-004**	**2.3000e-003**	**1.9700e-003**	**1.0000e-005**	**8.3000e-004**	**0.0000**	**8.3000e-004**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**1.1935**	**1.1935**	**4.0000e-005**	**0.0000**	**1.1944**

3.6 Paving - 2025

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	7.3800e-003	0.0678	0.1096	1.7000e-004		3.1700e-003	3.1700e-003		2.9300e-003	2.9300e-003	0.0000	14.7404	14.7404	4.6300e-003	0.0000	14.8562
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.3800e-003**	**0.0678**	**0.1096**	**1.7000e-004**		**3.1700e-003**	**3.1700e-003**		**2.9300e-003**	**2.9300e-003**	**0.0000**	**14.7404**	**14.7404**	**4.6300e-003**	**0.0000**	**14.8562**

3.6 Paving - 2025

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	4.3000e-004	2.5000e-004	2.9900e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0100	1.0100	2.0000e-005	0.0000	1.0104
Total	**4.3000e-004**	**2.5000e-004**	**2.9900e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.0100**	**1.0100**	**2.0000e-005**	**0.0000**	**1.0104**

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	7.3800e-003	0.0678	0.1096	1.7000e-004		3.1700e-003	3.1700e-003		2.9300e-003	2.9300e-003	0.0000	14.7404	14.7404	4.6300e-003	0.0000	14.8562
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.3800e-003**	**0.0678**	**0.1096**	**1.7000e-004**		**3.1700e-003**	**3.1700e-003**		**2.9300e-003**	**2.9300e-003**	**0.0000**	**14.7404**	**14.7404**	**4.6300e-003**	**0.0000**	**14.8562**

3.6 Paving - 2025

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	4.3000e-004	2.5000e-004	2.9900e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0100	1.0100	2.0000e-005	0.0000	1.0104
Total	**4.3000e-004**	**2.5000e-004**	**2.9900e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.0100**	**1.0100**	**2.0000e-005**	**0.0000**	**1.0104**

3.7 Architectural Coating - 2025

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	1.9554					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5400e-003	0.0103	0.0163	3.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3011
Total	**1.9569**	**0.0103**	**0.0163**	**3.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.3000e-004**	**0.0000**	**2.3011**

3.7 Architectural Coating - 2025

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	6.9000e-004	4.1000e-004	4.7900e-003	2.0000e-005	2.2800e-003	1.0000e-005	2.3000e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.6160	1.6160	3.0000e-005	0.0000	1.6167
Total	**6.9000e-004**	**4.1000e-004**	**4.7900e-003**	**2.0000e-005**	**2.2800e-003**	**1.0000e-005**	**2.3000e-003**	**6.1000e-004**	**1.0000e-005**	**6.2000e-004**	**0.0000**	**1.6160**	**1.6160**	**3.0000e-005**	**0.0000**	**1.6167**

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	1.9554					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5400e-003	0.0103	0.0163	3.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3011
Total	**1.9569**	**0.0103**	**0.0163**	**3.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.3000e-004**	**0.0000**	**2.3011**

3.7 Architectural Coating - 2025

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	6.9000e-004	4.1000e-004	4.7900e-003	2.0000e-005	2.2800e-003	1.0000e-005	2.3000e-003	6.1000e-004	1.0000e-005	6.2000e-004	0.0000	1.6160	1.6160	3.0000e-005	0.0000	1.6167
Total	**6.9000e-004**	**4.1000e-004**	**4.7900e-003**	**2.0000e-005**	**2.2800e-003**	**1.0000e-005**	**2.3000e-003**	**6.1000e-004**	**1.0000e-005**	**6.2000e-004**	**0.0000**	**1.6160**	**1.6160**	**3.0000e-005**	**0.0000**	**1.6167**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Refrigerated Warehouse-Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Refrigerated Warehouse-Rail	0.00	0.00	0.00	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Refrigerated Warehouse-Rail	0.618126	0.034987	0.181060	0.102744	0.012808	0.005030	0.012887	0.022139	0.002195	0.001502	0.005204	0.000638	0.000681

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	27.5119	2.8257	0.0667	118.0382
Unmitigated	27.5119	2.8257	0.0667	118.0382

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	86.7188 / 0	27.5119	2.8257	0.0667	118.0382
Total		**27.5119**	**2.8257**	**0.0667**	**118.0382**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	86.7188 / 0	27.5119	2.8257	0.0667	118.0382
Total		**27.5119**	**2.8257**	**0.0667**	**118.0382**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Project T-13 (Run 4b)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-Rail	375.00	1000sqft	4.60	375,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Gates 41-42

Land Use - SJC Modeling Basis

Vehicle Trips - Construction only

Consumer Products - Construction Only

Area Coating - Construction Only

Landscape Equipment - Construction only

Energy Use - construction only

Water And Wastewater - Construction only

Solid Waste - Construction only

Road Dust -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_EF_Residential_Exterior	150	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	187500	0
tblAreaCoating	Area_Nonresidential_Interior	562500	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	0
tblEnergyUse	LightingElect	1.62	0.00
tblEnergyUse	NT24E	7.99	0.00

tblEnergyUse	NT24NG	3.06	0.00
tblEnergyUse	T24E	0.14	0.00
tblEnergyUse	T24NG	0.73	0.00
tblLandUse	LotAcreage	8.61	4.60
tblSolidWaste	SolidWasteGenerationRate	352.50	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00

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					
2033	0.2219	1.5321	2.4460	6.8500e-003	0.2612	0.0234	0.2846	0.0898	0.0233	0.1132	0.0000	607.1566	607.1566	0.0211	0.0000	607.6838
2034	1.9701	0.0822	0.1669	3.4000e-004	6.1900e-003	2.7100e-003	8.9000e-003	1.6600e-003	2.7000e-003	4.3600e-003	0.0000	29.1253	29.1253	1.2000e-003	0.0000	29.1553
Maximum	**1.9701**	**1.5321**	**2.4460**	**6.8500e-003**	**0.2612**	**0.0234**	**0.2846**	**0.0898**	**0.0233**	**0.1132**	**0.0000**	**607.1566**	**607.1566**	**0.0211**	**0.0000**	**607.6838**

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					
2033	0.2219	1.5321	2.4460	6.8500e-003	0.2612	0.0234	0.2846	0.0898	0.0233	0.1132	0.0000	607.1562	607.1562	0.0211	0.0000	607.6834
2034	1.9701	0.0822	0.1669	3.4000e-004	6.1900e-003	2.7100e-003	8.9000e-003	1.6600e-003	2.7000e-003	4.3600e-003	0.0000	29.1252	29.1252	1.2000e-003	0.0000	29.1553
Maximum	**1.9701**	**1.5321**	**2.4460**	**6.8500e-003**	**0.2612**	**0.0234**	**0.2846**	**0.0898**	**0.0233**	**0.1132**	**0.0000**	**607.1562**	**607.1562**	**0.0211**	**0.0000**	**607.6834**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2033	3-31-2033	0.4108	0.4108
2	4-1-2033	6-30-2033	0.4448	0.4448
3	7-1-2033	9-30-2033	0.4496	0.4496
4	10-1-2033	12-31-2033	0.4519	0.4519
5	1-1-2034	3-31-2034	1.9600	1.9600
		Highest	1.9600	1.9600

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	27.5119	0.0000	27.5119	2.8257	0.0667	118.0382
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**27.5119**	**0.0000**	**27.5119**	**2.8257**	**0.0667**	**118.0382**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	27.5119	0.0000	27.5119	2.8257	0.0667	118.0382
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**27.5119**	**0.0000**	**27.5119**	**2.8257**	**0.0667**	**118.0382**

	ROG	NOx	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	1/1/2033	1/28/2033	5	20	
2	Site Preparation	Site Preparation	1/29/2033	2/4/2033	5	5	
3	Grading	Grading	2/5/2033	2/16/2033	5	8	
4	Building Construction	Building Construction	2/17/2033	1/4/2034	5	230	
5	Paving	Paving	1/5/2034	1/30/2034	5	18	
6	Architectural Coating	Architectural Coating	1/31/2034	2/23/2034	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 562,500; Non-Residential Outdoor: 187,500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	158.00	61.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	32.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2033

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	0.0208	0.0978	0.1892	4.6000e-004		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003	0.0000	39.7218	39.7218	1.6800e-003	0.0000	39.7637
Total	**0.0208**	**0.0978**	**0.1892**	**4.6000e-004**		**3.5100e-003**	**3.5100e-003**		**3.5100e-003**	**3.5100e-003**	**0.0000**	**39.7218**	**39.7218**	**1.6800e-003**	**0.0000**	**39.7637**

3.2 Demolition - 2033

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.1000e-004	1.5300e-003	1.0000e-005	1.1900e-003	0.0000	1.1900e-003	3.2000e-004	0.0000	3.2000e-004	0.0000	0.6747	0.6747	1.0000e-005	0.0000	0.6749
Total	**2.2000e-004**	**1.1000e-004**	**1.5300e-003**	**1.0000e-005**	**1.1900e-003**	**0.0000**	**1.1900e-003**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**0.6747**	**0.6747**	**1.0000e-005**	**0.0000**	**0.6749**

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	0.0208	0.0978	0.1892	4.6000e-004		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003	0.0000	39.7218	39.7218	1.6800e-003	0.0000	39.7637
Total	**0.0208**	**0.0978**	**0.1892**	**4.6000e-004**		**3.5100e-003**	**3.5100e-003**		**3.5100e-003**	**3.5100e-003**	**0.0000**	**39.7218**	**39.7218**	**1.6800e-003**	**0.0000**	**39.7637**

3.2 Demolition - 2033

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.1000e-004	1.5300e-003	1.0000e-005	1.1900e-003	0.0000	1.1900e-003	3.2000e-004	0.0000	3.2000e-004	0.0000	0.6747	0.6747	1.0000e-005	0.0000	0.6749
Total	**2.2000e-004**	**1.1000e-004**	**1.5300e-003**	**1.0000e-005**	**1.1900e-003**	**0.0000**	**1.1900e-003**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**0.6747**	**0.6747**	**1.0000e-005**	**0.0000**	**0.6749**

3.3 Site Preparation - 2033

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1000e-003	0.0342	0.0407	1.2000e-004		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003	0.0000	10.0012	10.0012	4.9000e-004	0.0000	10.0135
Total	**6.1000e-003**	**0.0342**	**0.0407**	**1.2000e-004**	**0.0452**	**1.0900e-003**	**0.0463**	**0.0248**	**1.0900e-003**	**0.0259**	**0.0000**	**10.0012**	**10.0012**	**4.9000e-004**	**0.0000**	**10.0135**

3.3 Site Preparation - 2033

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	3.0000e-005	4.6000e-004	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2024	0.2024	0.0000	0.0000	0.2025
Total	**7.0000e-005**	**3.0000e-005**	**4.6000e-004**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2024**	**0.2024**	**0.0000**	**0.0000**	**0.2025**

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1000e-003	0.0342	0.0407	1.2000e-004		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003	0.0000	10.0011	10.0011	4.9000e-004	0.0000	10.0135
Total	**6.1000e-003**	**0.0342**	**0.0407**	**1.2000e-004**	**0.0452**	**1.0900e-003**	**0.0463**	**0.0248**	**1.0900e-003**	**0.0259**	**0.0000**	**10.0011**	**10.0011**	**4.9000e-004**	**0.0000**	**10.0135**

3.3 Site Preparation - 2033

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	3.0000e-005	4.6000e-004	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2024	0.2024	0.0000	0.0000	0.2025
Total	**7.0000e-005**	**3.0000e-005**	**4.6000e-004**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2024**	**0.2024**	**0.0000**	**0.0000**	**0.2025**

3.4 Grading - 2033

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4700e-003	0.0310	0.0578	1.5000e-004		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	12.4819	12.4819	5.2000e-004	0.0000	12.4949
Total	**6.4700e-003**	**0.0310**	**0.0578**	**1.5000e-004**	**0.0262**	**9.4000e-004**	**0.0272**	**0.0135**	**9.4000e-004**	**0.0144**	**0.0000**	**12.4819**	**12.4819**	**5.2000e-004**	**0.0000**	**12.4949**

3.4 Grading - 2033

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	9.0000e-005	4.0000e-005	6.1000e-004	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.2699	0.2699	0.0000	0.0000	0.2700
Total	**9.0000e-005**	**4.0000e-005**	**6.1000e-004**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.2699**	**0.2699**	**0.0000**	**0.0000**	**0.2700**

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4700e-003	0.0310	0.0578	1.5000e-004		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	12.4818	12.4818	5.2000e-004	0.0000	12.4949
Total	**6.4700e-003**	**0.0310**	**0.0578**	**1.5000e-004**	**0.0262**	**9.4000e-004**	**0.0272**	**0.0135**	**9.4000e-004**	**0.0144**	**0.0000**	**12.4818**	**12.4818**	**5.2000e-004**	**0.0000**	**12.4949**

3.4 Grading - 2033

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	9.0000e-005	4.0000e-005	6.1000e-004	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.2699	0.2699	0.0000	0.0000	0.2700
Total	**9.0000e-005**	**4.0000e-005**	**6.1000e-004**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.2699**	**0.2699**	**0.0000**	**0.0000**	**0.2700**

3.5 Building Construction - 2033

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	0.1486	0.9006	1.8338	3.5100e-003		0.0168	0.0168		0.0168	0.0168	0.0000	298.3473	298.3473	0.0120	0.0000	298.6465
Total	**0.1486**	**0.9006**	**1.8338**	**3.5100e-003**		**0.0168**	**0.0168**		**0.0168**	**0.0168**	**0.0000**	**298.3473**	**298.3473**	**0.0120**	**0.0000**	**298.6465**

3.5 Building Construction - 2033

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	0.0133	0.4550	0.1387	1.7100e-003	0.0456	5.1000e-004	0.0461	0.0132	4.8000e-004	0.0137	0.0000	164.7931	164.7931	5.5300e-003	0.0000	164.9313
Worker	0.0263	0.0133	0.1832	8.9000e-004	0.1422	5.1000e-004	0.1427	0.0378	4.7000e-004	0.0383	0.0000	80.6644	80.6644	8.9000e-004	0.0000	80.6866
Total	**0.0396**	**0.4684**	**0.3219**	**2.6000e-003**	**0.1878**	**1.0200e-003**	**0.1888**	**0.0510**	**9.5000e-004**	**0.0520**	**0.0000**	**245.4575**	**245.4575**	**6.4200e-003**	**0.0000**	**245.6179**

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	0.1486	0.9006	1.8338	3.5100e-003		0.0168	0.0168		0.0168	0.0168	0.0000	298.3469	298.3469	0.0120	0.0000	298.6461
Total	**0.1486**	**0.9006**	**1.8338**	**3.5100e-003**		**0.0168**	**0.0168**		**0.0168**	**0.0168**	**0.0000**	**298.3469**	**298.3469**	**0.0120**	**0.0000**	**298.6461**

3.5 Building Construction - 2033

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	0.0133	0.4550	0.1387	1.7100e-003	0.0456	5.1000e-004	0.0461	0.0132	4.8000e-004	0.0137	0.0000	164.7931	164.7931	5.5300e-003	0.0000	164.9313
Worker	0.0263	0.0133	0.1832	8.9000e-004	0.1422	5.1000e-004	0.1427	0.0378	4.7000e-004	0.0383	0.0000	80.6644	80.6644	8.9000e-004	0.0000	80.6866
Total	**0.0396**	**0.4684**	**0.3219**	**2.6000e-003**	**0.1878**	**1.0200e-003**	**0.1888**	**0.0510**	**9.5000e-004**	**0.0520**	**0.0000**	**245.4575**	**245.4575**	**6.4200e-003**	**0.0000**	**245.6179**

3.5 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9600e-003	0.0119	0.0242	5.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.9429	3.9429	1.6000e-004	0.0000	3.9469
Total	**1.9600e-003**	**0.0119**	**0.0242**	**5.0000e-005**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**3.9429**	**3.9429**	**1.6000e-004**	**0.0000**	**3.9469**

3.5 Building Construction - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7000e-004	5.9700e-003	1.8300e-003	2.0000e-005	6.0000e-004	1.0000e-005	6.1000e-004	1.7000e-004	1.0000e-005	1.8000e-004	0.0000	2.1749	2.1749	7.0000e-005	0.0000	2.1767
Worker	3.3000e-004	1.7000e-004	2.3000e-003	1.0000e-005	1.8800e-003	1.0000e-005	1.8900e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.0491	1.0491	1.0000e-005	0.0000	1.0494
Total	**5.0000e-004**	**6.1400e-003**	**4.1300e-003**	**3.0000e-005**	**2.4800e-003**	**2.0000e-005**	**2.5000e-003**	**6.7000e-004**	**2.0000e-005**	**6.9000e-004**	**0.0000**	**3.2240**	**3.2240**	**8.0000e-005**	**0.0000**	**3.2261**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9600e-003	0.0119	0.0242	5.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.9429	3.9429	1.6000e-004	0.0000	3.9469
Total	**1.9600e-003**	**0.0119**	**0.0242**	**5.0000e-005**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**3.9429**	**3.9429**	**1.6000e-004**	**0.0000**	**3.9469**

3.5 Building Construction - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7000e-004	5.9700e-003	1.8300e-003	2.0000e-005	6.0000e-004	1.0000e-005	6.1000e-004	1.7000e-004	1.0000e-005	1.8000e-004	0.0000	2.1749	2.1749	7.0000e-005	0.0000	2.1767
Worker	3.3000e-004	1.7000e-004	2.3000e-003	1.0000e-005	1.8800e-003	1.0000e-005	1.8900e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.0491	1.0491	1.0000e-005	0.0000	1.0494
Total	**5.0000e-004**	**6.1400e-003**	**4.1300e-003**	**3.0000e-005**	**2.4800e-003**	**2.0000e-005**	**2.5000e-003**	**6.7000e-004**	**2.0000e-005**	**6.9000e-004**	**0.0000**	**3.2240**	**3.2240**	**8.0000e-005**	**0.0000**	**3.2261**

3.6 Paving - 2034

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	0.0104	0.0561	0.1178	2.1000e-004		2.2800e-003	2.2800e-003		2.2800e-003	2.2800e-003	0.0000	17.5888	17.5888	8.4000e-004	0.0000	17.6099
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0104**	**0.0561**	**0.1178**	**2.1000e-004**		**2.2800e-003**	**2.2800e-003**		**2.2800e-003**	**2.2800e-003**	**0.0000**	**17.5888**	**17.5888**	**8.4000e-004**	**0.0000**	**17.6099**

3.6 Paving - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.3000e-004	1.7500e-003	1.0000e-005	1.4300e-003	0.0000	1.4300e-003	3.8000e-004	0.0000	3.8000e-004	0.0000	0.7968	0.7968	1.0000e-005	0.0000	0.7970
Total	**2.5000e-004**	**1.3000e-004**	**1.7500e-003**	**1.0000e-005**	**1.4300e-003**	**0.0000**	**1.4300e-003**	**3.8000e-004**	**0.0000**	**3.8000e-004**	**0.0000**	**0.7968**	**0.7968**	**1.0000e-005**	**0.0000**	**0.7970**

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	0.0104	0.0561	0.1178	2.1000e-004		2.2800e-003	2.2800e-003		2.2800e-003	2.2800e-003	0.0000	17.5888	17.5888	8.4000e-004	0.0000	17.6099
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0104**	**0.0561**	**0.1178**	**2.1000e-004**		**2.2800e-003**	**2.2800e-003**		**2.2800e-003**	**2.2800e-003**	**0.0000**	**17.5888**	**17.5888**	**8.4000e-004**	**0.0000**	**17.6099**

3.6 Paving - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.3000e-004	1.7500e-003	1.0000e-005	1.4300e-003	0.0000	1.4300e-003	3.8000e-004	0.0000	3.8000e-004	0.0000	0.7968	0.7968	1.0000e-005	0.0000	0.7970
Total	**2.5000e-004**	**1.3000e-004**	**1.7500e-003**	**1.0000e-005**	**1.4300e-003**	**0.0000**	**1.4300e-003**	**3.8000e-004**	**0.0000**	**3.8000e-004**	**0.0000**	**0.7968**	**0.7968**	**1.0000e-005**	**0.0000**	**0.7970**

3.7 Architectural Coating - 2034

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	1.9554					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1800e-003	7.7100e-003	0.0162	3.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.2979	2.2979	9.0000e-005	0.0000	2.3003
Total	**1.9566**	**7.7100e-003**	**0.0162**	**3.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**2.2979**	**2.2979**	**9.0000e-005**	**0.0000**	**2.3003**

3.7 Architectural Coating - 2034

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	4.0000e-004	2.0000e-004	2.8000e-003	1.0000e-005	2.2800e-003	1.0000e-005	2.2900e-003	6.1000e-004	1.0000e-005	6.1000e-004	0.0000	1.2749	1.2749	1.0000e-005	0.0000	1.2752
Total	**4.0000e-004**	**2.0000e-004**	**2.8000e-003**	**1.0000e-005**	**2.2800e-003**	**1.0000e-005**	**2.2900e-003**	**6.1000e-004**	**1.0000e-005**	**6.1000e-004**	**0.0000**	**1.2749**	**1.2749**	**1.0000e-005**	**0.0000**	**1.2752**

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	1.9554					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1800e-003	7.7100e-003	0.0162	3.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.2979	2.2979	9.0000e-005	0.0000	2.3003
Total	**1.9566**	**7.7100e-003**	**0.0162**	**3.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**2.2979**	**2.2979**	**9.0000e-005**	**0.0000**	**2.3003**

3.7 Architectural Coating - 2034

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	4.0000e-004	2.0000e-004	2.8000e-003	1.0000e-005	2.2800e-003	1.0000e-005	2.2900e-003	6.1000e-004	1.0000e-005	6.1000e-004	0.0000	1.2749	1.2749	1.0000e-005	0.0000	1.2752
Total	**4.0000e-004**	**2.0000e-004**	**2.8000e-003**	**1.0000e-005**	**2.2800e-003**	**1.0000e-005**	**2.2900e-003**	**6.1000e-004**	**1.0000e-005**	**6.1000e-004**	**0.0000**	**1.2749**	**1.2749**	**1.0000e-005**	**0.0000**	**1.2752**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Refrigerated Warehouse-Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Refrigerated Warehouse-Rail	0.00	0.00	0.00	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Refrigerated Warehouse-Rail	0.622396	0.033528	0.179509	0.100966	0.011303	0.005106	0.013389	0.023725	0.002255	0.001445	0.005085	0.000651	0.000641

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	27.5119	2.8257	0.0667	118.0382
Unmitigated	27.5119	2.8257	0.0667	118.0382

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	86.7188 / 0	27.5119	2.8257	0.0667	118.0382
Total		**27.5119**	**2.8257**	**0.0667**	**118.0382**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	86.7188 / 0	27.5119	2.8257	0.0667	118.0382
Total		**27.5119**	**2.8257**	**0.0667**	**118.0382**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Project T-16 (Run 5)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	300.00	Space	2.30	150,000.00	0
Hotel	330.00	Room	2.30	150,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2028
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project T-16 (Run 5) - Santa Clara County, Annual

Project Characteristics -

Land Use - SJC Modeling Basis

Vehicle Trips - Construction only

Consumer Products - Construction Only

Area Coating - Construction Only

Landscape Equipment - Construction only

Energy Use - construction only

Water And Wastewater - Construction only

Solid Waste - Construction only

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_EF_Residential_Exterior	150	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	75000	0
tblAreaCoating	Area_Nonresidential_Interior	225000	0
tblAreaCoating	Area_Parking	9000	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	0
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	LightingElect	2.35	0.00

tblEnergyUse	NT24E	3.22	0.00
tblEnergyUse	NT24NG	4.75	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	2.05	0.00
tblEnergyUse	T24NG	39.56	0.00
tblLandUse	LandUseSquareFeet	120,000.00	150,000.00
tblLandUse	LandUseSquareFeet	479,160.00	150,000.00
tblLandUse	LotAcreage	2.70	2.30
tblLandUse	LotAcreage	11.00	2.30
tblSolidWaste	SolidWasteGenerationRate	180.67	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	ST_TR	8.19	0.00
tblVehicleTrips	SU_TR	5.95	0.00
tblVehicleTrips	WD_TR	8.17	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00

tblWater	IndoorWaterUseRate	8,371,034.10	0.00
tblWater	OutdoorWaterUseRate	930,114.90	0.00

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					
2026	0.2342	2.1521	2.4767	5.9700e-003	0.2241	0.0750	0.2991	0.0798	0.0703	0.1501	0.0000	532.7636	532.7636	0.0839	0.0000	534.8601
2027	0.8250	0.0946	0.1507	2.7000e-004	4.5300e-003	4.1900e-003	8.7200e-003	1.2100e-003	3.9200e-003	5.1300e-003	0.0000	23.3203	23.3203	5.3900e-003	0.0000	23.4550
Maximum	**0.8250**	**2.1521**	**2.4767**	**5.9700e-003**	**0.2241**	**0.0750**	**0.2991**	**0.0798**	**0.0703**	**0.1501**	**0.0000**	**532.7636**	**532.7636**	**0.0839**	**0.0000**	**534.8601**

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					
2026	0.2342	2.1521	2.4767	5.9700e-003	0.2241	0.0750	0.2991	0.0798	0.0703	0.1501	0.0000	532.7632	532.7632	0.0839	0.0000	534.8598
2027	0.8250	0.0946	0.1507	2.7000e-004	4.5300e-003	4.1900e-003	8.7200e-003	1.2100e-003	3.9200e-003	5.1300e-003	0.0000	23.3203	23.3203	5.3900e-003	0.0000	23.4550
Maximum	**0.8250**	**2.1521**	**2.4767**	**5.9700e-003**	**0.2241**	**0.0750**	**0.2991**	**0.0798**	**0.0703**	**0.1501**	**0.0000**	**532.7632**	**532.7632**	**0.0839**	**0.0000**	**534.8598**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2026	3-31-2026	0.6303	0.6303
2	4-1-2026	6-30-2026	0.5793	0.5793
3	7-1-2026	9-30-2026	0.5857	0.5857
4	10-1-2026	12-31-2026	0.5883	0.5883
5	1-1-2027	3-31-2027	0.9500	0.9500
		Highest	0.9500	0.9500

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	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	1/1/2026	1/28/2026	5	20	
2	Site Preparation	Site Preparation	1/29/2026	2/4/2026	5	5	
3	Grading	Grading	2/5/2026	2/16/2026	5	8	
4	Building Construction	Building Construction	2/17/2026	1/4/2027	5	230	
5	Paving	Paving	1/5/2027	1/28/2027	5	18	
6	Architectural Coating	Architectural Coating	1/29/2027	2/23/2027	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 2.3

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 225,000; Non-Residential Outdoor: 75,000; Striped Parking Area: 9,000 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	126.00	49.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	25.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2026

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	0.0209	0.1920	0.1942	3.9000e-004		8.5300e-003	8.5300e-003		7.9200e-003	7.9200e-003	0.0000	33.9977	33.9977	9.4900e-003	0.0000	34.2350
Total	**0.0209**	**0.1920**	**0.1942**	**3.9000e-004**		**8.5300e-003**	**8.5300e-003**		**7.9200e-003**	**7.9200e-003**	**0.0000**	**33.9977**	**33.9977**	**9.4900e-003**	**0.0000**	**34.2350**

3.2 Demolition - 2026

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	3.4000e-004	1.9000e-004	2.3300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.8105	0.8105	1.0000e-005	0.0000	0.8108
Total	**3.4000e-004**	**1.9000e-004**	**2.3300e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.8105**	**0.8105**	**1.0000e-005**	**0.0000**	**0.8108**

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	0.0209	0.1920	0.1942	3.9000e-004		8.5300e-003	8.5300e-003		7.9200e-003	7.9200e-003	0.0000	33.9976	33.9976	9.4900e-003	0.0000	34.2349
Total	**0.0209**	**0.1920**	**0.1942**	**3.9000e-004**		**8.5300e-003**	**8.5300e-003**		**7.9200e-003**	**7.9200e-003**	**0.0000**	**33.9976**	**33.9976**	**9.4900e-003**	**0.0000**	**34.2349**

3.2 Demolition - 2026

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	3.4000e-004	1.9000e-004	2.3300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.8105	0.8105	1.0000e-005	0.0000	0.8108
Total	**3.4000e-004**	**1.9000e-004**	**2.3300e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.8105**	**0.8105**	**1.0000e-005**	**0.0000**	**0.8108**

3.3 Site Preparation - 2026

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1800e-003	0.0631	0.0448	1.0000e-004		2.7200e-003	2.7200e-003		2.5000e-003	2.5000e-003	0.0000	8.3668	8.3668	2.7100e-003	0.0000	8.4344
Total	**6.1800e-003**	**0.0631**	**0.0448**	**1.0000e-004**	**0.0452**	**2.7200e-003**	**0.0479**	**0.0248**	**2.5000e-003**	**0.0273**	**0.0000**	**8.3668**	**8.3668**	**2.7100e-003**	**0.0000**	**8.4344**

3.3 Site Preparation - 2026

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	1.0000e-004	6.0000e-005	7.0000e-004	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2432	0.2432	0.0000	0.0000	0.2433
Total	**1.0000e-004**	**6.0000e-005**	**7.0000e-004**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2432**	**0.2432**	**0.0000**	**0.0000**	**0.2433**

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1800e-003	0.0631	0.0448	1.0000e-004		2.7200e-003	2.7200e-003		2.5000e-003	2.5000e-003	0.0000	8.3667	8.3667	2.7100e-003	0.0000	8.4344
Total	**6.1800e-003**	**0.0631**	**0.0448**	**1.0000e-004**	**0.0452**	**2.7200e-003**	**0.0479**	**0.0248**	**2.5000e-003**	**0.0273**	**0.0000**	**8.3667**	**8.3667**	**2.7100e-003**	**0.0000**	**8.4344**

3.3 Site Preparation - 2026

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	1.0000e-004	6.0000e-005	7.0000e-004	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2432	0.2432	0.0000	0.0000	0.2433
Total	**1.0000e-004**	**6.0000e-005**	**7.0000e-004**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2432**	**0.2432**	**0.0000**	**0.0000**	**0.2433**

3.4 Grading - 2026

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0900e-003	0.0613	0.0582	1.2000e-004		2.4900e-003	2.4900e-003		2.2900e-003	2.2900e-003	0.0000	10.4279	10.4279	3.3700e-003	0.0000	10.5122
Total	**6.0900e-003**	**0.0613**	**0.0582**	**1.2000e-004**	**0.0262**	**2.4900e-003**	**0.0287**	**0.0135**	**2.2900e-003**	**0.0158**	**0.0000**	**10.4279**	**10.4279**	**3.3700e-003**	**0.0000**	**10.5122**

3.4 Grading - 2026

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	1.4000e-004	8.0000e-005	9.3000e-004	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3242	0.3242	1.0000e-005	0.0000	0.3243
Total	**1.4000e-004**	**8.0000e-005**	**9.3000e-004**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3242**	**0.3242**	**1.0000e-005**	**0.0000**	**0.3243**

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0900e-003	0.0613	0.0582	1.2000e-004		2.4900e-003	2.4900e-003		2.2900e-003	2.2900e-003	0.0000	10.4279	10.4279	3.3700e-003	0.0000	10.5122
Total	**6.0900e-003**	**0.0613**	**0.0582**	**1.2000e-004**	**0.0262**	**2.4900e-003**	**0.0287**	**0.0135**	**2.2900e-003**	**0.0158**	**0.0000**	**10.4279**	**10.4279**	**3.3700e-003**	**0.0000**	**10.5122**

3.4 Grading - 2026

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	1.4000e-004	8.0000e-005	9.3000e-004	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3242	0.3242	1.0000e-005	0.0000	0.3243
Total	**1.4000e-004**	**8.0000e-005**	**9.3000e-004**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3242**	**0.3242**	**1.0000e-005**	**0.0000**	**0.3243**

3.5 Building Construction - 2026

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	0.1559	1.4215	1.8337	3.0700e-003		0.0601	0.0601		0.0566	0.0566	0.0000	264.3882	264.3882	0.0622	0.0000	265.9419
Total	**0.1559**	**1.4215**	**1.8337**	**3.0700e-003**		**0.0601**	**0.0601**		**0.0566**	**0.0566**	**0.0000**	**264.3882**	**264.3882**	**0.0622**	**0.0000**	**265.9419**

3.5 Building Construction - 2026

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	0.0118	0.3953	0.1191	1.4200e-003	0.0368	4.6000e-004	0.0372	0.0106	4.4000e-004	0.0111	0.0000	136.5914	136.5914	4.8400e-003	0.0000	136.7123
Worker	0.0328	0.0186	0.2228	8.6000e-004	0.1139	6.5000e-004	0.1146	0.0303	6.0000e-004	0.0309	0.0000	77.6139	77.6139	1.2800e-003	0.0000	77.6459
Total	**0.0445**	**0.4139**	**0.3419**	**2.2800e-003**	**0.1507**	**1.1100e-003**	**0.1518**	**0.0409**	**1.0400e-003**	**0.0420**	**0.0000**	**214.2053**	**214.2053**	**6.1200e-003**	**0.0000**	**214.3582**

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	0.1559	1.4215	1.8337	3.0700e-003		0.0601	0.0601		0.0566	0.0566	0.0000	264.3879	264.3879	0.0622	0.0000	265.9416
Total	**0.1559**	**1.4215**	**1.8337**	**3.0700e-003**		**0.0601**	**0.0601**		**0.0566**	**0.0566**	**0.0000**	**264.3879**	**264.3879**	**0.0622**	**0.0000**	**265.9416**

3.5 Building Construction - 2026

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	0.0118	0.3953	0.1191	1.4200e-003	0.0368	4.6000e-004	0.0372	0.0106	4.4000e-004	0.0111	0.0000	136.5914	136.5914	4.8400e-003	0.0000	136.7123
Worker	0.0328	0.0186	0.2228	8.6000e-004	0.1139	6.5000e-004	0.1146	0.0303	6.0000e-004	0.0309	0.0000	77.6139	77.6139	1.2800e-003	0.0000	77.6459
Total	**0.0445**	**0.4139**	**0.3419**	**2.2800e-003**	**0.1507**	**1.1100e-003**	**0.1518**	**0.0409**	**1.0400e-003**	**0.0420**	**0.0000**	**214.2053**	**214.2053**	**6.1200e-003**	**0.0000**	**214.3582**

3.5 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3700e-003	0.0125	0.0161	3.0000e-005		5.3000e-004	5.3000e-004		5.0000e-004	5.0000e-004	0.0000	2.3192	2.3192	5.5000e-004	0.0000	2.3328
Total	**1.3700e-003**	**0.0125**	**0.0161**	**3.0000e-005**		**5.3000e-004**	**5.3000e-004**		**5.0000e-004**	**5.0000e-004**	**0.0000**	**2.3192**	**2.3192**	**5.5000e-004**	**0.0000**	**2.3328**

3.5 Building Construction - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-004	3.4200e-003	1.0300e-003	1.0000e-005	3.2000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	1.1915	1.1915	4.0000e-005	0.0000	1.1925
Worker	2.7000e-004	1.5000e-004	1.8300e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0000e-003	2.7000e-004	0.0000	2.7000e-004	0.0000	0.6576	0.6576	1.0000e-005	0.0000	0.6579
Total	**3.7000e-004**	**3.5700e-003**	**2.8600e-003**	**2.0000e-005**	**1.3200e-003**	**1.0000e-005**	**1.3300e-003**	**3.6000e-004**	**0.0000**	**3.7000e-004**	**0.0000**	**1.8491**	**1.8491**	**5.0000e-005**	**0.0000**	**1.8504**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3700e-003	0.0125	0.0161	3.0000e-005		5.3000e-004	5.3000e-004		5.0000e-004	5.0000e-004	0.0000	2.3192	2.3192	5.5000e-004	0.0000	2.3328
Total	**1.3700e-003**	**0.0125**	**0.0161**	**3.0000e-005**		**5.3000e-004**	**5.3000e-004**		**5.0000e-004**	**5.0000e-004**	**0.0000**	**2.3192**	**2.3192**	**5.5000e-004**	**0.0000**	**2.3328**

3.5 Building Construction - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-004	3.4200e-003	1.0300e-003	1.0000e-005	3.2000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	1.1915	1.1915	4.0000e-005	0.0000	1.1925
Worker	2.7000e-004	1.5000e-004	1.8300e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0000e-003	2.7000e-004	0.0000	2.7000e-004	0.0000	0.6576	0.6576	1.0000e-005	0.0000	0.6579
Total	**3.7000e-004**	**3.5700e-003**	**2.8600e-003**	**2.0000e-005**	**1.3200e-003**	**1.0000e-005**	**1.3300e-003**	**3.6000e-004**	**0.0000**	**3.7000e-004**	**0.0000**	**1.8491**	**1.8491**	**5.0000e-005**	**0.0000**	**1.8504**

3.6 Paving - 2027

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	7.3800e-003	0.0678	0.1096	1.7000e-004		3.1700e-003	3.1700e-003		2.9300e-003	2.9300e-003	0.0000	14.7404	14.7404	4.6300e-003	0.0000	14.8562
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.3800e-003**	**0.0678**	**0.1096**	**1.7000e-004**		**3.1700e-003**	**3.1700e-003**		**2.9300e-003**	**2.9300e-003**	**0.0000**	**14.7404**	**14.7404**	**4.6300e-003**	**0.0000**	**14.8562**

3.6 Paving - 2027

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	3.9000e-004	2.1000e-004	2.6100e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	0.9394	0.9394	1.0000e-005	0.0000	0.9398
Total	**3.9000e-004**	**2.1000e-004**	**2.6100e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**0.9394**	**0.9394**	**1.0000e-005**	**0.0000**	**0.9398**

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	7.3800e-003	0.0678	0.1096	1.7000e-004		3.1700e-003	3.1700e-003		2.9300e-003	2.9300e-003	0.0000	14.7404	14.7404	4.6300e-003	0.0000	14.8562
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.3800e-003**	**0.0678**	**0.1096**	**1.7000e-004**		**3.1700e-003**	**3.1700e-003**		**2.9300e-003**	**2.9300e-003**	**0.0000**	**14.7404**	**14.7404**	**4.6300e-003**	**0.0000**	**14.8562**

3.6 Paving - 2027

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	3.9000e-004	2.1000e-004	2.6100e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	0.9394	0.9394	1.0000e-005	0.0000	0.9398
Total	**3.9000e-004**	**2.1000e-004**	**2.6100e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**0.9394**	**0.9394**	**1.0000e-005**	**0.0000**	**0.9398**

3.7 Architectural Coating - 2027

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	0.8134					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5400e-003	0.0103	0.0163	3.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3011
Total	**0.8150**	**0.0103**	**0.0163**	**3.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.3000e-004**	**0.0000**	**2.3011**

3.7 Architectural Coating - 2027

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	4.9000e-004	2.7000e-004	3.2700e-003	1.0000e-005	1.7800e-003	1.0000e-005	1.7900e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.1743	1.1743	2.0000e-005	0.0000	1.1747
Total	**4.9000e-004**	**2.7000e-004**	**3.2700e-003**	**1.0000e-005**	**1.7800e-003**	**1.0000e-005**	**1.7900e-003**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**1.1743**	**1.1743**	**2.0000e-005**	**0.0000**	**1.1747**

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	0.8134					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5400e-003	0.0103	0.0163	3.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3011
Total	**0.8150**	**0.0103**	**0.0163**	**3.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.3000e-004**	**0.0000**	**2.3011**

3.7 Architectural Coating - 2027

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	4.9000e-004	2.7000e-004	3.2700e-003	1.0000e-005	1.7800e-003	1.0000e-005	1.7900e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.1743	1.1743	2.0000e-005	0.0000	1.1747
Total	**4.9000e-004**	**2.7000e-004**	**3.2700e-003**	**1.0000e-005**	**1.7800e-003**	**1.0000e-005**	**1.7900e-003**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**1.1743**	**1.1743**	**2.0000e-005**	**0.0000**	**1.1747**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking Structure	0.00	0.00	0.00		
Hotel	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Hotel	0.00	0.00	0.00	19.40	61.60	19.00	58	38	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.620274	0.034449	0.180536	0.101790	0.012258	0.005041	0.012989	0.022505	0.002207	0.001488	0.005157	0.000643	0.000663
Hotel	0.620274	0.034449	0.180536	0.101790	0.012258	0.005041	0.012989	0.022505	0.002207	0.001488	0.005157	0.000643	0.000663

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
Enclosed Parking Structure	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
Hotel	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
Enclosed Parking Structure	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
Hotel	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Hotel	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Project C-2 (Run 6)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-Rail	35.00	1000sqft	4.60	35,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project C-2 (Run 6) - Santa Clara County, Annual

Project Characteristics - Expand cargo airline facilities

Land Use - SJC Modeling Basis

Vehicle Trips - Construction only

Consumer Products - Construction Only

Area Coating - Construction Only

Landscape Equipment - Construction only

Energy Use - construction only

Water And Wastewater - Construction only

Solid Waste - Construction only

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_EF_Residential_Exterior	150	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	17500	0
tblAreaCoating	Area_Nonresidential_Interior	52500	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	0
tblEnergyUse	LightingElect	1.62	0.00
tblEnergyUse	NT24E	7.99	0.00

tblEnergyUse	NT24NG	3.06	0.00
tblEnergyUse	T24E	0.14	0.00
tblEnergyUse	T24NG	0.73	0.00
tblLandUse	LotAcreage	0.80	4.60
tblSolidWaste	SolidWasteGenerationRate	32.90	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	8,093,750.00	0.00

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					
2020	0.3050	2.8233	2.3349	4.0200e-003	0.0915	0.1556	0.2471	0.0438	0.1459	0.1897	0.0000	349.3503	349.3503	0.0815	0.0000	351.3883
2021	0.1959	0.1208	0.1400	2.3000e-004	1.7200e-003	6.5500e-003	8.2700e-003	4.6000e-004	6.1200e-003	6.5700e-003	0.0000	19.6757	19.6757	5.1000e-003	0.0000	19.8032
Maximum	**0.3050**	**2.8233**	**2.3349**	**4.0200e-003**	**0.0915**	**0.1556**	**0.2471**	**0.0438**	**0.1459**	**0.1897**	**0.0000**	**349.3503**	**349.3503**	**0.0815**	**0.0000**	**351.3883**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.3050	2.8233	2.3349	4.0200e-003	0.0915	0.1556	0.2471	0.0438	0.1459	0.1897	0.0000	349.3499	349.3499	0.0815	0.0000	351.3880
2021	0.1959	0.1208	0.1400	2.3000e-004	1.7200e-003	6.5500e-003	8.2700e-003	4.6000e-004	6.1200e-003	6.5700e-003	0.0000	19.6756	19.6756	5.1000e-003	0.0000	19.8032
Maximum	**0.3050**	**2.8233**	**2.3349**	**4.0200e-003**	**0.0915**	**0.1556**	**0.2471**	**0.0438**	**0.1459**	**0.1897**	**0.0000**	**349.3499**	**349.3499**	**0.0815**	**0.0000**	**351.3880**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2020	3-31-2020	0.9490	0.9490
2	4-1-2020	6-30-2020	0.7179	0.7179
3	7-1-2020	9-30-2020	0.7258	0.7258
4	10-1-2020	12-31-2020	0.7264	0.7264
5	1-1-2021	3-31-2021	0.3237	0.3237
		Highest	0.9490	0.9490

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	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

Project C-2 (Run 6) - Santa Clara County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	1/28/2020	5	20	
2	Site Preparation	Site Preparation	1/29/2020	2/4/2020	5	5	
3	Grading	Grading	2/5/2020	2/14/2020	5	8	
4	Building Construction	Building Construction	2/15/2020	1/1/2021	5	230	
5	Paving	Paving	1/2/2021	1/27/2021	5	18	
6	Architectural Coating	Architectural Coating	1/28/2021	2/22/2021	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 52,500; Non-Residential Outdoor: 17,500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	15.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**		**0.0166**	**0.0166**		**0.0154**	**0.0154**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2386**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**5.0000e-004**	**3.6000e-004**	**3.7500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0202**	**1.0202**	**3.0000e-005**	**0.0000**	**1.0209**

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	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**		**0.0166**	**0.0166**		**0.0154**	**0.0154**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2385**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**5.0000e-004**	**3.6000e-004**	**3.7500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0202**	**1.0202**	**3.0000e-005**	**0.0000**	**1.0209**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1060	0.0538	1.0000e-004		5.4900e-003	5.4900e-003		5.0500e-003	5.0500e-003	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4253
Total	**0.0102**	**0.1060**	**0.0538**	**1.0000e-004**	**0.0452**	**5.4900e-003**	**0.0507**	**0.0248**	**5.0500e-003**	**0.0299**	**0.0000**	**8.3577**	**8.3577**	**2.7000e-003**	**0.0000**	**8.4253**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	1.5000e-004	1.1000e-004	1.1300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3061	0.3061	1.0000e-005	0.0000	0.3063
Total	**1.5000e-004**	**1.1000e-004**	**1.1300e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3061**	**0.3061**	**1.0000e-005**	**0.0000**	**0.3063**

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1060	0.0538	1.0000e-004		5.4900e-003	5.4900e-003		5.0500e-003	5.0500e-003	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4252
Total	**0.0102**	**0.1060**	**0.0538**	**1.0000e-004**	**0.0452**	**5.4900e-003**	**0.0507**	**0.0248**	**5.0500e-003**	**0.0299**	**0.0000**	**8.3577**	**8.3577**	**2.7000e-003**	**0.0000**	**8.4252**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	1.5000e-004	1.1000e-004	1.1300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3061	0.3061	1.0000e-005	0.0000	0.3063
Total	**1.5000e-004**	**1.1000e-004**	**1.1300e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3061**	**0.3061**	**1.0000e-005**	**0.0000**	**0.3063**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1055	0.0642	1.2000e-004		5.0900e-003	5.0900e-003		4.6900e-003	4.6900e-003	0.0000	10.4235	10.4235	3.3700e-003	0.0000	10.5078
Total	**9.7200e-003**	**0.1055**	**0.0642**	**1.2000e-004**	**0.0262**	**5.0900e-003**	**0.0313**	**0.0135**	**4.6900e-003**	**0.0182**	**0.0000**	**10.4235**	**10.4235**	**3.3700e-003**	**0.0000**	**10.5078**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.4000e-004	1.5000e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4081	0.4081	1.0000e-005	0.0000	0.4083
Total	**2.0000e-004**	**1.4000e-004**	**1.5000e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4081**	**0.4081**	**1.0000e-005**	**0.0000**	**0.4083**

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1055	0.0642	1.2000e-004		5.0900e-003	5.0900e-003		4.6900e-003	4.6900e-003	0.0000	10.4235	10.4235	3.3700e-003	0.0000	10.5078
Total	**9.7200e-003**	**0.1055**	**0.0642**	**1.2000e-004**	**0.0262**	**5.0900e-003**	**0.0313**	**0.0135**	**4.6900e-003**	**0.0182**	**0.0000**	**10.4235**	**10.4235**	**3.3700e-003**	**0.0000**	**10.5078**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.4000e-004	1.5000e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4081	0.4081	1.0000e-005	0.0000	0.4083
Total	**2.0000e-004**	**1.4000e-004**	**1.5000e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4081**	**0.4081**	**1.0000e-005**	**0.0000**	**0.4083**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2427	2.1968	1.9292	3.0800e-003		0.1279	0.1279		0.1203	0.1203	0.0000	265.1934	265.1934	0.0647	0.0000	266.8109
Total	**0.2427**	**2.1968**	**1.9292**	**3.0800e-003**		**0.1279**	**0.1279**		**0.1203**	**0.1203**	**0.0000**	**265.1934**	**265.1934**	**0.0647**	**0.0000**	**266.8109**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7200e-003	0.0782	0.0208	1.9000e-004	4.5200e-003	3.9000e-004	4.9100e-003	1.3100e-003	3.7000e-004	1.6800e-003	0.0000	17.9611	17.9611	8.2000e-004	0.0000	17.9817
Worker	5.7000e-003	4.1000e-003	0.0430	1.3000e-004	0.0136	9.0000e-005	0.0137	3.6200e-003	8.0000e-005	3.7000e-003	0.0000	11.6816	11.6816	2.9000e-004	0.0000	11.6887
Total	**8.4200e-003**	**0.0823**	**0.0638**	**3.2000e-004**	**0.0181**	**4.8000e-004**	**0.0186**	**4.9300e-003**	**4.5000e-004**	**5.3800e-003**	**0.0000**	**29.6427**	**29.6427**	**1.1100e-003**	**0.0000**	**29.6704**

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	0.2427	2.1968	1.9292	3.0800e-003		0.1279	0.1279		0.1203	0.1203	0.0000	265.1931	265.1931	0.0647	0.0000	266.8106
Total	**0.2427**	**2.1968**	**1.9292**	**3.0800e-003**		**0.1279**	**0.1279**		**0.1203**	**0.1203**	**0.0000**	**265.1931**	**265.1931**	**0.0647**	**0.0000**	**266.8106**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7200e-003	0.0782	0.0208	1.9000e-004	4.5200e-003	3.9000e-004	4.9100e-003	1.3100e-003	3.7000e-004	1.6800e-003	0.0000	17.9611	17.9611	8.2000e-004	0.0000	17.9817
Worker	5.7000e-003	4.1000e-003	0.0430	1.3000e-004	0.0136	9.0000e-005	0.0137	3.6200e-003	8.0000e-005	3.7000e-003	0.0000	11.6816	11.6816	2.9000e-004	0.0000	11.6887
Total	**8.4200e-003**	**0.0823**	**0.0638**	**3.2000e-004**	**0.0181**	**4.8000e-004**	**0.0186**	**4.9300e-003**	**4.5000e-004**	**5.3800e-003**	**0.0000**	**29.6427**	**29.6427**	**1.1100e-003**	**0.0000**	**29.6704**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.5000e-004	8.7200e-003	8.2900e-003	1.0000e-005		4.8000e-004	4.8000e-004		4.5000e-004	4.5000e-004	0.0000	1.1582	1.1582	2.8000e-004	0.0000	1.1652
Total	**9.5000e-004**	**8.7200e-003**	**8.2900e-003**	**1.0000e-005**		**4.8000e-004**	**4.8000e-004**		**4.5000e-004**	**4.5000e-004**	**0.0000**	**1.1582**	**1.1582**	**2.8000e-004**	**0.0000**	**1.1652**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	3.1000e-004	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0777	0.0777	0.0000	0.0000	0.0778
Worker	2.0000e-005	2.0000e-005	1.7000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0492	0.0492	0.0000	0.0000	0.0493
Total	**3.0000e-005**	**3.3000e-004**	**2.5000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1270**	**0.1270**	**0.0000**	**0.0000**	**0.1271**

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	9.5000e-004	8.7200e-003	8.2900e-003	1.0000e-005		4.8000e-004	4.8000e-004		4.5000e-004	4.5000e-004	0.0000	1.1582	1.1582	2.8000e-004	0.0000	1.1652
Total	**9.5000e-004**	**8.7200e-003**	**8.2900e-003**	**1.0000e-005**		**4.8000e-004**	**4.8000e-004**		**4.5000e-004**	**4.5000e-004**	**0.0000**	**1.1582**	**1.1582**	**2.8000e-004**	**0.0000**	**1.1652**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	3.1000e-004	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0777	0.0777	0.0000	0.0000	0.0778
Worker	2.0000e-005	2.0000e-005	1.7000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0492	0.0492	0.0000	0.0000	0.0493
Total	**3.0000e-005**	**3.3000e-004**	**2.5000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1270**	**0.1270**	**0.0000**	**0.0000**	**0.1271**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8500e-003	0.0976	0.1103	1.7000e-004		5.2100e-003	5.2100e-003		4.8100e-003	4.8100e-003	0.0000	14.7336	14.7336	4.6300e-003	0.0000	14.8493
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.8500e-003**	**0.0976**	**0.1103**	**1.7000e-004**		**5.2100e-003**	**5.2100e-003**		**4.8100e-003**	**4.8100e-003**	**0.0000**	**14.7336**	**14.7336**	**4.6300e-003**	**0.0000**	**14.8493**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	3.8000e-004	4.1200e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1818	1.1818	3.0000e-005	0.0000	1.1825
Total	**5.5000e-004**	**3.8000e-004**	**4.1200e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1818**	**1.1818**	**3.0000e-005**	**0.0000**	**1.1825**

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	9.8500e-003	0.0976	0.1103	1.7000e-004		5.2100e-003	5.2100e-003		4.8100e-003	4.8100e-003	0.0000	14.7335	14.7335	4.6300e-003	0.0000	14.8493
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.8500e-003**	**0.0976**	**0.1103**	**1.7000e-004**		**5.2100e-003**	**5.2100e-003**		**4.8100e-003**	**4.8100e-003**	**0.0000**	**14.7335**	**14.7335**	**4.6300e-003**	**0.0000**	**14.8493**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	3.8000e-004	4.1200e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1818	1.1818	3.0000e-005	0.0000	1.1825
Total	**5.5000e-004**	**3.8000e-004**	**4.1200e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1818**	**1.1818**	**3.0000e-005**	**0.0000**	**1.1825**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1825					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	**0.1845**	**0.0137**	**0.0164**	**3.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.6000e-004**	**0.0000**	**2.3019**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	6.2000e-004	0.0000	2.1000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1773	0.1773	0.0000	0.0000	0.1774
Total	**8.0000e-005**	**6.0000e-005**	**6.2000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**2.2000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1773**	**0.1773**	**0.0000**	**0.0000**	**0.1774**

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	0.1825					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	**0.1845**	**0.0137**	**0.0164**	**3.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.6000e-004**	**0.0000**	**2.3019**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	6.2000e-004	0.0000	2.1000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1773	0.1773	0.0000	0.0000	0.1774
Total	**8.0000e-005**	**6.0000e-005**	**6.2000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**2.2000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1773**	**0.1773**	**0.0000**	**0.0000**	**0.1774**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Refrigerated Warehouse-Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Refrigerated Warehouse-Rail	0.00	0.00	0.00	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Refrigerated Warehouse-Rail	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Project C-3 (Run 7)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-Rail	35.00	1000sqft	3.40	35,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project C-3 (Run 7) - Santa Clara County, Annual

Project Characteristics -

Land Use - SJC Modeling Basis

Vehicle Trips - Construction only

Consumer Products - Construction Only

Area Coating - Construction Only

Landscape Equipment - Construction only

Energy Use - construction only

Water And Wastewater - Construction only

Solid Waste - Construction only

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_EF_Residential_Exterior	150	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	17500	0
tblAreaCoating	Area_Nonresidential_Interior	52500	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	0
tblEnergyUse	LightingElect	1.62	0.00
tblEnergyUse	NT24E	7.99	0.00

tblEnergyUse	NT24NG	3.06	0.00
tblEnergyUse	T24E	0.14	0.00
tblEnergyUse	T24NG	0.73	0.00
tblLandUse	LotAcreage	0.80	3.40
tblSolidWaste	SolidWasteGenerationRate	32.90	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	8,093,750.00	0.00

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					
2021	0.2755	2.5763	2.2852	4.0000e-003	0.0915	0.1348	0.2263	0.0437	0.1264	0.1701	0.0000	347.4664	347.4664	0.0804	0.0000	349.4768
2022	0.1955	0.1150	0.1473	2.4000e-004	1.8000e-003	5.9500e-003	7.7500e-003	4.8000e-004	5.5600e-003	6.0400e-003	0.0000	20.9120	20.9120	5.3700e-003	0.0000	21.0463
Maximum	**0.2755**	**2.5763**	**2.2852**	**4.0000e-003**	**0.0915**	**0.1348**	**0.2263**	**0.0437**	**0.1264**	**0.1701**	**0.0000**	**347.4664**	**347.4664**	**0.0804**	**0.0000**	**349.4768**

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					
2021	0.2755	2.5763	2.2852	4.0000e-003	0.0915	0.1348	0.2263	0.0437	0.1264	0.1701	0.0000	347.4660	347.4660	0.0804	0.0000	349.4764
2022	0.1955	0.1150	0.1473	2.4000e-004	1.8000e-003	5.9500e-003	7.7500e-003	4.8000e-004	5.5600e-003	6.0400e-003	0.0000	20.9119	20.9119	5.3700e-003	0.0000	21.0462
Maximum	**0.2755**	**2.5763**	**2.2852**	**4.0000e-003**	**0.0915**	**0.1348**	**0.2263**	**0.0437**	**0.1264**	**0.1701**	**0.0000**	**347.4660**	**347.4660**	**0.0804**	**0.0000**	**349.4764**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	0.8823	0.8823
2	4-1-2021	6-30-2021	0.6513	0.6513
3	7-1-2021	9-30-2021	0.6584	0.6584
4	10-1-2021	12-31-2021	0.6590	0.6590
5	1-1-2022	3-31-2022	0.3200	0.3200
		Highest	0.8823	0.8823

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	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	1/1/2021	1/28/2021	5	20	
2	Site Preparation	Site Preparation	1/29/2021	2/4/2021	5	5	
3	Grading	Grading	2/5/2021	2/16/2021	5	8	
4	Building Construction	Building Construction	2/17/2021	1/4/2022	5	230	
5	Paving	Paving	1/5/2022	1/28/2022	5	18	
6	Architectural Coating	Architectural Coating	1/29/2022	2/23/2022	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 52,500; Non-Residential Outdoor: 17,500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	15.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**		**0.0155**	**0.0155**		**0.0144**	**0.0144**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854
Total	**4.6000e-004**	**3.2000e-004**	**3.4300e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9848**	**0.9848**	**2.0000e-005**	**0.0000**	**0.9854**

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	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**		**0.0155**	**0.0155**		**0.0144**	**0.0144**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854
Total	**4.6000e-004**	**3.2000e-004**	**3.4300e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9848**	**0.9848**	**2.0000e-005**	**0.0000**	**0.9854**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1012	0.0529	1.0000e-004		5.1100e-003	5.1100e-003		4.7000e-003	4.7000e-003	0.0000	8.3589	8.3589	2.7000e-003	0.0000	8.4265
Total	**9.7200e-003**	**0.1012**	**0.0529**	**1.0000e-004**	**0.0452**	**5.1100e-003**	**0.0503**	**0.0248**	**4.7000e-003**	**0.0295**	**0.0000**	**8.3589**	**8.3589**	**2.7000e-003**	**0.0000**	**8.4265**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	1.0300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2954	0.2954	1.0000e-005	0.0000	0.2956
Total	**1.4000e-004**	**1.0000e-004**	**1.0300e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2954**	**0.2954**	**1.0000e-005**	**0.0000**	**0.2956**

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1012	0.0529	1.0000e-004		5.1100e-003	5.1100e-003		4.7000e-003	4.7000e-003	0.0000	8.3589	8.3589	2.7000e-003	0.0000	8.4265
Total	**9.7200e-003**	**0.1012**	**0.0529**	**1.0000e-004**	**0.0452**	**5.1100e-003**	**0.0503**	**0.0248**	**4.7000e-003**	**0.0295**	**0.0000**	**8.3589**	**8.3589**	**2.7000e-003**	**0.0000**	**8.4265**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	1.0300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2954	0.2954	1.0000e-005	0.0000	0.2956
Total	**1.4000e-004**	**1.0000e-004**	**1.0300e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2954**	**0.2954**	**1.0000e-005**	**0.0000**	**0.2956**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1600e-003	0.0990	0.0634	1.2000e-004		4.6400e-003	4.6400e-003		4.2700e-003	4.2700e-003	0.0000	10.4215	10.4215	3.3700e-003	0.0000	10.5057
Total	**9.1600e-003**	**0.0990**	**0.0634**	**1.2000e-004**	**0.0262**	**4.6400e-003**	**0.0309**	**0.0135**	**4.2700e-003**	**0.0177**	**0.0000**	**10.4215**	**10.4215**	**3.3700e-003**	**0.0000**	**10.5057**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.3000e-004	1.3700e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3939	0.3939	1.0000e-005	0.0000	0.3942
Total	**1.8000e-004**	**1.3000e-004**	**1.3700e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3939**	**0.3939**	**1.0000e-005**	**0.0000**	**0.3942**

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1600e-003	0.0990	0.0634	1.2000e-004		4.6400e-003	4.6400e-003		4.2700e-003	4.2700e-003	0.0000	10.4215	10.4215	3.3700e-003	0.0000	10.5057
Total	**9.1600e-003**	**0.0990**	**0.0634**	**1.2000e-004**	**0.0262**	**4.6400e-003**	**0.0309**	**0.0135**	**4.2700e-003**	**0.0177**	**0.0000**	**10.4215**	**10.4215**	**3.3700e-003**	**0.0000**	**10.5057**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.3000e-004	1.3700e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3939	0.3939	1.0000e-005	0.0000	0.3942
Total	**1.8000e-004**	**1.3000e-004**	**1.3700e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3939**	**0.3939**	**1.0000e-005**	**0.0000**	**0.3942**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2167	1.9873	1.8896	3.0700e-003		0.1093	0.1093		0.1028	0.1028	0.0000	264.0665	264.0665	0.0637	0.0000	265.6592
Total	**0.2167**	**1.9873**	**1.8896**	**3.0700e-003**		**0.1093**	**0.1093**		**0.1028**	**0.1028**	**0.0000**	**264.0665**	**264.0665**	**0.0637**	**0.0000**	**265.6592**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2300e-003	0.0703	0.0187	1.8000e-004	4.5000e-003	1.6000e-004	4.6600e-003	1.3000e-003	1.5000e-004	1.4500e-003	0.0000	17.7176	17.7176	7.7000e-004	0.0000	17.7369
Worker	5.2700e-003	3.6500e-003	0.0391	1.2000e-004	0.0136	9.0000e-005	0.0137	3.6100e-003	8.0000e-005	3.6900e-003	0.0000	11.2269	11.2269	2.6000e-004	0.0000	11.2333
Total	**7.5000e-003**	**0.0739**	**0.0578**	**3.0000e-004**	**0.0181**	**2.5000e-004**	**0.0183**	**4.9100e-003**	**2.3000e-004**	**5.1400e-003**	**0.0000**	**28.9445**	**28.9445**	**1.0300e-003**	**0.0000**	**28.9702**

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	0.2167	1.9873	1.8896	3.0700e-003		0.1093	0.1093		0.1028	0.1028	0.0000	264.0662	264.0662	0.0637	0.0000	265.6589
Total	**0.2167**	**1.9873**	**1.8896**	**3.0700e-003**		**0.1093**	**0.1093**		**0.1028**	**0.1028**	**0.0000**	**264.0662**	**264.0662**	**0.0637**	**0.0000**	**265.6589**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2300e-003	0.0703	0.0187	1.8000e-004	4.5000e-003	1.6000e-004	4.6600e-003	1.3000e-003	1.5000e-004	1.4500e-003	0.0000	17.7176	17.7176	7.7000e-004	0.0000	17.7369
Worker	5.2700e-003	3.6500e-003	0.0391	1.2000e-004	0.0136	9.0000e-005	0.0137	3.6100e-003	8.0000e-005	3.6900e-003	0.0000	11.2269	11.2269	2.6000e-004	0.0000	11.2333
Total	**7.5000e-003**	**0.0739**	**0.0578**	**3.0000e-004**	**0.0181**	**2.5000e-004**	**0.0183**	**4.9100e-003**	**2.3000e-004**	**5.1400e-003**	**0.0000**	**28.9445**	**28.9445**	**1.0300e-003**	**0.0000**	**28.9702**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	0.0156	0.0164	3.0000e-005		8.1000e-004	8.1000e-004		7.6000e-004	7.6000e-004	0.0000	2.3173	2.3173	5.6000e-004	0.0000	2.3311
Total	**1.7100e-003**	**0.0156**	**0.0164**	**3.0000e-005**		**8.1000e-004**	**8.1000e-004**		**7.6000e-004**	**7.6000e-004**	**0.0000**	**2.3173**	**2.3173**	**5.6000e-004**	**0.0000**	**2.3311**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	5.8000e-004	1.5000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1539	0.1539	1.0000e-005	0.0000	0.1541
Worker	4.0000e-005	3.0000e-005	3.2000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0949	0.0949	0.0000	0.0000	0.0950
Total	**6.0000e-005**	**6.1000e-004**	**4.7000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.2488**	**0.2488**	**1.0000e-005**	**0.0000**	**0.2490**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	0.0156	0.0164	3.0000e-005		8.1000e-004	8.1000e-004		7.6000e-004	7.6000e-004	0.0000	2.3173	2.3173	5.6000e-004	0.0000	2.3311
Total	**1.7100e-003**	**0.0156**	**0.0164**	**3.0000e-005**		**8.1000e-004**	**8.1000e-004**		**7.6000e-004**	**7.6000e-004**	**0.0000**	**2.3173**	**2.3173**	**5.6000e-004**	**0.0000**	**2.3311**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	5.8000e-004	1.5000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1539	0.1539	1.0000e-005	0.0000	0.1541
Worker	4.0000e-005	3.0000e-005	3.2000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0949	0.0949	0.0000	0.0000	0.0950
Total	**6.0000e-005**	**6.1000e-004**	**4.7000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.2488**	**0.2488**	**1.0000e-005**	**0.0000**	**0.2490**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.7900e-003	0.0857	0.1098	1.7000e-004		4.3900e-003	4.3900e-003		4.0500e-003	4.0500e-003	0.0000	14.7383	14.7383	4.6300e-003	0.0000	14.8540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.7900e-003**	**0.0857**	**0.1098**	**1.7000e-004**		**4.3900e-003**	**4.3900e-003**		**4.0500e-003**	**4.0500e-003**	**0.0000**	**14.7383**	**14.7383**	**4.6300e-003**	**0.0000**	**14.8540**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	3.4000e-004	3.7800e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1389	1.1389	2.0000e-005	0.0000	1.1395
Total	**5.2000e-004**	**3.4000e-004**	**3.7800e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1389**	**1.1389**	**2.0000e-005**	**0.0000**	**1.1395**

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	8.7900e-003	0.0857	0.1098	1.7000e-004		4.3900e-003	4.3900e-003		4.0500e-003	4.0500e-003	0.0000	14.7383	14.7383	4.6300e-003	0.0000	14.8540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.7900e-003**	**0.0857**	**0.1098**	**1.7000e-004**		**4.3900e-003**	**4.3900e-003**		**4.0500e-003**	**4.0500e-003**	**0.0000**	**14.7383**	**14.7383**	**4.6300e-003**	**0.0000**	**14.8540**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	3.4000e-004	3.7800e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1389	1.1389	2.0000e-005	0.0000	1.1395
Total	**5.2000e-004**	**3.4000e-004**	**3.7800e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1389**	**1.1389**	**2.0000e-005**	**0.0000**	**1.1395**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1825					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8400e-003	0.0127	0.0163	3.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	2.2979	2.2979	1.5000e-004	0.0000	2.3017
Total	**0.1843**	**0.0127**	**0.0163**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**7.4000e-004**	**7.4000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.5000e-004**	**0.0000**	**2.3017**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	5.0000e-005	5.7000e-004	0.0000	2.1000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1708	0.1708	0.0000	0.0000	0.1709
Total	**8.0000e-005**	**5.0000e-005**	**5.7000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**2.2000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1708**	**0.1708**	**0.0000**	**0.0000**	**0.1709**

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	0.1825					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8400e-003	0.0127	0.0163	3.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	2.2979	2.2979	1.5000e-004	0.0000	2.3017
Total	**0.1843**	**0.0127**	**0.0163**	**3.0000e-005**		**7.4000e-004**	**7.4000e-004**		**7.4000e-004**	**7.4000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.5000e-004**	**0.0000**	**2.3017**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	5.0000e-005	5.7000e-004	0.0000	2.1000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1708	0.1708	0.0000	0.0000	0.1709
Total	**8.0000e-005**	**5.0000e-005**	**5.7000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**2.2000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1708**	**0.1708**	**0.0000**	**0.0000**	**0.1709**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Refrigerated Warehouse-Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Refrigerated Warehouse-Rail	0.00	0.00	0.00	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Refrigerated Warehouse-Rail	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Project C-4 (Run 8)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-Rail	150.00	1000sqft	3.40	150,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - (demolition activity only)

Land Use - SJC Modeling Basis

Construction Phase -

Vehicle Trips - Construction only

Consumer Products - Construction Only

Area Coating - Construction Only

Landscape Equipment - Construction only

Energy Use - construction only

Water And Wastewater - Construction only

Solid Waste - Construction only

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_EF_Residential_Exterior	150	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	75000	0
tblAreaCoating	Area_Nonresidential_Interior	225000	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	0
tblEnergyUse	LightingElect	1.62	0.00

tblEnergyUse	NT24E	7.99	0.00
tblEnergyUse	NT24NG	3.06	0.00
tblEnergyUse	T24E	0.14	0.00
tblEnergyUse	T24NG	0.73	0.00
tblLandUse	LotAcreage	3.44	3.40
tblSolidWaste	SolidWasteGenerationRate	141.00	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	34,687,500.00	0.00

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					
2020	0.0336	0.3324	0.2213	4.0000e-004	1.1900e-003	0.0166	0.0178	3.2000e-004	0.0154	0.0157	0.0000	35.0188	35.0188	9.6200e-003	0.0000	35.2594
Maximum	**0.0336**	**0.3324**	**0.2213**	**4.0000e-004**	**1.1900e-003**	**0.0166**	**0.0178**	**3.2000e-004**	**0.0154**	**0.0157**	**0.0000**	**35.0188**	**35.0188**	**9.6200e-003**	**0.0000**	**35.2594**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0336	0.3324	0.2213	4.0000e-004	1.1900e-003	0.0166	0.0178	3.2000e-004	0.0154	0.0157	0.0000	35.0188	35.0188	9.6200e-003	0.0000	35.2594
Maximum	**0.0336**	**0.3324**	**0.2213**	**4.0000e-004**	**1.1900e-003**	**0.0166**	**0.0178**	**3.2000e-004**	**0.0154**	**0.0157**	**0.0000**	**35.0188**	**35.0188**	**9.6200e-003**	**0.0000**	**35.2594**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2020	3-31-2020	0.3661	0.3661
		Highest	0.3661	0.3661

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	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	1/1/2020	1/28/2020	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40

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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**		**0.0166**	**0.0166**		**0.0154**	**0.0154**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2386**

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	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**5.0000e-004**	**3.6000e-004**	**3.7500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0202**	**1.0202**	**3.0000e-005**	**0.0000**	**1.0209**

3.2 Demolition - 2020

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	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**		**0.0166**	**0.0166**		**0.0154**	**0.0154**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2385**

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	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**5.0000e-004**	**3.6000e-004**	**3.7500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0202**	**1.0202**	**3.0000e-005**	**0.0000**	**1.0209**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Refrigerated Warehouse-Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Refrigerated Warehouse-Rail	0.00	0.00	0.00	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Refrigerated Warehouse-Rail	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Project G-5 (Run9)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-Rail	50.00	1000sqft	3.50	50,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project G-5 (Run9) - Santa Clara County, Annual

Project Characteristics -

Land Use - SJC Modeling Basis

Vehicle Trips - Construction Only

Consumer Products - Construction only

Area Coating - Construction Only

Landscape Equipment - Construction Only

Energy Use - Construction Only

Water And Wastewater - Construction Only

Solid Waste - Construction Only

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_EF_Residential_Exterior	150	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	25000	0
tblAreaCoating	Area_Nonresidential_Interior	75000	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	0
tblEnergyUse	LightingElect	1.62	0.00
tblEnergyUse	NT24E	7.99	0.00

tblEnergyUse	NT24NG	3.06	0.00
tblEnergyUse	T24E	0.14	0.00
tblEnergyUse	T24NG	0.73	0.00
tblLandUse	LotAcreage	1.15	3.50
tblSolidWaste	SolidWasteGenerationRate	47.00	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	11,562,500.00	0.00

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					
2020	0.3082	2.8510	2.3590	4.1300e-003	0.0985	0.1557	0.2542	0.0457	0.1460	0.1917	0.0000	360.0099	360.0099	0.0819	0.0000	362.0577
2021	0.2742	0.1209	0.1403	2.3000e-004	1.8200e-003	6.5500e-003	8.3700e-003	4.9000e-004	6.1200e-003	6.6000e-003	0.0000	19.7804	19.7804	5.1000e-003	0.0000	19.9080
Maximum	**0.3082**	**2.8510**	**2.3590**	**4.1300e-003**	**0.0985**	**0.1557**	**0.2542**	**0.0457**	**0.1460**	**0.1917**	**0.0000**	**360.0099**	**360.0099**	**0.0819**	**0.0000**	**362.0577**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.3082	2.8510	2.3590	4.1300e-003	0.0985	0.1557	0.2542	0.0457	0.1460	0.1917	0.0000	360.0096	360.0096	0.0819	0.0000	362.0574
2021	0.2742	0.1209	0.1403	2.3000e-004	1.8200e-003	6.5500e-003	8.3700e-003	4.9000e-004	6.1200e-003	6.6000e-003	0.0000	19.7803	19.7803	5.1000e-003	0.0000	19.9080
Maximum	**0.3082**	**2.8510**	**2.3590**	**4.1300e-003**	**0.0985**	**0.1557**	**0.2542**	**0.0457**	**0.1460**	**0.1917**	**0.0000**	**360.0096**	**360.0096**	**0.0819**	**0.0000**	**362.0574**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2020	3-31-2020	0.9535	0.9535
2	4-1-2020	6-30-2020	0.7265	0.7265
3	7-1-2020	9-30-2020	0.7345	0.7345
4	10-1-2020	12-31-2020	0.7354	0.7354
5	1-1-2021	3-31-2021	0.4046	0.4046
		Highest	0.9535	0.9535

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	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	1/1/2020	1/28/2020	5	20	
2	Site Preparation	Site Preparation	1/29/2020	2/4/2020	5	5	
3	Grading	Grading	2/5/2020	2/14/2020	5	8	
4	Building Construction	Building Construction	2/15/2020	1/1/2021	5	230	
5	Paving	Paving	1/2/2021	1/27/2021	5	18	
6	Architectural Coating	Architectural Coating	1/28/2021	2/22/2021	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 75,000; Non-Residential Outdoor: 25,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	21.00	8.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**		**0.0166**	**0.0166**		**0.0154**	**0.0154**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2386**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**5.0000e-004**	**3.6000e-004**	**3.7500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0202**	**1.0202**	**3.0000e-005**	**0.0000**	**1.0209**

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	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**		**0.0166**	**0.0166**		**0.0154**	**0.0154**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2385**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**5.0000e-004**	**3.6000e-004**	**3.7500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0202**	**1.0202**	**3.0000e-005**	**0.0000**	**1.0209**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1060	0.0538	1.0000e-004		5.4900e-003	5.4900e-003		5.0500e-003	5.0500e-003	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4253
Total	**0.0102**	**0.1060**	**0.0538**	**1.0000e-004**	**0.0452**	**5.4900e-003**	**0.0507**	**0.0248**	**5.0500e-003**	**0.0299**	**0.0000**	**8.3577**	**8.3577**	**2.7000e-003**	**0.0000**	**8.4253**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	1.5000e-004	1.1000e-004	1.1300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3061	0.3061	1.0000e-005	0.0000	0.3063
Total	**1.5000e-004**	**1.1000e-004**	**1.1300e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3061**	**0.3061**	**1.0000e-005**	**0.0000**	**0.3063**

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1060	0.0538	1.0000e-004		5.4900e-003	5.4900e-003		5.0500e-003	5.0500e-003	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4252
Total	**0.0102**	**0.1060**	**0.0538**	**1.0000e-004**	**0.0452**	**5.4900e-003**	**0.0507**	**0.0248**	**5.0500e-003**	**0.0299**	**0.0000**	**8.3577**	**8.3577**	**2.7000e-003**	**0.0000**	**8.4252**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	1.5000e-004	1.1000e-004	1.1300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3061	0.3061	1.0000e-005	0.0000	0.3063
Total	**1.5000e-004**	**1.1000e-004**	**1.1300e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3061**	**0.3061**	**1.0000e-005**	**0.0000**	**0.3063**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1055	0.0642	1.2000e-004		5.0900e-003	5.0900e-003		4.6900e-003	4.6900e-003	0.0000	10.4235	10.4235	3.3700e-003	0.0000	10.5078
Total	**9.7200e-003**	**0.1055**	**0.0642**	**1.2000e-004**	**0.0262**	**5.0900e-003**	**0.0313**	**0.0135**	**4.6900e-003**	**0.0182**	**0.0000**	**10.4235**	**10.4235**	**3.3700e-003**	**0.0000**	**10.5078**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.4000e-004	1.5000e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4081	0.4081	1.0000e-005	0.0000	0.4083
Total	**2.0000e-004**	**1.4000e-004**	**1.5000e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4081**	**0.4081**	**1.0000e-005**	**0.0000**	**0.4083**

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1055	0.0642	1.2000e-004		5.0900e-003	5.0900e-003		4.6900e-003	4.6900e-003	0.0000	10.4235	10.4235	3.3700e-003	0.0000	10.5078
Total	**9.7200e-003**	**0.1055**	**0.0642**	**1.2000e-004**	**0.0262**	**5.0900e-003**	**0.0313**	**0.0135**	**4.6900e-003**	**0.0182**	**0.0000**	**10.4235**	**10.4235**	**3.3700e-003**	**0.0000**	**10.5078**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.4000e-004	1.5000e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4081	0.4081	1.0000e-005	0.0000	0.4083
Total	**2.0000e-004**	**1.4000e-004**	**1.5000e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4081**	**0.4081**	**1.0000e-005**	**0.0000**	**0.4083**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2427	2.1968	1.9292	3.0800e-003		0.1279	0.1279		0.1203	0.1203	0.0000	265.1934	265.1934	0.0647	0.0000	266.8109
Total	**0.2427**	**2.1968**	**1.9292**	**3.0800e-003**		**0.1279**	**0.1279**		**0.1203**	**0.1203**	**0.0000**	**265.1934**	**265.1934**	**0.0647**	**0.0000**	**266.8109**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.6300e-003	0.1043	0.0278	2.5000e-004	6.0300e-003	5.2000e-004	6.5400e-003	1.7400e-003	4.9000e-004	2.2400e-003	0.0000	23.9482	23.9482	1.1000e-003	0.0000	23.9756
Worker	7.9900e-003	5.7400e-003	0.0602	1.8000e-004	0.0191	1.2000e-004	0.0192	5.0700e-003	1.1000e-004	5.1900e-003	0.0000	16.3542	16.3542	4.0000e-004	0.0000	16.3642
Total	**0.0116**	**0.1100**	**0.0880**	**4.3000e-004**	**0.0251**	**6.4000e-004**	**0.0257**	**6.8100e-003**	**6.0000e-004**	**7.4300e-003**	**0.0000**	**40.3024**	**40.3024**	**1.5000e-003**	**0.0000**	**40.3398**

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	0.2427	2.1968	1.9292	3.0800e-003		0.1279	0.1279		0.1203	0.1203	0.0000	265.1931	265.1931	0.0647	0.0000	266.8106
Total	**0.2427**	**2.1968**	**1.9292**	**3.0800e-003**		**0.1279**	**0.1279**		**0.1203**	**0.1203**	**0.0000**	**265.1931**	**265.1931**	**0.0647**	**0.0000**	**266.8106**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.6300e-003	0.1043	0.0278	2.5000e-004	6.0300e-003	5.2000e-004	6.5400e-003	1.7400e-003	4.9000e-004	2.2400e-003	0.0000	23.9482	23.9482	1.1000e-003	0.0000	23.9756
Worker	7.9900e-003	5.7400e-003	0.0602	1.8000e-004	0.0191	1.2000e-004	0.0192	5.0700e-003	1.1000e-004	5.1900e-003	0.0000	16.3542	16.3542	4.0000e-004	0.0000	16.3642
Total	**0.0116**	**0.1100**	**0.0880**	**4.3000e-004**	**0.0251**	**6.4000e-004**	**0.0257**	**6.8100e-003**	**6.0000e-004**	**7.4300e-003**	**0.0000**	**40.3024**	**40.3024**	**1.5000e-003**	**0.0000**	**40.3398**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.5000e-004	8.7200e-003	8.2900e-003	1.0000e-005		4.8000e-004	4.8000e-004		4.5000e-004	4.5000e-004	0.0000	1.1582	1.1582	2.8000e-004	0.0000	1.1652
Total	**9.5000e-004**	**8.7200e-003**	**8.2900e-003**	**1.0000e-005**		**4.8000e-004**	**4.8000e-004**		**4.5000e-004**	**4.5000e-004**	**0.0000**	**1.1582**	**1.1582**	**2.8000e-004**	**0.0000**	**1.1652**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	4.1000e-004	1.1000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1036	0.1036	0.0000	0.0000	0.1037
Worker	3.0000e-005	2.0000e-005	2.4000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0689	0.0689	0.0000	0.0000	0.0690
Total	**4.0000e-005**	**4.3000e-004**	**3.5000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1726**	**0.1726**	**0.0000**	**0.0000**	**0.1727**

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	9.5000e-004	8.7200e-003	8.2900e-003	1.0000e-005		4.8000e-004	4.8000e-004		4.5000e-004	4.5000e-004	0.0000	1.1582	1.1582	2.8000e-004	0.0000	1.1652
Total	**9.5000e-004**	**8.7200e-003**	**8.2900e-003**	**1.0000e-005**		**4.8000e-004**	**4.8000e-004**		**4.5000e-004**	**4.5000e-004**	**0.0000**	**1.1582**	**1.1582**	**2.8000e-004**	**0.0000**	**1.1652**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	4.1000e-004	1.1000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1036	0.1036	0.0000	0.0000	0.1037
Worker	3.0000e-005	2.0000e-005	2.4000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0689	0.0689	0.0000	0.0000	0.0690
Total	**4.0000e-005**	**4.3000e-004**	**3.5000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1726**	**0.1726**	**0.0000**	**0.0000**	**0.1727**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8500e-003	0.0976	0.1103	1.7000e-004		5.2100e-003	5.2100e-003		4.8100e-003	4.8100e-003	0.0000	14.7336	14.7336	4.6300e-003	0.0000	14.8493
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.8500e-003**	**0.0976**	**0.1103**	**1.7000e-004**		**5.2100e-003**	**5.2100e-003**		**4.8100e-003**	**4.8100e-003**	**0.0000**	**14.7336**	**14.7336**	**4.6300e-003**	**0.0000**	**14.8493**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	3.8000e-004	4.1200e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1818	1.1818	3.0000e-005	0.0000	1.1825
Total	**5.5000e-004**	**3.8000e-004**	**4.1200e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1818**	**1.1818**	**3.0000e-005**	**0.0000**	**1.1825**

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	9.8500e-003	0.0976	0.1103	1.7000e-004		5.2100e-003	5.2100e-003		4.8100e-003	4.8100e-003	0.0000	14.7335	14.7335	4.6300e-003	0.0000	14.8493
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.8500e-003**	**0.0976**	**0.1103**	**1.7000e-004**		**5.2100e-003**	**5.2100e-003**		**4.8100e-003**	**4.8100e-003**	**0.0000**	**14.7335**	**14.7335**	**4.6300e-003**	**0.0000**	**14.8493**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	3.8000e-004	4.1200e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1818	1.1818	3.0000e-005	0.0000	1.1825
Total	**5.5000e-004**	**3.8000e-004**	**4.1200e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1818**	**1.1818**	**3.0000e-005**	**0.0000**	**1.1825**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2607					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	**0.2627**	**0.0137**	**0.0164**	**3.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.6000e-004**	**0.0000**	**2.3019**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	8.0000e-005	8.2000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2364	0.2364	1.0000e-005	0.0000	0.2365
Total	**1.1000e-004**	**8.0000e-005**	**8.2000e-004**	**0.0000**	**2.9000e-004**	**0.0000**	**2.9000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2364**	**0.2364**	**1.0000e-005**	**0.0000**	**0.2365**

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	0.2607					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	**0.2627**	**0.0137**	**0.0164**	**3.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.6000e-004**	**0.0000**	**2.3019**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	8.0000e-005	8.2000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2364	0.2364	1.0000e-005	0.0000	0.2365
Total	**1.1000e-004**	**8.0000e-005**	**8.2000e-004**	**0.0000**	**2.9000e-004**	**0.0000**	**2.9000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2364**	**0.2364**	**1.0000e-005**	**0.0000**	**0.2365**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Refrigerated Warehouse-Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Refrigerated Warehouse-Rail	0.00	0.00	0.00	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Refrigerated Warehouse-Rail	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Project G-8 (Run 10)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-Rail	150.00	1000sqft	10.00	150,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project G-8 (Run 10) - Santa Clara County, Annual

Project Characteristics -

Land Use - SJC Modeling Basis

Vehicle Trips - Construction Only

Consumer Products - Construction only

Area Coating - Construction Only

Landscape Equipment - Construction Only

Energy Use - Construction Only

Water And Wastewater - Construction Only

Solid Waste - Construction Only

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_EF_Residential_Exterior	150	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	75000	0
tblAreaCoating	Area_Nonresidential_Interior	225000	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	0
tblEnergyUse	LightingElect	1.62	0.00
tblEnergyUse	NT24E	7.99	0.00

tblEnergyUse	NT24NG	3.06	0.00
tblEnergyUse	T24E	0.14	0.00
tblEnergyUse	T24NG	0.73	0.00
tblLandUse	LotAcreage	3.44	10.00
tblSolidWaste	SolidWasteGenerationRate	141.00	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	34,687,500.00	0.00

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					
2023	0.2594	2.4134	2.4710	5.1800e-003	0.2503	0.1046	0.3549	0.1055	0.0979	0.2034	0.0000	457.0186	457.0186	0.0937	0.0000	459.3617
2024	0.8114	0.2615	0.3479	6.5000e-004	8.8600e-003	0.0115	0.0204	2.4000e-003	0.0108	0.0131	0.0000	57.2757	57.2757	0.0124	0.0000	57.5864
Maximum	**0.8114**	**2.4134**	**2.4710**	**5.1800e-003**	**0.2503**	**0.1046**	**0.3549**	**0.1055**	**0.0979**	**0.2034**	**0.0000**	**457.0186**	**457.0186**	**0.0937**	**0.0000**	**459.3617**

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					
2023	0.2594	2.4134	2.4710	5.1800e-003	0.2503	0.1046	0.3549	0.1055	0.0979	0.2034	0.0000	457.0182	457.0182	0.0937	0.0000	459.3613
2024	0.8114	0.2615	0.3479	6.5000e-004	8.8600e-003	0.0115	0.0204	2.4000e-003	0.0108	0.0131	0.0000	57.2757	57.2757	0.0124	0.0000	57.5863
Maximum	**0.8114**	**2.4134**	**2.4710**	**5.1800e-003**	**0.2503**	**0.1046**	**0.3549**	**0.1055**	**0.0979**	**0.2034**	**0.0000**	**457.0182**	**457.0182**	**0.0937**	**0.0000**	**459.3613**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2023	3-31-2023	0.8967	0.8967
2	4-1-2023	6-30-2023	0.5887	0.5887
3	7-1-2023	9-30-2023	0.5952	0.5952
4	10-1-2023	12-31-2023	0.5967	0.5967
5	1-1-2024	3-31-2024	1.0611	1.0611
		Highest	1.0611	1.0611

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	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	1/1/2023	1/27/2023	5	20	
2	Site Preparation	Site Preparation	1/28/2023	2/10/2023	5	10	
3	Grading	Grading	2/11/2023	3/10/2023	5	20	
4	Building Construction	Building Construction	3/11/2023	1/26/2024	5	230	
5	Paving	Paving	1/27/2024	2/23/2024	5	20	
6	Architectural Coating	Architectural Coating	2/24/2024	3/22/2024	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 50

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 225,000; Non-Residential Outdoor: 75,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	63.00	25.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2023

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	0.0227	0.2148	0.1964	3.9000e-004		9.9800e-003	9.9800e-003		9.2800e-003	9.2800e-003	0.0000	33.9921	33.9921	9.5200e-003	0.0000	34.2301
Total	**0.0227**	**0.2148**	**0.1964**	**3.9000e-004**		**9.9800e-003**	**9.9800e-003**		**9.2800e-003**	**9.2800e-003**	**0.0000**	**33.9921**	**33.9921**	**9.5200e-003**	**0.0000**	**34.2301**

3.2 Demolition - 2023

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	4.0000e-004	2.6000e-004	2.9000e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9130	0.9130	2.0000e-005	0.0000	0.9134
Total	**4.0000e-004**	**2.6000e-004**	**2.9000e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9130**	**0.9130**	**2.0000e-005**	**0.0000**	**0.9134**

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	0.0227	0.2148	0.1964	3.9000e-004		9.9800e-003	9.9800e-003		9.2800e-003	9.2800e-003	0.0000	33.9920	33.9920	9.5200e-003	0.0000	34.2300
Total	**0.0227**	**0.2148**	**0.1964**	**3.9000e-004**		**9.9800e-003**	**9.9800e-003**		**9.2800e-003**	**9.2800e-003**	**0.0000**	**33.9920**	**33.9920**	**9.5200e-003**	**0.0000**	**34.2300**

3.2 Demolition - 2023

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	4.0000e-004	2.6000e-004	2.9000e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9130	0.9130	2.0000e-005	0.0000	0.9134
Total	**4.0000e-004**	**2.6000e-004**	**2.9000e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9130**	**0.9130**	**2.0000e-005**	**0.0000**	**0.9134**

3.3 Site Preparation - 2023

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0903**	**6.3300e-003**	**0.0967**	**0.0497**	**5.8200e-003**	**0.0555**	**0.0000**	**16.7254**	**16.7254**	**5.4100e-003**	**0.0000**	**16.8606**

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.5000e-004	1.7400e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5478	0.5478	1.0000e-005	0.0000	0.5481
Total	**2.4000e-004**	**1.5000e-004**	**1.7400e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5478**	**0.5478**	**1.0000e-005**	**0.0000**	**0.5481**

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0903**	**6.3300e-003**	**0.0967**	**0.0497**	**5.8200e-003**	**0.0555**	**0.0000**	**16.7253**	**16.7253**	**5.4100e-003**	**0.0000**	**16.8606**

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.5000e-004	1.7400e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5478	0.5478	1.0000e-005	0.0000	0.5481
Total	**2.4000e-004**	**1.5000e-004**	**1.7400e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5478**	**0.5478**	**1.0000e-005**	**0.0000**	**0.5481**

3.4 Grading - 2023

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					0.0867	0.0000	0.0867	0.0360	0.0000	0.0360	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0332	0.3452	0.2805	6.2000e-004		0.0142	0.0142		0.0131	0.0131	0.0000	54.5352	54.5352	0.0176	0.0000	54.9762
Total	**0.0332**	**0.3452**	**0.2805**	**6.2000e-004**	**0.0867**	**0.0142**	**0.1010**	**0.0360**	**0.0131**	**0.0491**	**0.0000**	**54.5352**	**54.5352**	**0.0176**	**0.0000**	**54.9762**

3.4 Grading - 2023

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	5.4000e-004	3.4000e-004	3.8700e-003	1.0000e-005	1.5900e-003	1.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.2173	1.2173	2.0000e-005	0.0000	1.2179
Total	**5.4000e-004**	**3.4000e-004**	**3.8700e-003**	**1.0000e-005**	**1.5900e-003**	**1.0000e-005**	**1.6000e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.2173**	**1.2173**	**2.0000e-005**	**0.0000**	**1.2179**

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					0.0867	0.0000	0.0867	0.0360	0.0000	0.0360	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0332	0.3452	0.2805	6.2000e-004		0.0142	0.0142		0.0131	0.0131	0.0000	54.5351	54.5351	0.0176	0.0000	54.9761
Total	**0.0332**	**0.3452**	**0.2805**	**6.2000e-004**	**0.0867**	**0.0142**	**0.1010**	**0.0360**	**0.0131**	**0.0491**	**0.0000**	**54.5351**	**54.5351**	**0.0176**	**0.0000**	**54.9761**

3.4 Grading - 2023

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	5.4000e-004	3.4000e-004	3.8700e-003	1.0000e-005	1.5900e-003	1.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.2173	1.2173	2.0000e-005	0.0000	1.2179
Total	**5.4000e-004**	**3.4000e-004**	**3.8700e-003**	**1.0000e-005**	**1.5900e-003**	**1.0000e-005**	**1.6000e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.2173**	**1.2173**	**2.0000e-005**	**0.0000**	**1.2179**

3.5 Building Construction - 2023

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	0.1651	1.5104	1.7056	2.8300e-003		0.0735	0.0735		0.0691	0.0691	0.0000	243.3950	243.3950	0.0579	0.0000	244.8425
Total	**0.1651**	**1.5104**	**1.7056**	**2.8300e-003**		**0.0735**	**0.0735**		**0.0691**	**0.0691**	**0.0000**	**243.3950**	**243.3950**	**0.0579**	**0.0000**	**244.8425**

3.5 Building Construction - 2023

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	6.0200e-003	0.1932	0.0607	6.8000e-004	0.0173	2.3000e-004	0.0175	4.9900e-003	2.2000e-004	5.2100e-003	0.0000	65.4300	65.4300	2.4100e-003	0.0000	65.4902
Worker	0.0178	0.0114	0.1280	4.5000e-004	0.0525	3.2000e-004	0.0528	0.0140	2.9000e-004	0.0142	0.0000	40.2629	40.2629	7.9000e-004	0.0000	40.2828
Total	**0.0238**	**0.2046**	**0.1887**	**1.1300e-003**	**0.0697**	**5.5000e-004**	**0.0703**	**0.0189**	**5.1000e-004**	**0.0195**	**0.0000**	**105.6929**	**105.6929**	**3.2000e-003**	**0.0000**	**105.7730**

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	0.1651	1.5104	1.7056	2.8300e-003		0.0735	0.0735		0.0691	0.0691	0.0000	243.3947	243.3947	0.0579	0.0000	244.8422
Total	**0.1651**	**1.5104**	**1.7056**	**2.8300e-003**		**0.0735**	**0.0735**		**0.0691**	**0.0691**	**0.0000**	**243.3947**	**243.3947**	**0.0579**	**0.0000**	**244.8422**

3.5 Building Construction - 2023

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	6.0200e-003	0.1932	0.0607	6.8000e-004	0.0173	2.3000e-004	0.0175	4.9900e-003	2.2000e-004	5.2100e-003	0.0000	65.4300	65.4300	2.4100e-003	0.0000	65.4902
Worker	0.0178	0.0114	0.1280	4.5000e-004	0.0525	3.2000e-004	0.0528	0.0140	2.9000e-004	0.0142	0.0000	40.2629	40.2629	7.9000e-004	0.0000	40.2828
Total	**0.0238**	**0.2046**	**0.1887**	**1.1300e-003**	**0.0697**	**5.5000e-004**	**0.0703**	**0.0189**	**5.1000e-004**	**0.0195**	**0.0000**	**105.6929**	**105.6929**	**3.2000e-003**	**0.0000**	**105.7730**

3.5 Building Construction - 2024

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	0.0147	0.1344	0.1617	2.7000e-004		6.1300e-003	6.1300e-003		5.7700e-003	5.7700e-003	0.0000	23.1849	23.1849	5.4800e-003	0.0000	23.3220
Total	**0.0147**	**0.1344**	**0.1617**	**2.7000e-004**		**6.1300e-003**	**6.1300e-003**		**5.7700e-003**	**5.7700e-003**	**0.0000**	**23.1849**	**23.1849**	**5.4800e-003**	**0.0000**	**23.3220**

3.5 Building Construction - 2024

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	5.5000e-004	0.0182	5.5900e-003	6.0000e-005	1.6500e-003	2.0000e-005	1.6700e-003	4.8000e-004	2.0000e-005	5.0000e-004	0.0000	6.1898	6.1898	2.2000e-004	0.0000	6.1954
Worker	1.6000e-003	9.8000e-004	0.0113	4.0000e-005	5.0000e-003	3.0000e-005	5.0300e-003	1.3300e-003	3.0000e-005	1.3600e-003	0.0000	3.6839	3.6839	7.0000e-005	0.0000	3.6857
Total	**2.1500e-003**	**0.0192**	**0.0169**	**1.0000e-004**	**6.6500e-003**	**5.0000e-005**	**6.7000e-003**	**1.8100e-003**	**5.0000e-005**	**1.8600e-003**	**0.0000**	**9.8737**	**9.8737**	**2.9000e-004**	**0.0000**	**9.8810**

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	0.0147	0.1344	0.1617	2.7000e-004		6.1300e-003	6.1300e-003		5.7700e-003	5.7700e-003	0.0000	23.1849	23.1849	5.4800e-003	0.0000	23.3220
Total	**0.0147**	**0.1344**	**0.1617**	**2.7000e-004**		**6.1300e-003**	**6.1300e-003**		**5.7700e-003**	**5.7700e-003**	**0.0000**	**23.1849**	**23.1849**	**5.4800e-003**	**0.0000**	**23.3220**

3.5 Building Construction - 2024

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	5.5000e-004	0.0182	5.5900e-003	6.0000e-005	1.6500e-003	2.0000e-005	1.6700e-003	4.8000e-004	2.0000e-005	5.0000e-004	0.0000	6.1898	6.1898	2.2000e-004	0.0000	6.1954
Worker	1.6000e-003	9.8000e-004	0.0113	4.0000e-005	5.0000e-003	3.0000e-005	5.0300e-003	1.3300e-003	3.0000e-005	1.3600e-003	0.0000	3.6839	3.6839	7.0000e-005	0.0000	3.6857
Total	**2.1500e-003**	**0.0192**	**0.0169**	**1.0000e-004**	**6.6500e-003**	**5.0000e-005**	**6.7000e-003**	**1.8100e-003**	**5.0000e-005**	**1.8600e-003**	**0.0000**	**9.8737**	**9.8737**	**2.9000e-004**	**0.0000**	**9.8810**

3.6 Paving - 2024

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	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1885
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.8800e-003**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1885**

3.6 Paving - 2024

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	3.8000e-004	2.3000e-004	2.6900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.8771	0.8771	2.0000e-005	0.0000	0.8775
Total	**3.8000e-004**	**2.3000e-004**	**2.6900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.8771**	**0.8771**	**2.0000e-005**	**0.0000**	**0.8775**

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	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1884
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.8800e-003**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1884**

3.6 Paving - 2024

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	3.8000e-004	2.3000e-004	2.6900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.8771	0.8771	2.0000e-005	0.0000	0.8775
Total	**3.8000e-004**	**2.3000e-004**	**2.6900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.8771**	**0.8771**	**2.0000e-005**	**0.0000**	**0.8775**

3.7 Architectural Coating - 2024

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	0.7822					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	**0.7840**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5569**

3.7 Architectural Coating - 2024

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	3.3000e-004	2.0000e-004	2.3300e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.7602	0.7602	1.0000e-005	0.0000	0.7605
Total	**3.3000e-004**	**2.0000e-004**	**2.3300e-003**	**1.0000e-005**	**1.0300e-003**	**1.0000e-005**	**1.0400e-003**	**2.7000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.7602**	**0.7602**	**1.0000e-005**	**0.0000**	**0.7605**

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	0.7822					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	**0.7840**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5568**

3.7 Architectural Coating - 2024

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	3.3000e-004	2.0000e-004	2.3300e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.7602	0.7602	1.0000e-005	0.0000	0.7605
Total	**3.3000e-004**	**2.0000e-004**	**2.3300e-003**	**1.0000e-005**	**1.0300e-003**	**1.0000e-005**	**1.0400e-003**	**2.7000e-004**	**1.0000e-005**	**2.8000e-004**	**0.0000**	**0.7602**	**0.7602**	**1.0000e-005**	**0.0000**	**0.7605**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Refrigerated Warehouse-Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Refrigerated Warehouse-Rail	0.00	0.00	0.00	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Refrigerated Warehouse-Rail	0.616749	0.035330	0.181430	0.103378	0.013121	0.005016	0.012828	0.021913	0.002183	0.001508	0.005219	0.000634	0.000691

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Project G-9 (Run11)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-Rail	496.30	1000sqft	11.39	496,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project G-9 (Run11) - Santa Clara County, Annual

Project Characteristics -

Land Use -

Construction Phase - 2023 (north), 2024 (south)

Vehicle Trips - Construction Only

Consumer Products - Construction Only

Area Coating - Construction Only

Landscape Equipment - Construction Only

Energy Use - Construction Only

Water And Wastewater - Construction Only

Solid Waste - Construction Only

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_EF_Residential_Exterior	150	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	248150	0
tblAreaCoating	Area_Nonresidential_Interior	744450	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	0
tblEnergyUse	LightingElect	1.62	0.00

tblEnergyUse	NT24E	7.99	0.00
tblEnergyUse	NT24NG	3.06	0.00
tblEnergyUse	T24E	0.14	0.00
tblEnergyUse	T24NG	0.73	0.00
tblSolidWaste	SolidWasteGenerationRate	466.52	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	114,769,375.00	0.00

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					
2023	0.3191	2.9417	2.9331	7.7400e-003	0.4430	0.1094	0.5523	0.1640	0.1022	0.2662	0.0000	696.1115	696.1115	0.1065	0.0000	698.7746
2024	2.7100	1.0911	1.2600	3.3600e-003	0.1137	0.0368	0.1505	0.0308	0.0346	0.0654	0.0000	302.9259	302.9259	0.0389	0.0000	303.8974
Maximum	**2.7100**	**2.9417**	**2.9331**	**7.7400e-003**	**0.4430**	**0.1094**	**0.5523**	**0.1640**	**0.1022**	**0.2662**	**0.0000**	**696.1115**	**696.1115**	**0.1065**	**0.0000**	**698.7746**

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					
2023	0.3191	2.9417	2.9331	7.7400e-003	0.4430	0.1094	0.5523	0.1640	0.1022	0.2662	0.0000	696.1111	696.1111	0.1065	0.0000	698.7741
2024	2.7100	1.0911	1.2600	3.3600e-003	0.1137	0.0368	0.1505	0.0308	0.0346	0.0654	0.0000	302.9257	302.9257	0.0389	0.0000	303.8972
Maximum	**2.7100**	**2.9417**	**2.9331**	**7.7400e-003**	**0.4430**	**0.1094**	**0.5523**	**0.1640**	**0.1022**	**0.2662**	**0.0000**	**696.1111**	**696.1111**	**0.1065**	**0.0000**	**698.7741**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2023	3-31-2023	1.0079	1.0079
2	4-1-2023	6-30-2023	0.7462	0.7462
3	7-1-2023	9-30-2023	0.7544	0.7544
4	10-1-2023	12-31-2023	0.7595	0.7595
5	1-1-2024	3-31-2024	0.7123	0.7123
6	4-1-2024	6-30-2024	1.9590	1.9590
7	7-1-2024	9-30-2024	1.1158	1.1158
		Highest	1.9590	1.9590

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	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	1/1/2023	1/27/2023	5	20	
2	Site Preparation	Site Preparation	1/28/2023	2/10/2023	5	10	
3	Grading	Grading	2/11/2023	3/24/2023	5	30	
4	Building Construction	Building Construction	3/25/2023	5/17/2024	5	300	
5	Paving	Paving	5/18/2024	6/14/2024	5	20	
6	Architectural Coating	Architectural Coating	6/15/2024	7/12/2024	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 744,450; Non-Residential Outdoor: 248,150; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	208.00	81.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	42.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2023

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	0.0227	0.2148	0.1964	3.9000e-004		9.9800e-003	9.9800e-003		9.2800e-003	9.2800e-003	0.0000	33.9921	33.9921	9.5200e-003	0.0000	34.2301
Total	**0.0227**	**0.2148**	**0.1964**	**3.9000e-004**		**9.9800e-003**	**9.9800e-003**		**9.2800e-003**	**9.2800e-003**	**0.0000**	**33.9921**	**33.9921**	**9.5200e-003**	**0.0000**	**34.2301**

3.2 Demolition - 2023

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	4.0000e-004	2.6000e-004	2.9000e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9130	0.9130	2.0000e-005	0.0000	0.9134
Total	**4.0000e-004**	**2.6000e-004**	**2.9000e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9130**	**0.9130**	**2.0000e-005**	**0.0000**	**0.9134**

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	0.0227	0.2148	0.1964	3.9000e-004		9.9800e-003	9.9800e-003		9.2800e-003	9.2800e-003	0.0000	33.9920	33.9920	9.5200e-003	0.0000	34.2300
Total	**0.0227**	**0.2148**	**0.1964**	**3.9000e-004**		**9.9800e-003**	**9.9800e-003**		**9.2800e-003**	**9.2800e-003**	**0.0000**	**33.9920**	**33.9920**	**9.5200e-003**	**0.0000**	**34.2300**

3.2 Demolition - 2023

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	4.0000e-004	2.6000e-004	2.9000e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9130	0.9130	2.0000e-005	0.0000	0.9134
Total	**4.0000e-004**	**2.6000e-004**	**2.9000e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9130**	**0.9130**	**2.0000e-005**	**0.0000**	**0.9134**

3.3 Site Preparation - 2023

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0903**	**6.3300e-003**	**0.0967**	**0.0497**	**5.8200e-003**	**0.0555**	**0.0000**	**16.7254**	**16.7254**	**5.4100e-003**	**0.0000**	**16.8606**

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.5000e-004	1.7400e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5478	0.5478	1.0000e-005	0.0000	0.5481
Total	**2.4000e-004**	**1.5000e-004**	**1.7400e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5478**	**0.5478**	**1.0000e-005**	**0.0000**	**0.5481**

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0903**	**6.3300e-003**	**0.0967**	**0.0497**	**5.8200e-003**	**0.0555**	**0.0000**	**16.7253**	**16.7253**	**5.4100e-003**	**0.0000**	**16.8606**

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.5000e-004	1.7400e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5478	0.5478	1.0000e-005	0.0000	0.5481
Total	**2.4000e-004**	**1.5000e-004**	**1.7400e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5478**	**0.5478**	**1.0000e-005**	**0.0000**	**0.5481**

3.4 Grading - 2023

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					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5177	0.4208	9.3000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	81.8028	81.8028	0.0265	0.0000	82.4642
Total	**0.0498**	**0.5177**	**0.4208**	**9.3000e-004**	**0.1301**	**0.0214**	**0.1515**	**0.0540**	**0.0197**	**0.0736**	**0.0000**	**81.8028**	**81.8028**	**0.0265**	**0.0000**	**82.4642**

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1000e-004	5.2000e-004	5.8000e-003	2.0000e-005	2.3800e-003	1.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.5000e-004	0.0000	1.8260	1.8260	4.0000e-005	0.0000	1.8269
Total	**8.1000e-004**	**5.2000e-004**	**5.8000e-003**	**2.0000e-005**	**2.3800e-003**	**1.0000e-005**	**2.3900e-003**	**6.3000e-004**	**1.0000e-005**	**6.5000e-004**	**0.0000**	**1.8260**	**1.8260**	**4.0000e-005**	**0.0000**	**1.8269**

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					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5177	0.4208	9.3000e-004		0.0214	0.0214		0.0197	0.0197	0.0000	81.8027	81.8027	0.0265	0.0000	82.4641
Total	**0.0498**	**0.5177**	**0.4208**	**9.3000e-004**	**0.1301**	**0.0214**	**0.1515**	**0.0540**	**0.0197**	**0.0736**	**0.0000**	**81.8027**	**81.8027**	**0.0265**	**0.0000**	**82.4641**

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1000e-004	5.2000e-004	5.8000e-003	2.0000e-005	2.3800e-003	1.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.5000e-004	0.0000	1.8260	1.8260	4.0000e-005	0.0000	1.8269
Total	**8.1000e-004**	**5.2000e-004**	**5.8000e-003**	**2.0000e-005**	**2.3800e-003**	**1.0000e-005**	**2.3900e-003**	**6.3000e-004**	**1.0000e-005**	**6.5000e-004**	**0.0000**	**1.8260**	**1.8260**	**4.0000e-005**	**0.0000**	**1.8269**

3.5 Building Construction - 2023

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	0.1573	1.4385	1.6244	2.6900e-003		0.0700	0.0700		0.0658	0.0658	0.0000	231.8048	231.8048	0.0551	0.0000	233.1833
Total	**0.1573**	**1.4385**	**1.6244**	**2.6900e-003**		**0.0700**	**0.0700**		**0.0658**	**0.0658**	**0.0000**	**231.8048**	**231.8048**	**0.0551**	**0.0000**	**233.1833**

3.5 Building Construction - 2023

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	0.0186	0.5963	0.1874	2.1000e-003	0.0533	7.0000e-004	0.0540	0.0154	6.7000e-004	0.0161	0.0000	201.8983	201.8983	7.4300e-003	0.0000	202.0842
Worker	0.0560	0.0358	0.4024	1.4000e-003	0.1650	1.0000e-003	0.1660	0.0439	9.2000e-004	0.0448	0.0000	126.6014	126.6014	2.5000e-003	0.0000	126.6638
Total	**0.0746**	**0.6321**	**0.5898**	**3.5000e-003**	**0.2183**	**1.7000e-003**	**0.2200**	**0.0593**	**1.5900e-003**	**0.0609**	**0.0000**	**328.4997**	**328.4997**	**9.9300e-003**	**0.0000**	**328.7480**

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	0.1573	1.4385	1.6244	2.6900e-003		0.0700	0.0700		0.0658	0.0658	0.0000	231.8045	231.8045	0.0551	0.0000	233.1830
Total	**0.1573**	**1.4385**	**1.6244**	**2.6900e-003**		**0.0700**	**0.0700**		**0.0658**	**0.0658**	**0.0000**	**231.8045**	**231.8045**	**0.0551**	**0.0000**	**233.1830**

3.5 Building Construction - 2023

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	0.0186	0.5963	0.1874	2.1000e-003	0.0533	7.0000e-004	0.0540	0.0154	6.7000e-004	0.0161	0.0000	201.8983	201.8983	7.4300e-003	0.0000	202.0842
Worker	0.0560	0.0358	0.4024	1.4000e-003	0.1650	1.0000e-003	0.1660	0.0439	9.2000e-004	0.0448	0.0000	126.6014	126.6014	2.5000e-003	0.0000	126.6638
Total	**0.0746**	**0.6321**	**0.5898**	**3.5000e-003**	**0.2183**	**1.7000e-003**	**0.2200**	**0.0593**	**1.5900e-003**	**0.0609**	**0.0000**	**328.4997**	**328.4997**	**9.9300e-003**	**0.0000**	**328.7480**

3.5 Building Construction - 2024

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	0.0736	0.6722	0.8083	1.3500e-003		0.0307	0.0307		0.0288	0.0288	0.0000	115.9246	115.9246	0.0274	0.0000	116.6099
Total	**0.0736**	**0.6722**	**0.8083**	**1.3500e-003**		**0.0307**	**0.0307**		**0.0288**	**0.0288**	**0.0000**	**115.9246**	**115.9246**	**0.0274**	**0.0000**	**116.6099**

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.9900e-003	0.2944	0.0905	1.0400e-003	0.0267	3.4000e-004	0.0270	7.7100e-003	3.3000e-004	8.0300e-003	0.0000	100.2741	100.2741	3.6400e-003	0.0000	100.3652
Worker	0.0264	0.0162	0.1866	6.7000e-004	0.0825	4.9000e-004	0.0830	0.0219	4.5000e-004	0.0224	0.0000	60.8143	60.8143	1.1200e-003	0.0000	60.8424
Total	**0.0353**	**0.3106**	**0.2770**	**1.7100e-003**	**0.1091**	**8.3000e-004**	**0.1100**	**0.0297**	**7.8000e-004**	**0.0304**	**0.0000**	**161.0884**	**161.0884**	**4.7600e-003**	**0.0000**	**161.2076**

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	0.0736	0.6722	0.8083	1.3500e-003		0.0307	0.0307		0.0288	0.0288	0.0000	115.9244	115.9244	0.0274	0.0000	116.6097
Total	**0.0736**	**0.6722**	**0.8083**	**1.3500e-003**		**0.0307**	**0.0307**		**0.0288**	**0.0288**	**0.0000**	**115.9244**	**115.9244**	**0.0274**	**0.0000**	**116.6097**

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.9900e-003	0.2944	0.0905	1.0400e-003	0.0267	3.4000e-004	0.0270	7.7100e-003	3.3000e-004	8.0300e-003	0.0000	100.2741	100.2741	3.6400e-003	0.0000	100.3652
Worker	0.0264	0.0162	0.1866	6.7000e-004	0.0825	4.9000e-004	0.0830	0.0219	4.5000e-004	0.0224	0.0000	60.8143	60.8143	1.1200e-003	0.0000	60.8424
Total	**0.0353**	**0.3106**	**0.2770**	**1.7100e-003**	**0.1091**	**8.3000e-004**	**0.1100**	**0.0297**	**7.8000e-004**	**0.0304**	**0.0000**	**161.0884**	**161.0884**	**4.7600e-003**	**0.0000**	**161.2076**

3.6 Paving - 2024

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	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1885
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.8800e-003**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1885**

3.6 Paving - 2024

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	3.8000e-004	2.3000e-004	2.6900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.8771	0.8771	2.0000e-005	0.0000	0.8775
Total	**3.8000e-004**	**2.3000e-004**	**2.6900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.8771**	**0.8771**	**2.0000e-005**	**0.0000**	**0.8775**

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	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1884
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.8800e-003**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1884**

3.6 Paving - 2024

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	3.8000e-004	2.3000e-004	2.6900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.8771	0.8771	2.0000e-005	0.0000	0.8775
Total	**3.8000e-004**	**2.3000e-004**	**2.6900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.8771**	**0.8771**	**2.0000e-005**	**0.0000**	**0.8775**

3.7 Architectural Coating - 2024

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	2.5879					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	**2.5897**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5569**

3.7 Architectural Coating - 2024

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	1.0600e-003	6.5000e-004	7.5300e-003	3.0000e-005	3.3300e-003	2.0000e-005	3.3500e-003	8.9000e-004	2.0000e-005	9.0000e-004	0.0000	2.4560	2.4560	5.0000e-005	0.0000	2.4571
Total	**1.0600e-003**	**6.5000e-004**	**7.5300e-003**	**3.0000e-005**	**3.3300e-003**	**2.0000e-005**	**3.3500e-003**	**8.9000e-004**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**2.4560**	**2.4560**	**5.0000e-005**	**0.0000**	**2.4571**

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	2.5879					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	**2.5897**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5568**

3.7 Architectural Coating - 2024

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	1.0600e-003	6.5000e-004	7.5300e-003	3.0000e-005	3.3300e-003	2.0000e-005	3.3500e-003	8.9000e-004	2.0000e-005	9.0000e-004	0.0000	2.4560	2.4560	5.0000e-005	0.0000	2.4571
Total	**1.0600e-003**	**6.5000e-004**	**7.5300e-003**	**3.0000e-005**	**3.3300e-003**	**2.0000e-005**	**3.3500e-003**	**8.9000e-004**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**2.4560**	**2.4560**	**5.0000e-005**	**0.0000**	**2.4571**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Refrigerated Warehouse-Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Refrigerated Warehouse-Rail	0.00	0.00	0.00	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Refrigerated Warehouse-Rail	0.618126	0.034987	0.181060	0.102744	0.012808	0.005030	0.012887	0.022139	0.002195	0.001502	0.005204	0.000638	0.000681

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Project S-1 (Run12)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-Rail	4.80	1000sqft	2.30	4,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project S-1 (Run12) - Santa Clara County, Annual

Project Characteristics -

Land Use - SJC Emission Modeling Basis

Construction Phase -

Vehicle Trips - Construction Only

Consumer Products - Construction Only

Area Coating - Construction Only

Landscape Equipment - Construction Only

Energy Use - Construction Only

Water And Wastewater - Construction Only

Solid Waste - Construction Only

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_EF_Residential_Exterior	150	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	2400	0
tblAreaCoating	Area_Nonresidential_Interior	7200	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	0
tblEnergyUse	LightingElect	1.62	0.00
tblEnergyUse	NT24E	7.99	0.00

tblEnergyUse	NT24NG	3.06	0.00
tblEnergyUse	T24E	0.14	0.00
tblEnergyUse	T24NG	0.73	0.00
tblLandUse	LotAcreage	0.11	2.30
tblSolidWaste	SolidWasteGenerationRate	4.51	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	1,110,000.00	0.00

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					
2035	0.1516	0.9003	1.7275	3.5800e-003	0.0265	0.0113	0.0378	0.0116	0.0113	0.0229	0.0000	298.0697	298.0697	0.0118	0.0000	298.3655
2036	0.0205	3.0300e-003	7.1800e-003	1.0000e-005	0.0000	4.0000e-005	4.0000e-005	0.0000	4.0000e-005	4.0000e-005	0.0000	1.0213	1.0213	4.0000e-005	0.0000	1.0222
Maximum	**0.1516**	**0.9003**	**1.7275**	**3.5800e-003**	**0.0265**	**0.0113**	**0.0378**	**0.0116**	**0.0113**	**0.0229**	**0.0000**	**298.0697**	**298.0697**	**0.0118**	**0.0000**	**298.3655**

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					
2035	0.1516	0.9003	1.7275	3.5800e-003	0.0265	0.0113	0.0378	0.0116	0.0113	0.0229	0.0000	298.0693	298.0693	0.0118	0.0000	298.3651
2036	0.0205	3.0300e-003	7.1800e-003	1.0000e-005	0.0000	4.0000e-005	4.0000e-005	0.0000	4.0000e-005	4.0000e-005	0.0000	1.0213	1.0213	4.0000e-005	0.0000	1.0222
Maximum	**0.1516**	**0.9003**	**1.7275**	**3.5800e-003**	**0.0265**	**0.0113**	**0.0378**	**0.0116**	**0.0113**	**0.0229**	**0.0000**	**298.0693**	**298.0693**	**0.0118**	**0.0000**	**298.3651**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2035	3-31-2035	0.2479	0.2479
2	4-1-2035	6-30-2035	0.2709	0.2709
3	7-1-2035	9-30-2035	0.2739	0.2739
4	10-1-2035	12-31-2035	0.2568	0.2568
5	1-1-2036	3-31-2036	0.0210	0.0210
		Highest	0.2739	0.2739

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	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	1/1/2035	1/26/2035	5	20	
2	Site Preparation	Site Preparation	1/27/2035	1/31/2035	5	3	
3	Grading	Grading	2/1/2035	2/8/2035	5	6	
4	Building Construction	Building Construction	2/9/2035	12/13/2035	5	220	
5	Paving	Paving	12/14/2035	12/27/2035	5	10	
6	Architectural Coating	Architectural Coating	12/28/2035	1/10/2036	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 7,200; Non-Residential Outdoor: 2,400; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	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	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	2.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2035

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	0.0120	0.0654	0.1286	2.8000e-004		1.3700e-003	1.3700e-003		1.3700e-003	1.3700e-003	0.0000	24.1504	24.1504	9.6000e-004	0.0000	24.1745
Total	**0.0120**	**0.0654**	**0.1286**	**2.8000e-004**		**1.3700e-003**	**1.3700e-003**		**1.3700e-003**	**1.3700e-003**	**0.0000**	**24.1504**	**24.1504**	**9.6000e-004**	**0.0000**	**24.1745**

3.2 Demolition - 2035

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	1.7000e-004	9.0000e-005	1.2100e-003	1.0000e-005	1.0300e-003	0.0000	1.0300e-003	2.7000e-004	0.0000	2.8000e-004	0.0000	0.5676	0.5676	1.0000e-005	0.0000	0.5677
Total	**1.7000e-004**	**9.0000e-005**	**1.2100e-003**	**1.0000e-005**	**1.0300e-003**	**0.0000**	**1.0300e-003**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**0.5676**	**0.5676**	**1.0000e-005**	**0.0000**	**0.5677**

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	0.0120	0.0654	0.1286	2.8000e-004		1.3700e-003	1.3700e-003		1.3700e-003	1.3700e-003	0.0000	24.1504	24.1504	9.6000e-004	0.0000	24.1745
Total	**0.0120**	**0.0654**	**0.1286**	**2.8000e-004**		**1.3700e-003**	**1.3700e-003**		**1.3700e-003**	**1.3700e-003**	**0.0000**	**24.1504**	**24.1504**	**9.6000e-004**	**0.0000**	**24.1745**

3.2 Demolition - 2035

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	1.7000e-004	9.0000e-005	1.2100e-003	1.0000e-005	1.0300e-003	0.0000	1.0300e-003	2.7000e-004	0.0000	2.8000e-004	0.0000	0.5676	0.5676	1.0000e-005	0.0000	0.5677
Total	**1.7000e-004**	**9.0000e-005**	**1.2100e-003**	**1.0000e-005**	**1.0300e-003**	**0.0000**	**1.0300e-003**	**2.7000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**0.5676**	**0.5676**	**1.0000e-005**	**0.0000**	**0.5677**

3.3 Site Preparation - 2035

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					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6700e-003	5.3200e-003	0.0106	4.0000e-005		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	3.8767	3.8767	1.3000e-004	0.0000	3.8801
Total	**1.6700e-003**	**5.3200e-003**	**0.0106**	**4.0000e-005**	**2.3900e-003**	**1.7000e-004**	**2.5600e-003**	**2.6000e-004**	**1.7000e-004**	**4.3000e-004**	**0.0000**	**3.8767**	**3.8767**	**1.3000e-004**	**0.0000**	**3.8801**

3.3 Site Preparation - 2035

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.1000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0524	0.0524	0.0000	0.0000	0.0524
Total	**2.0000e-005**	**1.0000e-005**	**1.1000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0524**	**0.0524**	**0.0000**	**0.0000**	**0.0524**

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					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6700e-003	5.3200e-003	0.0106	4.0000e-005		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	3.8767	3.8767	1.3000e-004	0.0000	3.8800
Total	**1.6700e-003**	**5.3200e-003**	**0.0106**	**4.0000e-005**	**2.3900e-003**	**1.7000e-004**	**2.5600e-003**	**2.6000e-004**	**1.7000e-004**	**4.3000e-004**	**0.0000**	**3.8767**	**3.8767**	**1.3000e-004**	**0.0000**	**3.8800**

3.3 Site Preparation - 2035

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.1000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0524	0.0524	0.0000	0.0000	0.0524
Total	**2.0000e-005**	**1.0000e-005**	**1.1000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0524**	**0.0524**	**0.0000**	**0.0000**	**0.0524**

3.4 Grading - 2035

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					0.0197	0.0000	0.0197	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1500e-003	0.0132	0.0235	8.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	6.4998	6.4998	2.5000e-004	0.0000	6.5061
Total	**3.1500e-003**	**0.0132**	**0.0235**	**8.0000e-005**	**0.0197**	**3.7000e-004**	**0.0200**	**0.0101**	**3.7000e-004**	**0.0105**	**0.0000**	**6.4998**	**6.4998**	**2.5000e-004**	**0.0000**	**6.5061**

3.4 Grading - 2035

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	4.0000e-005	2.0000e-005	2.8000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1310	0.1310	0.0000	0.0000	0.1310
Total	**4.0000e-005**	**2.0000e-005**	**2.8000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1310**	**0.1310**	**0.0000**	**0.0000**	**0.1310**

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					0.0197	0.0000	0.0197	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1500e-003	0.0132	0.0235	8.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	6.4998	6.4998	2.5000e-004	0.0000	6.5061
Total	**3.1500e-003**	**0.0132**	**0.0235**	**8.0000e-005**	**0.0197**	**3.7000e-004**	**0.0200**	**0.0101**	**3.7000e-004**	**0.0105**	**0.0000**	**6.4998**	**6.4998**	**2.5000e-004**	**0.0000**	**6.5061**

3.4 Grading - 2035

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	4.0000e-005	2.0000e-005	2.8000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1310	0.1310	0.0000	0.0000	0.1310
Total	**4.0000e-005**	**2.0000e-005**	**2.8000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**2.4000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1310**	**0.1310**	**0.0000**	**0.0000**	**0.1310**

3.5 Building Construction - 2035

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	0.1242	0.7849	1.4939	3.0200e-003		8.6700e-003	8.6700e-003		8.6700e-003	8.6700e-003	0.0000	249.3689	249.3689	9.9900e-003	0.0000	249.6188
Total	**0.1242**	**0.7849**	**1.4939**	**3.0200e-003**		**8.6700e-003**	**8.6700e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**249.3689**	**249.3689**	**9.9900e-003**	**0.0000**	**249.6188**

3.5 Building Construction - 2035

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	2.1000e-004	7.1400e-003	2.2000e-003	3.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	2.6118	2.6118	9.0000e-005	0.0000	2.6139
Worker	2.9000e-004	1.5000e-004	2.0400e-003	1.0000e-005	1.7400e-003	1.0000e-005	1.7500e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	0.9605	0.9605	1.0000e-005	0.0000	0.9607
Total	**5.0000e-004**	**7.2900e-003**	**4.2400e-003**	**4.0000e-005**	**2.4600e-003**	**2.0000e-005**	**2.4800e-003**	**6.7000e-004**	**2.0000e-005**	**6.9000e-004**	**0.0000**	**3.5723**	**3.5723**	**1.0000e-004**	**0.0000**	**3.5747**

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	0.1242	0.7849	1.4939	3.0200e-003		8.6700e-003	8.6700e-003		8.6700e-003	8.6700e-003	0.0000	249.3686	249.3686	9.9900e-003	0.0000	249.6185
Total	**0.1242**	**0.7849**	**1.4939**	**3.0200e-003**		**8.6700e-003**	**8.6700e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**249.3686**	**249.3686**	**9.9900e-003**	**0.0000**	**249.6185**

3.5 Building Construction - 2035

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	2.1000e-004	7.1400e-003	2.2000e-003	3.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	2.6118	2.6118	9.0000e-005	0.0000	2.6139
Worker	2.9000e-004	1.5000e-004	2.0400e-003	1.0000e-005	1.7400e-003	1.0000e-005	1.7500e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	0.9605	0.9605	1.0000e-005	0.0000	0.9607
Total	**5.0000e-004**	**7.2900e-003**	**4.2400e-003**	**4.0000e-005**	**2.4600e-003**	**2.0000e-005**	**2.4800e-003**	**6.7000e-004**	**2.0000e-005**	**6.9000e-004**	**0.0000**	**3.5723**	**3.5723**	**1.0000e-004**	**0.0000**	**3.5747**

3.6 Paving - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.6500e-003	0.0233	0.0625	1.1000e-004		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	9.2678	9.2678	3.8000e-004	0.0000	9.2773
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.6500e-003**	**0.0233**	**0.0625**	**1.1000e-004**		**7.0000e-004**	**7.0000e-004**		**7.0000e-004**	**7.0000e-004**	**0.0000**	**9.2678**	**9.2678**	**3.8000e-004**	**0.0000**	**9.2773**

3.6 Paving - 2035

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	1.0000e-004	5.0000e-005	7.0000e-004	0.0000	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.3274	0.3274	0.0000	0.0000	0.3275
Total	**1.0000e-004**	**5.0000e-005**	**7.0000e-004**	**0.0000**	**5.9000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.3274**	**0.3274**	**0.0000**	**0.0000**	**0.3275**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.6500e-003	0.0233	0.0625	1.1000e-004		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	9.2678	9.2678	3.8000e-004	0.0000	9.2773
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.6500e-003**	**0.0233**	**0.0625**	**1.1000e-004**		**7.0000e-004**	**7.0000e-004**		**7.0000e-004**	**7.0000e-004**	**0.0000**	**9.2678**	**9.2678**	**3.8000e-004**	**0.0000**	**9.2773**

3.6 Paving - 2035

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	1.0000e-004	5.0000e-005	7.0000e-004	0.0000	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.3274	0.3274	0.0000	0.0000	0.3275
Total	**1.0000e-004**	**5.0000e-005**	**7.0000e-004**	**0.0000**	**5.9000e-004**	**0.0000**	**6.0000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.3274**	**0.3274**	**0.0000**	**0.0000**	**0.3275**

3.7 Architectural Coating - 2035

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	5.0100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2000e-004	7.6000e-004	1.7900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.2553	0.2553	1.0000e-005	0.0000	0.2556
Total	**5.1300e-003**	**7.6000e-004**	**1.7900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.2553**	**0.2553**	**1.0000e-005**	**0.0000**	**0.2556**

3.7 Architectural Coating - 2035

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	5.0100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2000e-004	7.6000e-004	1.7900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.2553	0.2553	1.0000e-005	0.0000	0.2556
Total	**5.1300e-003**	**7.6000e-004**	**1.7900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.2553**	**0.2553**	**1.0000e-005**	**0.0000**	**0.2556**

3.7 Architectural Coating - 2035

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2036

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	0.0200					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7000e-004	3.0300e-003	7.1800e-003	1.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	1.0213	1.0213	4.0000e-005	0.0000	1.0222
Total	**0.0205**	**3.0300e-003**	**7.1800e-003**	**1.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**1.0213**	**1.0213**	**4.0000e-005**	**0.0000**	**1.0222**

3.7 Architectural Coating - 2036

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0200					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7000e-004	3.0300e-003	7.1800e-003	1.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	1.0213	1.0213	4.0000e-005	0.0000	1.0222
Total	**0.0205**	**3.0300e-003**	**7.1800e-003**	**1.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**1.0213**	**1.0213**	**4.0000e-005**	**0.0000**	**1.0222**

3.7 Architectural Coating - 2036

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Refrigerated Warehouse-Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Refrigerated Warehouse-Rail	0.00	0.00	0.00	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Refrigerated Warehouse-Rail	0.621663	0.033362	0.179130	0.101130	0.011078	0.005126	0.013709	0.024709	0.002299	0.001422	0.005077	0.000653	0.000642

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Project S-4, S-5 and S-6 (Run13)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-Rail	125.00	1000sqft	8.60	125,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project S-4, S-5 and S-6 (Run13) - Santa Clara County, Annual

Project Characteristics -

Land Use - SJC Emission Modeling Basis

Construction Phase -

Vehicle Trips - Construction Only

Consumer Products - Construction Only

Area Coating - Construction Only

Landscape Equipment - Construction Only

Energy Use - Construction Only

Water And Wastewater - Construction Only

Solid Waste - Construction Only

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_EF_Residential_Exterior	150	0
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	62500	0
tblAreaCoating	Area_Nonresidential_Interior	187500	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	150	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	0
tblEnergyUse	LightingElect	1.62	0.00
tblEnergyUse	NT24E	7.99	0.00

tblEnergyUse	NT24NG	3.06	0.00
tblEnergyUse	T24E	0.14	0.00
tblEnergyUse	T24NG	0.73	0.00
tblLandUse	LotAcreage	2.87	8.60
tblSolidWaste	SolidWasteGenerationRate	117.50	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	28,906,250.00	0.00

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					
2020	0.3309	3.0974	2.4862	4.7600e-003	0.2175	0.1602	0.3777	0.1000	0.1500	0.2500	0.0000	418.5685	418.5685	0.0869	0.0000	420.7403
2021	0.6865	0.3214	0.3357	6.0000e-004	7.0300e-003	0.0164	0.0235	1.9000e-003	0.0154	0.0173	0.0000	52.9253	52.9253	0.0120	0.0000	53.2252
Maximum	**0.6865**	**3.0974**	**2.4862**	**4.7600e-003**	**0.2175**	**0.1602**	**0.3777**	**0.1000**	**0.1500**	**0.2500**	**0.0000**	**418.5685**	**418.5685**	**0.0869**	**0.0000**	**420.7403**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.3309	3.0974	2.4862	4.7600e-003	0.2175	0.1602	0.3777	0.1000	0.1500	0.2500	0.0000	418.5681	418.5681	0.0869	0.0000	420.7399
2021	0.6865	0.3214	0.3357	6.0000e-004	7.0300e-003	0.0164	0.0235	1.9000e-003	0.0154	0.0173	0.0000	52.9253	52.9253	0.0120	0.0000	53.2251
Maximum	**0.6865**	**3.0974**	**2.4862**	**4.7600e-003**	**0.2175**	**0.1602**	**0.3777**	**0.1000**	**0.1500**	**0.2500**	**0.0000**	**418.5681**	**418.5681**	**0.0869**	**0.0000**	**420.7399**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2020	3-31-2020	1.0682	1.0682
2	4-1-2020	6-30-2020	0.7777	0.7777
3	7-1-2020	9-30-2020	0.7863	0.7863
4	10-1-2020	12-31-2020	0.7885	0.7885
5	1-1-2021	3-31-2021	1.0145	1.0145
		Highest	1.0682	1.0682

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	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	1/1/2020	1/28/2020	5	20	
2	Site Preparation	Site Preparation	1/29/2020	2/11/2020	5	10	
3	Grading	Grading	2/12/2020	3/10/2020	5	20	
4	Building Construction	Building Construction	3/11/2020	1/26/2021	5	230	
5	Paving	Paving	1/27/2021	2/23/2021	5	20	
6	Architectural Coating	Architectural Coating	2/24/2021	3/23/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 187,500; Non-Residential Outdoor: 62,500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	53.00	20.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**		**0.0166**	**0.0166**		**0.0154**	**0.0154**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2386**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**5.0000e-004**	**3.6000e-004**	**3.7500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0202**	**1.0202**	**3.0000e-005**	**0.0000**	**1.0209**

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	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**		**0.0166**	**0.0166**		**0.0154**	**0.0154**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2385**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**5.0000e-004**	**3.6000e-004**	**3.7500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0202**	**1.0202**	**3.0000e-005**	**0.0000**	**1.0209**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	**0.0204**	**0.2121**	**0.1076**	**1.9000e-004**	**0.0903**	**0.0110**	**0.1013**	**0.0497**	**0.0101**	**0.0598**	**0.0000**	**16.7153**	**16.7153**	**5.4100e-003**	**0.0000**	**16.8505**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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-004	2.1000e-004	2.2500e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6121	0.6121	2.0000e-005	0.0000	0.6125
Total	**3.0000e-004**	**2.1000e-004**	**2.2500e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6121**	**0.6121**	**2.0000e-005**	**0.0000**	**0.6125**

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	**0.0204**	**0.2121**	**0.1076**	**1.9000e-004**	**0.0903**	**0.0110**	**0.1013**	**0.0497**	**0.0101**	**0.0598**	**0.0000**	**16.7153**	**16.7153**	**5.4100e-003**	**0.0000**	**16.8505**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	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-004	2.1000e-004	2.2500e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6121	0.6121	2.0000e-005	0.0000	0.6125
Total	**3.0000e-004**	**2.1000e-004**	**2.2500e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6121**	**0.6121**	**2.0000e-005**	**0.0000**	**0.6125**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0243	0.2639	0.1605	3.0000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	26.0588	26.0588	8.4300e-003	0.0000	26.2694
Total	**0.0243**	**0.2639**	**0.1605**	**3.0000e-004**	**0.0655**	**0.0127**	**0.0783**	**0.0337**	**0.0117**	**0.0454**	**0.0000**	**26.0588**	**26.0588**	**8.4300e-003**	**0.0000**	**26.2694**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**5.0000e-004**	**3.6000e-004**	**3.7500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0202**	**1.0202**	**3.0000e-005**	**0.0000**	**1.0209**

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					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0243	0.2639	0.1605	3.0000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	26.0587	26.0587	8.4300e-003	0.0000	26.2694
Total	**0.0243**	**0.2639**	**0.1605**	**3.0000e-004**	**0.0655**	**0.0127**	**0.0783**	**0.0337**	**0.0117**	**0.0454**	**0.0000**	**26.0587**	**26.0587**	**8.4300e-003**	**0.0000**	**26.2694**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	**5.0000e-004**	**3.6000e-004**	**3.7500e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0202**	**1.0202**	**3.0000e-005**	**0.0000**	**1.0209**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2247	2.0337	1.7859	2.8500e-003		0.1184	0.1184		0.1113	0.1113	0.0000	245.5066	245.5066	0.0599	0.0000	247.0040
Total	**0.2247**	**2.0337**	**1.7859**	**2.8500e-003**		**0.1184**	**0.1184**		**0.1113**	**0.1113**	**0.0000**	**245.5066**	**245.5066**	**0.0599**	**0.0000**	**247.0040**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.4000e-003	0.2414	0.0643	5.8000e-004	0.0140	1.2000e-003	0.0151	4.0300e-003	1.1400e-003	5.1800e-003	0.0000	55.4259	55.4259	2.5400e-003	0.0000	55.4894
Worker	0.0187	0.0134	0.1406	4.2000e-004	0.0446	2.9000e-004	0.0449	0.0119	2.7000e-004	0.0121	0.0000	38.2108	38.2108	9.4000e-004	0.0000	38.2342
Total	**0.0271**	**0.2548**	**0.2049**	**1.0000e-003**	**0.0585**	**1.4900e-003**	**0.0600**	**0.0159**	**1.4100e-003**	**0.0173**	**0.0000**	**93.6367**	**93.6367**	**3.4800e-003**	**0.0000**	**93.7236**

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	0.2247	2.0337	1.7859	2.8500e-003		0.1184	0.1184		0.1113	0.1113	0.0000	245.5063	245.5063	0.0599	0.0000	247.0037
Total	**0.2247**	**2.0337**	**1.7859**	**2.8500e-003**		**0.1184**	**0.1184**		**0.1113**	**0.1113**	**0.0000**	**245.5063**	**245.5063**	**0.0599**	**0.0000**	**247.0037**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.4000e-003	0.2414	0.0643	5.8000e-004	0.0140	1.2000e-003	0.0151	4.0300e-003	1.1400e-003	5.1800e-003	0.0000	55.4259	55.4259	2.5400e-003	0.0000	55.4894
Worker	0.0187	0.0134	0.1406	4.2000e-004	0.0446	2.9000e-004	0.0449	0.0119	2.7000e-004	0.0121	0.0000	38.2108	38.2108	9.4000e-004	0.0000	38.2342
Total	**0.0271**	**0.2548**	**0.2049**	**1.0000e-003**	**0.0585**	**1.4900e-003**	**0.0600**	**0.0159**	**1.4100e-003**	**0.0173**	**0.0000**	**93.6367**	**93.6367**	**3.4800e-003**	**0.0000**	**93.7236**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0171	0.1569	0.1492	2.4000e-004		8.6300e-003	8.6300e-003		8.1100e-003	8.1100e-003	0.0000	20.8474	20.8474	5.0300e-003	0.0000	20.9731
Total	**0.0171**	**0.1569**	**0.1492**	**2.4000e-004**		**8.6300e-003**	**8.6300e-003**		**8.1100e-003**	**8.1100e-003**	**0.0000**	**20.8474**	**20.8474**	**5.0300e-003**	**0.0000**	**20.9731**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.9000e-004	0.0185	4.9200e-003	5.0000e-005	1.1800e-003	4.0000e-005	1.2300e-003	3.4000e-004	4.0000e-005	3.8000e-004	0.0000	4.6625	4.6625	2.0000e-004	0.0000	4.6676
Worker	1.4700e-003	1.0200e-003	0.0109	3.0000e-005	3.7800e-003	2.0000e-005	3.8100e-003	1.0100e-003	2.0000e-005	1.0300e-003	0.0000	3.1317	3.1317	7.0000e-005	0.0000	3.1335
Total	**2.0600e-003**	**0.0195**	**0.0158**	**8.0000e-005**	**4.9600e-003**	**6.0000e-005**	**5.0400e-003**	**1.3500e-003**	**6.0000e-005**	**1.4100e-003**	**0.0000**	**7.7942**	**7.7942**	**2.7000e-004**	**0.0000**	**7.8011**

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	0.0171	0.1569	0.1492	2.4000e-004		8.6300e-003	8.6300e-003		8.1100e-003	8.1100e-003	0.0000	20.8473	20.8473	5.0300e-003	0.0000	20.9731
Total	**0.0171**	**0.1569**	**0.1492**	**2.4000e-004**		**8.6300e-003**	**8.6300e-003**		**8.1100e-003**	**8.1100e-003**	**0.0000**	**20.8473**	**20.8473**	**5.0300e-003**	**0.0000**	**20.9731**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.9000e-004	0.0185	4.9200e-003	5.0000e-005	1.1800e-003	4.0000e-005	1.2300e-003	3.4000e-004	4.0000e-005	3.8000e-004	0.0000	4.6625	4.6625	2.0000e-004	0.0000	4.6676
Worker	1.4700e-003	1.0200e-003	0.0109	3.0000e-005	3.7800e-003	2.0000e-005	3.8100e-003	1.0100e-003	2.0000e-005	1.0300e-003	0.0000	3.1317	3.1317	7.0000e-005	0.0000	3.1335
Total	**2.0600e-003**	**0.0195**	**0.0158**	**8.0000e-005**	**4.9600e-003**	**6.0000e-005**	**5.0400e-003**	**1.3500e-003**	**6.0000e-005**	**1.4100e-003**	**0.0000**	**7.7942**	**7.7942**	**2.7000e-004**	**0.0000**	**7.8011**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0126**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854
Total	**4.6000e-004**	**3.2000e-004**	**3.4300e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9848**	**0.9848**	**2.0000e-005**	**0.0000**	**0.9854**

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	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0126**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854
Total	**4.6000e-004**	**3.2000e-004**	**3.4300e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9848**	**0.9848**	**2.0000e-005**	**0.0000**	**0.9854**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6518					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**0.6540**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.3000e-004	2.5200e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7222	0.7222	2.0000e-005	0.0000	0.7226
Total	**3.4000e-004**	**2.3000e-004**	**2.5200e-003**	**1.0000e-005**	**8.7000e-004**	**1.0000e-005**	**8.8000e-004**	**2.3000e-004**	**1.0000e-005**	**2.4000e-004**	**0.0000**	**0.7222**	**0.7222**	**2.0000e-005**	**0.0000**	**0.7226**

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	0.6518					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**0.6540**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.3000e-004	2.5200e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7222	0.7222	2.0000e-005	0.0000	0.7226
Total	**3.4000e-004**	**2.3000e-004**	**2.5200e-003**	**1.0000e-005**	**8.7000e-004**	**1.0000e-005**	**8.8000e-004**	**2.3000e-004**	**1.0000e-005**	**2.4000e-004**	**0.0000**	**0.7222**	**0.7222**	**2.0000e-005**	**0.0000**	**0.7226**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Refrigerated Warehouse-Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Refrigerated Warehouse-Rail	0.00	0.00	0.00	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Refrigerated Warehouse-Rail	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Refrigerated Warehouse-Rail	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

APPENDIX A-2
ACEIT OUTPUTS

Airport Construction Emissions Inventory Tool (ACEIT)
Version 1.0
Run Date & Time: 4/9/2019 2:44:28 PM

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STUDY

Study Name

A-17 (part)

Study Description

Extend parallel Taxiway W south from Taxiway B to Runway 12R-30L (for ADG-III aircraft).

==========
EMISSION
S
INVENTOR
Y -
SUMMAR
Y

Total
Emissions
by Year

Units for
Non-
Greenhou
se Gases
Emission:
Short Ton

Units for
Greenhou
se Gases
(CO2,
CH4, and
N2O)
Emission:
Metric
Ton

Year	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	1.111648	0.6932	0.003237	0.123595	0.029368	0.194146	553.7244	0.017611	0.002173

Total
Emissions
by Source
Categories

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases Emission: Metric Ton

Year	Emission Source	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	NonRoad	0.2555	0.604069	0.002422	0.028551	0.026267	0.143408	439.7672	--	--
2020	OnRoad	0.856148	0.089131	0.000815	0.003294	0.003101	0.050738	113.9572	0.017611	0.002173
2020	Fugitive	0	0	0	0.09175	--	0	--	--	--
2020	TOTAL	1.111648	0.6932	0.003237	0.123595	0.029368	0.194146	553.7244	0.017611	0.002173

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EMISSIONS INVENTORY - DETAILS:

Non-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Construction Activity	Equipment	Fuel	HP Average	Load Factor	Hours of Activity	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	
1	2020	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	14.4	0.035877	0.000162	1.71E-05	0.001191	0.001096	0.011387	0.076063	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	2020	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	14.4	0.001159	0.002057	2.37E-06	0.000201	0.000185	0.000268	0.3649	
1	2020	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	19.2	0.001646	0.004708	1.98E-05	0.00019	0.000175	0.001091	3.645812	
1	2020	Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	17.5728	0.00092	0.001495	2.70E-06	0.000132	0.000121	0.000202	0.445621	
1	2020	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	17.5728	0.000239	0.001515	1.40E-06	3.27E-05	3.01E-05	7.70E-05	0.247026	
1	2020	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	73.22	0.006278	0.017953	7.57E-05	0.000724	0.000666	0.004078	13.90346	
1	2020	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	35.1456	0.001119	0.004084	8.42E-06	0.000269	0.000248	0.000544	1.403044	
1	2020	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	52.7184	0.00452	0.012926	5.45E-05	0.000521	0.00048	0.002944	10.01049	
1	2020	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	17.5728	0.000956	0.002233	5.69E-06	0.000211	0.000194	0.000355	0.973115	
1	2020	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	17.5728	0.000874	0.002008	5.62E-06	0.000189	0.000174	0.000343	0.97314	
1	2020	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	17.5728	0.00068	0.001274	1.15E-06	0.000101	9.28E-05	0.000135	0.154152	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	13.536	0.000571	0.001318	4.25E-06	0.000118	0.000108	0.000257	0.749618	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	13.536	0.001161	0.003319	1.40E-05	0.000134	0.000123	0.000778	2.570298	
1	2020	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	13.536	0.00045	0.00108	4.16E-06	8.34E-05	7.67E-05	0.000242	0.749644	
1	2020	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	13.536	0.000737	0.00172	4.38E-06	0.000162	0.000149	0.000279	0.749573	
1	2020	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	175	0.43	13.536	0.000431	0.001573	3.24E-06	0.000104	9.54E-05	0.000229	0.540369	

1	2020	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	600	0.59	13.536	0.001161	0.003319	1.40E-05	0.000134	0.000123	0.000778	2.570298
1	2020	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	100	0.59	13.536	0.001148	0.00115	2.78E-06	0.000138	0.000127	0.000174	0.475678
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	7.52	0.000645	0.001844	7.77E-06	7.43E-05	6.84E-05	0.000445	1.427943
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	7.52	0.000409	0.000956	2.43E-06	9.02E-05	8.30E-05	0.000166	0.416429
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	7.52	0.000239	0.000874	1.80E-06	5.76E-05	5.30E-05	0.000141	0.300205
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	7.52	0.000645	0.001844	7.77E-06	7.43E-05	6.84E-05	0.000445	1.427943
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	7.52	0.000691	0.000535	7.03E-07	9.54E-05	8.78E-05	0.000186	0.109616
1	2020	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	1440	0.123467	0.353072	0.001488	0.014237	0.013098	0.079639	273.4359
1	2020	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	29.288	0.001236	0.002851	9.20E-06	0.000254	0.000234	0.000533	1.621958
1	2020	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	29.288	0.002511	0.007181	3.03E-05	0.00029	0.000266	0.001649	5.561383
1	2020	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	29.288	0.002511	0.007181	3.03E-05	0.00029	0.000266	0.001649	5.561383
1	2020	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	13.51754	0.001146	0.001149	2.78E-06	0.000138	0.000127	0.000174	0.475029
1	2020	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	21.966	0.000927	0.002138	6.90E-06	0.000191	0.000175	0.000404	1.216468
1	2020	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	58.576	0.005022	0.014362	6.05E-05	0.000579	0.000533	0.003268	11.12277
1	2020	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	17.5728	0.000585	0.001402	5.40E-06	0.000108	9.96E-05	0.00031	0.973208
1	2020	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	17.5728	0.001507	0.004309	1.82E-05	0.000174	0.00016	0.001001	3.33683

1	2020	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	17.5728	0.00149	0.001493	3.61E-06	0.000179	0.000165	0.000221	0.617538
1	2020	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	21.966	0.004672	0.011608	2.47E-05	0.00069	0.000635	0.001409	4.170739
1	2020	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	8.269647	0.000349	0.000805	2.60E-06	7.18E-05	6.60E-05	0.000165	0.45797
1	2020	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	4.588889	0.000393	0.001125	4.74E-06	4.54E-05	4.17E-05	0.000283	0.871366
1	2020	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	18.35556	0.001574	0.004501	1.90E-05	0.000181	0.000167	0.001045	3.485464
1	2020	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	18.35556	0.000584	0.002133	4.40E-06	0.000141	0.000129	0.000299	0.73277
1	2020	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	18.35556	0.001574	0.004501	1.90E-05	0.000181	0.000167	0.001045	3.485464
1	2020	Taxiways	Fencing	Skid Steer Loader	Diesel	75	0.21	18.35556	0.001372	0.001489	1.34E-06	0.0002	0.000184	0.000318	0.20048
1	2020	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	18.35556	0.001687	0.001306	1.72E-06	0.000233	0.000214	0.000342	0.267561
1	2020	Taxiways	Grading	Dozer	Diesel	175	0.59	5.8691	0.000248	0.000571	1.84E-06	5.10E-05	4.69E-05	0.000122	0.325028
1	2020	Taxiways	Grading	Grader	Diesel	300	0.59	5.8691	0.000278	0.000864	3.09E-06	4.31E-05	3.96E-05	0.00019	0.557211
1	2020	Taxiways	Grading	Roller	Diesel	100	0.59	5.8691	0.000498	0.000499	1.21E-06	5.98E-05	5.50E-05	8.62E-05	0.20625
1	2020	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	5.2875	0.000453	0.001296	5.46E-06	5.23E-05	4.81E-05	0.000322	1.004022
1	2020	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	5.2875	0.000453	0.001296	5.46E-06	5.23E-05	4.81E-05	0.000322	1.004022
1	2020	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	7.04	0.000604	0.001726	7.28E-06	6.96E-05	6.40E-05	0.000419	1.336798
1	2020	Taxiways	Lighting	Loader	Diesel	175	0.59	7.04	0.000383	0.000895	2.28E-06	8.45E-05	7.77E-05	0.000157	0.389849
1	2020	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	7.04	0.000224	0.000818	1.69E-06	5.39E-05	4.96E-05	0.000134	0.281043
1	2020	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	7.04	0.000604	0.001726	7.28E-06	6.96E-05	6.40E-05	0.000419	1.336798
1	2020	Taxiways	Lighting	Skid Steer Loader	Diesel	75	0.21	7.04	0.000526	0.000571	5.13E-07	7.68E-05	7.07E-05	0.000153	0.076891
1	2020	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	7.04	0.000647	0.000501	6.58E-07	8.93E-05	8.22E-05	0.00018	0.102619
1	2020	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	108.56	0.009308	0.026618	0.000112	0.001073	0.000987	0.006031	20.61403
1	2020	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	108.56	0.003455	0.012615	2.60E-05	0.000832	0.000765	0.001614	4.333814
1	2020	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	108.56	0.009308	0.026618	0.000112	0.001073	0.000987	0.006031	20.61403
1	2020	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	4.8	0.000153	0.000558	1.15E-06	3.68E-05	3.38E-05	0.000102	0.19162

1	2020	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel		600	0.59	9.6	0.000823	0.002354	9.92E-06	9.49E-05	8.73E-05	0.00056	1.822906										
1	2020	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel		11	0.43	4.8	0.000112	0.000115	9.93E-08	1.04E-05	9.61E-06	1.80E-05	0.01336										
1	2020	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel		100	0.21	4.8	0.000441	0.000342	4.49E-07	6.09E-05	5.60E-05	0.000147	0.069967										
1	2020	Taxiways	Subbase Placement	Dozer	Diesel		175	0.59	11.09874	0.000468	0.001081	3.49E-06	9.64E-05	8.86E-05	0.000214	0.614644										
1	2020	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel		600	0.59	78.10222	0.006697	0.01915	8.07E-05	0.000772	0.00071	0.004348	14.83052										
1	2020	Taxiways	Subbase Placement	Pickup Truck	Diesel		600	0.59	11.09874	0.000952	0.002721	1.15E-05	0.00011	0.000101	0.000643	2.107495										
1	2020	Taxiways	Subbase Placement	Roller	Diesel		100	0.59	10.81415	0.000917	0.000919	2.22E-06	0.00011	0.000101	0.000143	0.380028										
1	2020	Taxiways	Topsoil Placement	Dozer	Diesel		175	0.59	13.04267	0.00055	0.00127	4.10E-06	0.000113	0.000104	0.000248	0.722298										
1	2020	Taxiways	Topsoil Placement	Dump Truck	Diesel		600	0.59	13.04267	0.001118	0.003198	1.35E-05	0.000129	0.000119	0.000751	2.47662										
1	2020	Taxiways	Topsoil Placement	Pickup Truck	Diesel		600	0.59	13.04267	0.001118	0.003198	1.35E-05	0.000129	0.000119	0.000751	2.47662										

On-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Equipment	Equipment Category	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Distance for fugitive PM	Number of Vehicles	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Rate	VMT	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O

1	2020	Taxiways	Cement Mixer	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	2	--		129	413	115	--	--	--	--	--	10983	0.014883	0.024341	0.000106	0.000899	0.000872	0.000269	13.78328	0.00215	0.000764
1	2020	Taxiways	Dump Truck Subbase Material	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	1	--		129	413	115	--	--	--	--	--	5858	0.007762	0.012966	5.66E-05	0.000479	0.000465	0.000136	7.349468	0.001147	0.000408
1	2020	Taxiways	Passenger Car	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	--		66	66	129	--	--	--	--	--	--	--	255420	0.833503	0.051823	0.000652	0.001915	0.001764	0.050333	92.82448	0.014314	0.001001

Fugitive Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Scenario ID	Year	Project	Fugitive Source Type	Number of Months	CO	NOx	SO2	PM10	VOC
1	2020	Taxiways	Concrete Mixing/Batching	6	0	0	0	0.04065	0
1	2020	Taxiways	Material Movement (Paved Roads)	6	0	0	0	0.009	0
1	2020	Taxiways	Material Movement (Unpaved Roads)	6	0	0	0	0.02865	0
1	2020	Taxiways	Soil Handling	6	0	0	0	0.01345	0
1	2020	Taxiways	Unstabilized Land and Wind Erosion	6	0	0	0	9.58E-09	0

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Scenarios

Scenario ID	Year	Number of Months	Season	Average Daily Temp (degF)	Max Daily Temp Change (degF)	Min Daily Temp Change (degF)
1	2020	6	Winter	50 < T <= 80	10 <= Change in T < 20	10 <= Change in T < 20
2						

Project
Final
Selections

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	
1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	

1	Taxiways	Concrete Placement	Air Compressor	Diesel
1	Taxiways	Concrete Placement	Concrete Saws	Diesel
1	Taxiways	Concrete Placement	Concrete Truck	Diesel
1	Taxiways	Concrete Placement	Other General Equipment	Diesel
1	Taxiways	Concrete Placement	Pickup Truck	Diesel
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Dozer	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Dump Truck	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Excavator	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Loader	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Other General Equipment	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Pickup Truck	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Roller	Diesel
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Loader	Diesel

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Dust Control	Water Truck	Diesel
1	Taxiways	Excavation (Borrow)	Dozer	Diesel
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel
1	Taxiways	Excavation (Borrow)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel
1	Taxiways	Fencing	Concrete Truck	Diesel
1	Taxiways	Fencing	Dump Truck	Diesel
1	Taxiways	Fencing	Other General Equipment	Diesel

1	Taxiways	Fencing	Pickup Truck	Diesel
1	Taxiways	Fencing	Skid Steer Loader	Diesel
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Grading	Dozer	Diesel
1	Taxiways	Grading	Grader	Diesel
1	Taxiways	Grading	Roller	Diesel
1	Taxiways	Hydroseeding	Hydroseeder	Diesel
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel
1	Taxiways	Lighting	Dump Truck	Diesel
1	Taxiways	Lighting	Loader	Diesel
1	Taxiways	Lighting	Other General Equipment	Diesel
1	Taxiways	Lighting	Pickup Truck	Diesel
1	Taxiways	Lighting	Skid Steer Loader	Diesel
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Markings	Flatbed Truck	Diesel
1	Taxiways	Markings	Other General Equipment	Diesel
1	Taxiways	Markings	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Subbase Placement	Dozer	Diesel
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel
1	Taxiways	Subbase Placement	Pickup Truck	Diesel

1	Taxiways	Subbase Placement	Roller		Diesel
1	Taxiways	Topsoil Placement	Dozer		Diesel
1	Taxiways	Topsoil Placement	Dump Truck		Diesel
1	Taxiways	Topsoil Placement	Pickup Truck		Diesel

Overall Size

Scenario ID	Project	Project Size Questions	User Input	Unit
1	Taxiways	What is the estimated cost of the project?	1.69	$ Million(s)
1	Taxiways	What is the maximum length of the taxiway (L) in feet?	413	Feet
1	Taxiways	What is the maximum width of the taxiway (W) in feet?	115	Feet

Size Detail (Estimated based on engineering experience)

ScenarioID	Project	Construction Activity	Default Activity Size	Unit	User Activity Size
1	Taxiways	Clearing and Grubbing	1.2	Acres	
1	Taxiways	Concrete Placement	2196.6	Cubic Yards	

1	Taxiways	Drainage - 24 inch SICPP			423			Linear Feet	
1	Taxiways	Drainage - 6 inch Perforated Underdrain			846			Linear Feet	
1	Taxiways	Dust Control			180			Days	
1	Taxiways	Excavation (Borrow)			2196.6			Cubic Yards	
1	Taxiways	Excavation (Cut to Fill)			2196.6			Cubic Yards	
1	Taxiways	Excavation (Topsoil Stripping)			5271.9			Square Yards	
1	Taxiways	Fencing			413			Linear Feet	
1	Taxiways	Grading			5869.1			Square Yards	
1	Taxiways	Hydroseeding			52875			Square Feet	
1	Taxiways	Lighting			1056			Linear Feet	
1	Taxiways	Markings			47495			Square Feet	
1	Taxiways	Soil Erosion/Sediment Control			1.2			Acres	
1	Taxiways	Subbase Placement			5271.9			Square Yards	
1	Taxiways	Subbase Placement			1757.3			Cubic Yards	
1	Taxiways	Topsoil Placement			978.2			Cubic Yards	

Activity: Non-Road (Estimated based on engineering experience)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Activity Size	Activity Rate	Default Activity	Activity Unit	User Activity Data

1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	1.20 Acre	12 Hours per 1.00 Acre	14.4	hours
1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	1.20 Acre	12 Hours per 1.00 Acre	14.4	hours
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	1.20 Acre	16 Hours per 1.00 Acre	19.2	hours
1	Taxiways	Concrete Placement	Air Compressor	Diesel	2196.60 CY	8 Hours per 1000.00 CY	17.57	hours
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	2196.60 CY	8 Hours per 1000.00 CY	17.57	hours
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	2196.60 CY	8 Hours per 240.00 CY	73.22	hours
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	2196.60 CY	16 Hours per 1000.00 CY	35.15	hours
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	2196.60 CY	24 Hours per 1000.00 CY	52.72	hours
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	2196.60 CY	8 Hours per 1000.00 CY	17.57	hours
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	2196.60 CY	8 Hours per 1000.00 CY	17.57	hours
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	2196.60 CY	8 Hours per 1000.00 CY	17.57	hours
1	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	423.00 LF	8 Hours per 250.00 LF	13.54	hours
1	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	423.00 LF	8 Hours per 250.00 LF	13.54	hours
1	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	423.00 LF	8 Hours per 250.00 LF	13.54	hours
1	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	423.00 LF	8 Hours per 250.00 LF	13.54	hours
1	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	423.00 LF	8 Hours per 250.00 LF	13.54	hours

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1	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	423.00 LF	8 Hours per 250.00 LF	13.54	hours
1	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	423.00 LF	8 Hours per 250.00 LF	13.54	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	846.00 LF	8 Hours per 900.00 LF	7.52	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	846.00 LF	8 Hours per 900.00 LF	7.52	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	846.00 LF	8 Hours per 900.00 LF	7.52	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	846.00 LF	8 Hours per 900.00 LF	7.52	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	846.00 LF	8 Hours per 900.00 LF	7.52	hours
1	Taxiways	Dust Control	Water Truck	Diesel	180.00 Day	8 Hours per 1.00 Day	1440	hours
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	2196.60 CY	8 Hours per 600.00 CY	29.29	hours
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	2196.60 CY	8 Hours per 600.00 CY	29.29	hours
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	2196.60 CY	8 Hours per 600.00 CY	29.29	hours
1	Taxiways	Excavation (Borrow)	Roller	Diesel	2196.60 CY	8 Hours per 1300.00 CY	13.52	hours
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	2196.60 CY	8 Hours per 800.00 CY	21.97	hours
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	2196.60 CY	8 Hours per 300.00 CY	58.58	hours
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	2196.60 CY	8 Hours per 1000.00 CY	17.57	hours

1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	2196.60 CY	8 Hours per 1000.00 CY	17.57	hours
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	2196.60 CY	8 Hours per 1000.00 CY	17.57	hours
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	2196.60 CY	8 Hours per 800.00 CY	21.97	hours
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	5271.90 SY	8 Hours per 5100.00 SY	8.27	hours
1	Taxiways	Fencing	Concrete Truck	Diesel	413.00 LF	2 Hours per 180.00 LF	4.59	hours
1	Taxiways	Fencing	Dump Truck	Diesel	413.00 LF	8 Hours per 180.00 LF	18.36	hours
1	Taxiways	Fencing	Other General Equipment	Diesel	413.00 LF	8 Hours per 180.00 LF	18.36	hours
1	Taxiways	Fencing	Pickup Truck	Diesel	413.00 LF	8 Hours per 180.00 LF	18.36	hours
1	Taxiways	Fencing	Skid Steer Loader Tractors/Loader/Backhoe	Diesel	413.00 LF	8 Hours per 180.00 LF	18.36	hours
1	Taxiways	Grading	Dozer	Diesel	5869.10 SY	8 Hours per 8000.00 SY	5.87	hours
1	Taxiways	Grading	Grader	Diesel	5869.10 SY	8 Hours per 8000.00 SY	5.87	hours
1	Taxiways	Grading	Roller	Diesel	5869.10 SY	8 Hours per 8000.00 SY	5.87	hours
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	52875.00 SF	8 Hours per 80000.00 SF	5.29	hours
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	52875.00 SF	8 Hours per 80000.00 SF	5.29	hours
1	Taxiways	Lighting	Dump Truck	Diesel	1056.00 LF	8 Hours per 1200.00 LF	7.04	hours
1	Taxiways	Lighting	Loader	Diesel	1056.00 LF	8 Hours per 1200.00 LF	7.04	hours

1	Taxiways	Lighting	Other General Equipment	Diesel	1056.00 LF	8 Hours per 1200.00 LF	7.04	hours
1	Taxiways	Lighting	Pickup Truck	Diesel	1056.00 LF	8 Hours per 1200.00 LF	7.04	hours
1	Taxiways	Lighting	Skid Steer Loader	Diesel	1056.00 LF	8 Hours per 1200.00 LF	7.04	hours
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	1056.00 LF	8 Hours per 1200.00 LF	7.04	hours
1	Taxiways	Markings	Flatbed Truck	Diesel	47495.00 SF	8 Hours per 3500.00 SF	108.56	hours
1	Taxiways	Markings	Other General Equipment	Diesel	47495.00 SF	8 Hours per 3500.00 SF	108.56	hours
1	Taxiways	Markings	Pickup Truck	Diesel	47495.00 SF	8 Hours per 3500.00 SF	108.56	hours
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	1.20 Acre	4 Hours per 1.00 Acre	4.8	hours
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	1.20 Acre	8 Hours per 1.00 Acre	9.6	hours
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	1.20 Acre	4 Hours per 1.00 Acre	4.8	hours
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	1.20 Acre	4 Hours per 1.00 Acre	4.8	hours
1	Taxiways	Subbase Placement	Dozer	Diesel	5271.90 SY	8 Hours per 3800.00 SY	11.1	hours
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	1757.30 CY	8 Hours per 180.00 CY	78.1	hours
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	5271.90 SY	8 Hours per 3800.00 SY	11.1	hours
1	Taxiways	Subbase Placement	Roller	Diesel	1757.30 CY	8 Hours per 1300.00 CY	10.81	hours
1	Taxiways	Topsoil Placement	Dozer	Diesel	978.20 CY	8 Hours per 600.00 CY	13.04	hours

1	Taxiways	Topsoil Placement	Dump Truck	Diesel	978.20 CY	8 Hours per 600.00 CY	13.04	hours	
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	978.20 CY	8 Hours per 600.00 CY	13.04	hours	

Activity: On-Road (Estimated based on engineering experience)

Scenario ID	Project	Equipment	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Size	Activity Rate	Default VMT	User VMT
1	Taxiways	Cement Mixer	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	413	115	--	--	--	--	--	--	10983	
1	Taxiways	Dump Truck Subbase Material	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	413	115	--	--	--	--	--	--	5858	
1	Taxiways	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	66	129	--	--	--	--	--	--	--	--	255420	

Emission Factor: Non-Road (from NONROAD)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Avg Rated HP	Load Factor	CO (g/hp-hr)	NOx (g/hp-hr)	CO2 (g/hp-hr)	SO2 (g/hp-hr)	PM10 (g/hp-hr)	PM2.5 (g/hp-hr)	VOC Exhaust (g/hp-hr)	VOC Evaporative (g/equipment-day)	
1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	293.535	1.322993	685.9963	0.140192	9.748189	8.968334	61.88836	26.88131	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***

1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	1.6976	3.014009	589.3092	0.003468	0.294053	0.270529	0.349775	0.206615
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	1.104829	1.794373	589.7346	0.003245	0.158031	0.145388	0.20937	0.195896
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	0.522532	3.313194	595.6491	0.003072	0.071525	0.065803	0.167578	0.002633
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	0.436875	1.003913	536.3453	0.002812	0.094305	0.086761	0.16014	0.161771
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	2.379151	4.459281	594.7267	0.004009	0.353137	0.324886	0.472055	0.003483
1	Taxiways	SICPP Drainage - 24 inch	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	SICPP Drainage - 24 inch	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	SICPP Drainage - 24 inch	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	SICPP Drainage - 24 inch	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	SICPP Drainage - 24 inch	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	SICPP Drainage - 24 inch	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	SICPP Drainage - 24 inch	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	0.545055	1.354215	536.363	0.002882	0.080485	0.074046	0.154332	0.607685
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

1	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Grading	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Grading	Grader	Diesel	300	0.59	0.24308	0.754295	536.3826	0.002696	0.037599	0.034591	0.147818	0.147813
1	Taxiways	Grading	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	4.4591	4.594026	588.4291	0.003967	0.417534	0.384131	0.640288	0.013554
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Subbase Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385

1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Subbase Placement	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296								
1	Taxiways	Topsoil Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385								
1	Taxiways	Topsoil Placement	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								

Emission Factors: On-Road (from MOVES)

Scenario ID	Project Type	Equipment	Fuel Type	Roadway Type	CO(g/mi)	NOx(g/mi)	CO2(g/mi)	SO2(g/mi)	PM10(g/mi)	PM2.5(g/mi)	CH4(g/mi)	N2O(g/mi)	VOC(g/mi)	RV CO(g/veh-day)	RV NOx(g/veh-day)	RV CO2(g/veh-day)	RV SO2(g/veh-day)	RV PM10(g/veh-day)	RV PM2.5(g/veh-day)	RV VOC(g/veh-day)	RP VOC(g/veh-day)
1	Taxiways	Cement Mixer	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Dump Truck Subbase Material	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Passenger Car	Gasoline	Urban Unrestricted Access	1.689671	0.102635	348.7876	0.002224	0.005214	0.004801	0.056039	0.003919	0.001767	38.12089	2.442831	438.9424	0.002799	0.047668	0.043893	5.310081	0

Fugitive Emissions (Emission Factors from Various Sources including AP-42)

Scenario ID	Project	Fugitive Type	Variable	Default Values	Units	User Value
1	Taxiways	Concrete Mixing/Batching	V = Volume of asphalt = 0.111 x L x W x 1.25 / 3	2196.6	yd3	

1	Taxiways	Concrete Mixing/Batching	PM10 = 0.037 x V	81.3	lbs
1	Taxiways	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
1	Taxiways	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
1	Taxiways	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	2092.1	miles
1	Taxiways	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	57.3	lbs
1	Taxiways	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m3
1	Taxiways	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
1	Taxiways	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	1935	miles
1	Taxiways	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	18	lbs
1	Taxiways	Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	1.09	acres
1	Taxiways	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
1	Taxiways	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction

1	Taxiways	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.5 years
1	Taxiways	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0 lbs
1	Taxiways	Soil Handling	u = Wind speed	5 mph
1	Taxiways	Soil Handling	m = Moisture content	0.25 fraction
1	Taxiways	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	1306.1 tons
1	Taxiways	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	26.9 lbs

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ASSUMPTIONS

Emission factors were developed from the following models:

On-Road Vehicles: MOVES 2010b, revised January 2013

Non-Road Equipment: NONROAD2008a, July 2009

In addition to the overall project size dimensions (e.g., Length and width) provided by the user, an additional 10 ft length and 10 ft width is added to account for disturbance areas.

The number of employees is based on the higher of two methods: (1) number of equipment, and (2) multiply the project cost in million by 11.

The average employee travels 30 miles round-trip from home to construction site each day.

The average on-road material delivery round-trip distance per truck is 40 miles per day.

For calculating fugitive, re-entrained PM emissions from on-road and non-road material delivery and handling equipment, a nominal VMT of 5 miles is used for each vehicle per day.

In deriving emission factors from NONROAD, the horsepower for each equipment represents the most popular in each equipment category.

The total length of each modeled scenario is used to define the number of days associated with vehicle/equipment evaporative emissions.

The choice of location and season are assumed to adequately represent differences in fuel characteristics affecting emissions.

Only two seasons (Summer and Winter) are used to represent all seasons.

14 U.S. Counties are used to represent all other counties in the U.S. (all other counties are mapped to the 14).

The default methods assume that all construction equipment use diesel as well as heavy-duty on-road vehicles, while passenger vehicles (including motorcycles) use gasoline.

Fugitive emissions are only modeled for:

Asphalt drying
Asphalt storage and batching
Concrete mixing/batching
Soil handling
Unstabilized land and wind erosion
Material movement (unpaved roads)
Material movement (paved roads)

On-Road vehicle speeds are not explicitly modeled. The associated emission factors for each modeled vehicle from MOVES represent averages over the driving cycles, the roadway type, and daily temperature variations.

The default equipment hours-of-use data are developed based on the overall size of the project provided by the user and activity rates based on expert engineering judgment.

Under the Construction Activity Type list (Activity Tab), when a choice between asphalt and concrete materials occurs, asphalt is always selected as default. To choose concrete, de-select the aphalt item and select the corresponding concrete item.

Two trips per day were assumed for each on-road material handling trucks.

Only CO2, CH4, and N2O are used to represent greenhouse gas emissions. Other potential greenhouse gases including air conditioning refrigerants were not included.

The following equipment are always modeled using diesel emission factors since gasoline-based emission factors are not available:
Asphalt Deliveries/Ten Wheelers
Bulldozer
Concrete Ready Mix Trucks
Concrete Ready Trucks Mix for Cores
Concrete Truck
Crack Filler (Trailer Mounted)
Delivery of Tanks (3)
Distributing Tanker
Dozer
Dump Truck
Dump Truck (12 cy)
Excavator
Excavator for U/G Services/Tanks
Flat Bed or Dump Trucks
Flatbed Truck
Grader
Grout Wheel Truck
Hoist Equipment with 40 Ton Rig
Hydralic Hammer
Hydroseeder
Line Painting Truck and Sprayer
Material Deliveries
Off-Road Truck
Pickup Truck
Scraper
Seed Truck Spreader
Small Dozer
Survey Crew Trucks
Ten Wheelers
Ten Wheelers- Material Delivery
Tool Truck
Tractor Trailer- Equipment Delivery
Tractor Trailer- Material Delivery
Tractor Trailer- Steel Deliveries
Tractor Trailer- Stone Delivery
Tractor Trailer- Topsoil & Seed
Tractor Trailer- Truck Delivery
Tractor Trailer with Boom Hoist- Curbs Del & Place
Tractor Trailer with Boom Hoist- Delivery
Tractor Trailers- Rebar Deliveries
Tractor Trailers Temp Fac.
Truck for Topsoil & Seed Del&Spread
Water Truck
Excavator with Bucket
Excavator with Hoe Ram

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Airport Construction Emissions Inventory Tool (ACEIT)
Version 1.0
Run Date & Time: 4/9/2019 2:54:00 PM

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STUDY

Study Name

A-23 (part)

Study Description

Widen cross Taxiway J at Runway 12R-30L for higher-speed arrivals exit to west.

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EMISSIONS INVENTORY - SUMMARY

Total Emissions by Year

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Year	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	1.049115	0.574691	0.002782	0.080439	0.023536	0.170336	476.1755	0.016135	0.001648

Total Emissions by Source Categories

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases Emission: Metric Ton

Year	Emission Source	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	NonRoad	0.2022	0.502169	0.00204	0.022861	0.021033	0.11974	371.6652	--	--
2020	OnRoad	0.846916	0.072522	0.000742	0.002678	0.002503	0.050596	104.5104	0.016135	0.001648
2020	Fugitive	0	0	0	0.0549	--	0	--	--	--
2020	TOTAL	1.049115	0.574691	0.002782	0.080439	0.023536	0.170336	476.1755	0.016135	0.001648

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EMISSIONS INVENTORY - DETAILS:

Non-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Construction Activity	Equipment	Fuel	HP Average	Load Factor	Hours of Activity	CO	NOx	SO2	PM10	PM2.5	VOC	CO2

1	2020	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	8.4	0.020928	9.43E-05	1.00E-05	0.000695	0.000639	0.008235	0.04437	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	2020	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	8.4	0.000676	0.0012	1.38E-06	0.000117	0.000108	0.000169	0.212858	
1	2020	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	11.2	0.00096	0.002746	1.16E-05	0.000111	0.000102	0.000649	2.126724	
1	2020	Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	9.7088	0.000508	0.000826	1.49E-06	7.27E-05	6.69E-05	0.000124	0.246201	
1	2020	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	9.7088	0.000132	0.000837	7.76E-07	1.81E-05	1.66E-05	4.27E-05	0.13648	
1	2020	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	40.45333	0.003469	0.009919	4.18E-05	0.0004	0.000368	0.002266	7.681524	
1	2020	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	19.4176	0.000618	0.002256	4.65E-06	0.000149	0.000137	0.000315	0.775168	
1	2020	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	29.1264	0.002497	0.007141	3.01E-05	0.000288	0.000265	0.00164	5.530697	
1	2020	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	9.7088	0.000528	0.001234	3.14E-06	0.000116	0.000107	0.000207	0.537637	
1	2020	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	9.7088	0.000483	0.001109	3.11E-06	0.000104	9.59E-05	0.0002	0.537651	
1	2020	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	9.7088	0.000376	0.000704	6.33E-07	5.57E-05	5.13E-05	7.50E-05	0.085168	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	10.816	0.000456	0.001053	3.40E-06	9.39E-05	8.64E-05	0.000209	0.598986	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	10.816	0.000927	0.002652	1.12E-05	0.000107	9.84E-05	0.000628	2.053808	
1	2020	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	10.816	0.00036	0.000863	3.32E-06	6.66E-05	6.13E-05	0.000197	0.599006	
1	2020	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	10.816	0.000589	0.001374	3.50E-06	0.00013	0.000119	0.000228	0.598949	
1	2020	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	175	0.43	10.816	0.000344	0.001257	2.59E-06	8.29E-05	7.62E-05	0.000189	0.431785	
1	2020	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	600	0.59	10.816	0.000927	0.002652	1.12E-05	0.000107	9.84E-05	0.000628	2.053808	
1	2020	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	100	0.59	10.816	0.000917	0.000919	2.22E-06	0.00011	0.000101	0.000143	0.380093	

1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	6.008889	0.000515	0.001473	6.21E-06	5.94E-05	5.47E-05	0.000362	1.141004
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	6.008889	0.000327	0.000764	1.94E-06	7.21E-05	6.63E-05	0.000138	0.33275
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	6.008889	0.000191	0.000698	1.44E-06	4.60E-05	4.24E-05	0.000119	0.23988
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	6.008889	0.000515	0.001473	6.21E-06	5.94E-05	5.47E-05	0.000362	1.141004
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	6.008889	0.000552	0.000428	5.62E-07	7.62E-05	7.01E-05	0.000165	0.087589
1	2020	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	1440	0.123467	0.353072	0.001488	0.014237	0.013098	0.079639	273.4359
1	2020	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	16.18133	0.000683	0.001575	5.08E-06	0.00014	0.000129	0.000303	0.896116
1	2020	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	16.18133	0.001387	0.003967	1.67E-05	0.00016	0.000147	0.000924	3.072609
1	2020	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	16.18133	0.001387	0.003967	1.67E-05	0.00016	0.000147	0.000924	3.072609
1	2020	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	7.468308	0.000633	0.000635	1.53E-06	7.60E-05	7.00E-05	0.000105	0.262449
1	2020	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	12.136	0.000512	0.001181	3.81E-06	0.000105	9.69E-05	0.000232	0.672087
1	2020	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	32.36267	0.002775	0.007935	3.34E-05	0.00032	0.000294	0.001819	6.145219
1	2020	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	9.7088	0.000323	0.000775	2.98E-06	5.98E-05	5.50E-05	0.000178	0.537688
1	2020	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	9.7088	0.000832	0.00238	1.00E-05	9.60E-05	8.83E-05	0.000566	1.843566
1	2020	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	9.7088	0.000823	0.000825	1.99E-06	9.89E-05	9.10E-05	0.00013	0.341184
1	2020	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	12.136	0.002581	0.006413	1.36E-05	0.000381	0.000351	0.000817	2.304293

1	2020	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	4.568784	0.000193	0.000445	1.44E-06	3.97E-05	3.65E-05	9.97E-05	0.253017
1	2020	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	3.644444	0.000312	0.000894	3.77E-06	3.60E-05	3.31E-05	0.000231	0.692029
1	2020	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	14.57778	0.00125	0.003574	1.51E-05	0.000144	0.000133	0.000836	2.768117
1	2020	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	14.57778	0.000464	0.001694	3.49E-06	0.000112	0.000103	0.000244	0.581958
1	2020	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	14.57778	0.00125	0.003574	1.51E-05	0.000144	0.000133	0.000836	2.768117
1	2020	Taxiways	Fencing	Skid Steer Loader Tractors/Loader/Backhoe	Diesel	75	0.21	14.57778	0.001089	0.001183	1.06E-06	0.000159	0.000146	0.000263	0.159219
1	2020	Taxiways	Fencing		Diesel	100	0.21	14.57778	0.00134	0.001037	1.36E-06	0.000185	0.00017	0.000288	0.212494
1	2020	Taxiways	Grading	Dozer	Diesel	175	0.59	3.3766	0.000142	0.000329	1.06E-06	2.93E-05	2.70E-05	7.88E-05	0.186995
1	2020	Taxiways	Grading	Grader	Diesel	300	0.59	3.3766	0.00016	0.000497	1.78E-06	2.48E-05	2.28E-05	0.000118	0.320573
1	2020	Taxiways	Grading	Roller	Diesel	100	0.59	3.3766	0.000286	0.000287	6.94E-07	3.44E-05	3.16E-05	5.76E-05	0.118659
1	2020	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	3.042	0.000261	0.000746	3.14E-06	3.01E-05	2.77E-05	0.000198	0.577633
1	2020	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	3.042	0.000261	0.000746	3.14E-06	3.01E-05	2.77E-05	0.000198	0.577633
1	2020	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	5.44	0.000466	0.001334	5.62E-06	5.38E-05	4.95E-05	0.00033	1.03298
1	2020	Taxiways	Lighting	Loader	Diesel	175	0.59	5.44	0.000296	0.000691	1.76E-06	6.53E-05	6.00E-05	0.000127	0.301247
1	2020	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	5.44	0.000173	0.000632	1.30E-06	4.17E-05	3.83E-05	0.000111	0.21717
1	2020	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	5.44	0.000466	0.001334	5.62E-06	5.38E-05	4.95E-05	0.00033	1.03298
1	2020	Taxiways	Lighting	Skid Steer Loader Tractors/Loader/Backhoe	Diesel	75	0.21	5.44	0.000407	0.000441	3.96E-07	5.94E-05	5.46E-05	0.00013	0.059416
1	2020	Taxiways	Lighting		Diesel	100	0.21	5.44	0.0005	0.000387	5.09E-07	6.90E-05	6.35E-05	0.000157	0.079296
1	2020	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	59.97714	0.005143	0.014706	6.20E-05	0.000593	0.000546	0.003346	11.38882
1	2020	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	59.97714	0.001909	0.006969	1.44E-05	0.00046	0.000423	0.000906	2.394342
1	2020	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	59.97714	0.005143	0.014706	6.20E-05	0.000593	0.000546	0.003346	11.38882
1	2020	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	2.8	8.91E-05	0.000325	6.71E-07	2.15E-05	1.97E-05	7.27E-05	0.111779
1	2020	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	5.6	0.00048	0.001373	5.79E-06	5.54E-05	5.09E-05	0.000339	1.063362
1	2020	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	2.8	6.51E-05	6.71E-05	5.79E-08	6.10E-06	5.61E-06	1.13E-05	0.007793

1	2020	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	2.8	0.000257	0.000199	2.62E-07	3.55E-05	3.27E-05	0.000119	0.040814											
1	2020	Taxiways	Subbase Placement	Dozer	Diesel	175	0.59	6.131789	0.000259	0.000597	1.93E-06	5.32E-05	4.90E-05	0.000127	0.339576											
1	2020	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	43.15111	0.0037	0.01058	4.46E-05	0.000427	0.000392	0.002415	8.193794											
1	2020	Taxiways	Subbase Placement	Pickup Truck	Diesel	600	0.59	6.131789	0.000526	0.001503	6.34E-06	6.06E-05	5.58E-05	0.000369	1.164341											
1	2020	Taxiways	Subbase Placement	Roller	Diesel	100	0.59	5.974769	0.000507	0.000508	1.23E-06	6.08E-05	5.60E-05	8.74E-05	0.209964											
1	2020	Taxiways	Topsoil Placement	Dozer	Diesel	175	0.59	7.504	0.000317	0.000731	2.36E-06	6.51E-05	5.99E-05	0.000151	0.415569											
1	2020	Taxiways	Topsoil Placement	Dump Truck	Diesel	600	0.59	7.504	0.000643	0.00184	7.75E-06	7.42E-05	6.83E-05	0.000445	1.424905											
1	2020	Taxiways	Topsoil Placement	Pickup Truck	Diesel	600	0.59	7.504	0.000643	0.00184	7.75E-06	7.42E-05	6.83E-05	0.000445	1.424905											

On-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Equipment	Equipment Category	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Distance for fugitive PM	Number of Vehicles	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Rate	VMT	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
1	2020	Taxiways	Cement Mixer	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	1	--	129	328	80	--	--	--	--	--	6068	0.007946	0.013421	5.87E-05	0.000496	0.000482	0.000137	7.6118	0.001188	0.000422

1	2020	Taxiways	Dump Truck Subbase Material	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	1	--		129	328	80	--	--	--	--	--	3236	0.005467	0.007278	3.14E-05	0.000266	0.000258	0.000126	4.074077	0.000634	0.000225
1	2020	Taxiways	Passenger Car	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	--		66	66	129	--	--	--	--	--	--	--	255420	0.833503	0.051823	0.000652	0.001915	0.001764	0.050333	92.82448	0.014314	0.001001

Fugitive Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Scenario ID	Year	Project	Fugitive Source Type	Number of Months	CO	NOx	SO2	PM10	VOC
1	2020	Taxiways	Concrete Mixing/Batching	6	0	0	0	0.02245	0
1	2020	Taxiways	Material Movement (Paved Roads)	6	0	0	0	0.006	0
1	2020	Taxiways	Material Movement (Unpaved Roads)	6	0	0	0	0.019	0
1	2020	Taxiways	Soil Handling	6	0	0	0	0.00745	0
1	2020	Taxiways	Unstabilized Land and Wind Erosion	6	0	0	0	5.30E-09	0

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INPUT DATA AND SPECIFICATIONS

State/County

California Santa Clara County

Scenarios

Scenario ID	Year	Number of Months	Season	Average Daily Temp (degF)	Max Daily Temp Change (degF)	Min Daily Temp Change (degF)
12	2020	6	Winter	50 < T <= 80	10 <= Change in T < 20	10 <= Change in T < 20

Project Final Selections

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	
1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	
1	Taxiways	Concrete Placement	Air Compressor	Diesel	
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	

1	Taxiways	Concrete Placement	Pickup Truck	Diesel
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel
1	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel
1	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel
1	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel
1	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel
1	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel
1	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel
1	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Dust Control	Water Truck	Diesel
1	Taxiways	Excavation (Borrow)	Dozer	Diesel
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel
1	Taxiways	Excavation (Borrow)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel
1	Taxiways	Fencing	Concrete Truck	Diesel
1	Taxiways	Fencing	Dump Truck	Diesel
1	Taxiways	Fencing	Other General Equipment	Diesel
1	Taxiways	Fencing	Pickup Truck	Diesel
1	Taxiways	Fencing	Skid Steer Loader	Diesel
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Grading	Dozer	Diesel
1	Taxiways	Grading	Grader	Diesel
1	Taxiways	Grading	Roller	Diesel
1	Taxiways	Hydroseeding	Hydroseeder	Diesel

1	Taxiways	Hydroseeding	Off-Road Truck	Diesel
1	Taxiways	Lighting	Dump Truck	Diesel
1	Taxiways	Lighting	Loader	Diesel
1	Taxiways	Lighting	Other General Equipment	Diesel
1	Taxiways	Lighting	Pickup Truck	Diesel
1	Taxiways	Lighting	Skid Steer Loader	Diesel
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Markings	Flatbed Truck	Diesel
1	Taxiways	Markings	Other General Equipment	Diesel
1	Taxiways	Markings	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Subbase Placement	Dozer	Diesel
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel
1	Taxiways	Subbase Placement	Pickup Truck	Diesel
1	Taxiways	Subbase Placement	Roller	Diesel
1	Taxiways	Topsoil Placement	Dozer	Diesel
1	Taxiways	Topsoil Placement	Dump Truck	Diesel
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel

Overall Size

Scenario ID	Project	Project Size Questions	User Input	Unit
1	Taxiways	What is the estimated cost of the project?	0.91	$ Million(s)
1	Taxiways	What is the maximum length of the taxiway (L) in feet?	328	Feet
1	Taxiways	What is the maximum width of the taxiway (W) in feet?	80	Feet

Size Detail (Estimated based on engineering experience)

ScenarioID	Project	Construction Activity	Default Activity Size	Unit	User Activity Size
1	Taxiways	Clearing and Grubbing	0.7	Acres	
1	Taxiways	Concrete Placement	1213.6	Cubic Yards	
1	Taxiways	Drainage - 24 inch SICPP	338	Linear Feet	
1	Taxiways	Drainage - 6 inch Perforated Underdrain	676	Linear Feet	
1	Taxiways	Dust Control	180	Days	
1	Taxiways	Excavation (Borrow)	1213.6	Cubic Yards	

1	Taxiways	Excavation (Cut to Fill)	1213.6	Cubic Yards				
1	Taxiways	Excavation (Topsoil Stripping)	2912.6	Square Yards				
1	Taxiways	Fencing	328	Linear Feet				
1	Taxiways	Grading	3376.6	Square Yards				
1	Taxiways	Hydroseeding	30420	Square Feet				
1	Taxiways	Lighting	816	Linear Feet				
1	Taxiways	Markings	26240	Square Feet				
1	Taxiways	Soil Erosion/Sediment Control	0.7	Acres				
1	Taxiways	Subbase Placement	2912.6	Square Yards				
1	Taxiways	Subbase Placement	970.9	Cubic Yards				
1	Taxiways	Topsoil Placement	562.8	Cubic Yards				

Activity: Non-Road (Estimated based on engineering experience)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Activity Size	Activity Rate	Default Activity	Activity Unit	User Activity Data	
										*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
	1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	0.70 Acre	12 Hours per 1.00 Acre	8.4	hours	
	1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	0.70 Acre	12 Hours per 1.00 Acre	8.4	hours	
	1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	0.70 Acre	16 Hours per 1.00 Acre	11.2	hours	

1	Taxiways	Concrete Placement	Air Compressor	Diesel	1213.60 CY	8 Hours per 1000.00 CY	9.71 hours
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	1213.60 CY	8 Hours per 1000.00 CY	9.71 hours
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	1213.60 CY	8 Hours per 240.00 CY	40.45 hours
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	1213.60 CY	16 Hours per 1000.00 CY	19.42 hours
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	1213.60 CY	24 Hours per 1000.00 CY	29.13 hours
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	1213.60 CY	8 Hours per 1000.00 CY	9.71 hours
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	1213.60 CY	8 Hours per 1000.00 CY	9.71 hours
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	1213.60 CY	8 Hours per 1000.00 CY	9.71 hours
1	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	338.00 LF	8 Hours per 250.00 LF	10.82 hours
1	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	338.00 LF	8 Hours per 250.00 LF	10.82 hours
1	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	338.00 LF	8 Hours per 250.00 LF	10.82 hours
1	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	338.00 LF	8 Hours per 250.00 LF	10.82 hours
1	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	338.00 LF	8 Hours per 250.00 LF	10.82 hours
1	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	338.00 LF	8 Hours per 250.00 LF	10.82 hours
1	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	338.00 LF	8 Hours per 250.00 LF	10.82 hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	676.00 LF	8 Hours per 900.00 LF	6.01 hours

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	676.00 LF	8 Hours per 900.00 LF	6.01	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	676.00 LF	8 Hours per 900.00 LF	6.01	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	676.00 LF	8 Hours per 900.00 LF	6.01	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	676.00 LF	8 Hours per 900.00 LF	6.01	hours
1	Taxiways	Dust Control	Water Truck	Diesel	180.00 Day	8 Hours per 1.00 Day	1440	hours
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	1213.60 CY	8 Hours per 600.00 CY	16.18	hours
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	1213.60 CY	8 Hours per 600.00 CY	16.18	hours
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	1213.60 CY	8 Hours per 600.00 CY	16.18	hours
1	Taxiways	Excavation (Borrow)	Roller	Diesel	1213.60 CY	8 Hours per 1300.00 CY	7.47	hours
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	1213.60 CY	8 Hours per 800.00 CY	12.14	hours
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	1213.60 CY	8 Hours per 300.00 CY	32.36	hours
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	1213.60 CY	8 Hours per 1000.00 CY	9.71	hours
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	1213.60 CY	8 Hours per 1000.00 CY	9.71	hours
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	1213.60 CY	8 Hours per 1000.00 CY	9.71	hours
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	1213.60 CY	8 Hours per 800.00 CY	12.14	hours

1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	2912.60 SY	8 Hours per 5100.00 SY	4.57	hours
1	Taxiways	Fencing	Concrete Truck	Diesel	328.00 LF	2 Hours per 180.00 LF	3.64	hours
1	Taxiways	Fencing	Dump Truck	Diesel	328.00 LF	8 Hours per 180.00 LF	14.58	hours
1	Taxiways	Fencing	Other General Equipment	Diesel	328.00 LF	8 Hours per 180.00 LF	14.58	hours
1	Taxiways	Fencing	Pickup Truck	Diesel	328.00 LF	8 Hours per 180.00 LF	14.58	hours
1	Taxiways	Fencing	Skid Steer Loader	Diesel	328.00 LF	8 Hours per 180.00 LF	14.58	hours
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	328.00 LF	8 Hours per 180.00 LF	14.58	hours
1	Taxiways	Grading	Dozer	Diesel	3376.60 SY	8 Hours per 8000.00 SY	3.38	hours
1	Taxiways	Grading	Grader	Diesel	3376.60 SY	8 Hours per 8000.00 SY	3.38	hours
1	Taxiways	Grading	Roller	Diesel	3376.60 SY	8 Hours per 8000.00 SY	3.38	hours
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	30420.00 SF	8 Hours per 80000.00 SF	3.04	hours
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	30420.00 SF	8 Hours per 80000.00 SF	3.04	hours
1	Taxiways	Lighting	Dump Truck	Diesel	816.00 LF	8 Hours per 1200.00 LF	5.44	hours
1	Taxiways	Lighting	Loader	Diesel	816.00 LF	8 Hours per 1200.00 LF	5.44	hours
1	Taxiways	Lighting	Other General Equipment	Diesel	816.00 LF	8 Hours per 1200.00 LF	5.44	hours
1	Taxiways	Lighting	Pickup Truck	Diesel	816.00 LF	8 Hours per 1200.00 LF	5.44	hours
1	Taxiways	Lighting	Skid Steer Loader	Diesel	816.00 LF	8 Hours per 1200.00 LF	5.44	hours

1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	816.00 LF	8 Hours per 1200.00 LF	5.44 hours
1	Taxiways	Markings	Flatbed Truck	Diesel	26240.00 SF	8 Hours per 3500.00 SF	59.98 hours
1	Taxiways	Markings	Other General Equipment	Diesel	26240.00 SF	8 Hours per 3500.00 SF	59.98 hours
1	Taxiways	Markings	Pickup Truck	Diesel	26240.00 SF	8 Hours per 3500.00 SF	59.98 hours
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	0.70 Acre	4 Hours per 1.00 Acre	2.8 hours
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	0.70 Acre	8 Hours per 1.00 Acre	5.6 hours
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	0.70 Acre	4 Hours per 1.00 Acre	2.8 hours
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	0.70 Acre	4 Hours per 1.00 Acre	2.8 hours
1	Taxiways	Subbase Placement	Dozer	Diesel	2912.60 SY	8 Hours per 3800.00 SY	6.13 hours
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	970.90 CY	8 Hours per 180.00 CY	43.15 hours
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	2912.60 SY	8 Hours per 3800.00 SY	6.13 hours
1	Taxiways	Subbase Placement	Roller	Diesel	970.90 CY	8 Hours per 1300.00 CY	5.97 hours
1	Taxiways	Topsoil Placement	Dozer	Diesel	562.80 CY	8 Hours per 600.00 CY	7.5 hours
1	Taxiways	Topsoil Placement	Dump Truck	Diesel	562.80 CY	8 Hours per 600.00 CY	7.5 hours
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	562.80 CY	8 Hours per 600.00 CY	7.5 hours

Activity: On-Road (Estimated based on engineering experience)

Scenario ID	Project	Equipment	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Size	Activity Rate	Default VMT	User VMT
	1 Taxiways	Cement Mixer	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	328	80	--	--	--	--	--	--	6068	
	1 Taxiways	Dump Truck Subbase Material	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	328	80	--	--	--	--	--	--	3236	
	1 Taxiways	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	66	129	--	--	--	--	--	--	--	--	255420	

Emission Factor: Non-Road (from NONROAD)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Avg Rated HP	Load Factor	CO (g/hp-hr)	NOx (g/hp-hr)	CO2 (g/hp-hr)	SO2 (g/hp-hr)	PM10 (g/hp-hr)	PM2.5 (g/hp-hr)	VOC Exhaust (g/hp-hr)	VOC Evaporative (g/equipment-day)	
	1 Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	293.535	1.322993	685.9963	0.140192	9.748189	8.968334	61.88836	26.88131	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
	1 Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	1.6976	3.014009	589.3092	0.003468	0.294053	0.270529	0.349775	0.206615	
	1 Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234	
	1 Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	1.104829	1.794373	589.7346	0.003245	0.158031	0.145388	0.20937	0.195896	

1	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	0.522532	3.313194	595.6491	0.003072	0.071525	0.065803	0.167578	0.002633
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	0.436875	1.003913	536.3453	0.002812	0.094305	0.086761	0.16014	0.161771
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	2.379151	4.459281	594.7267	0.004009	0.353137	0.324886	0.472055	0.003483
1	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	0.545055	1.354215	536.363	0.002882	0.080485	0.074046	0.154332	0.607685
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012

1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Grading	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Grading	Grader	Diesel	300	0.59	0.24308	0.754295	536.3826	0.002696	0.037599	0.034591	0.147818	0.147813
1	Taxiways	Grading	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	4.4591	4.594026	588.4291	0.003967	0.417534	0.384131	0.640288	0.013554
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Subbase Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Subbase Placement	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Topsoil Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385

1	Taxiways	Topsoil Placement	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234						
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234						

Emission Factors: On-Road (from MOVES)

Scenario ID	Project Type	Equipment	Fuel Type	Roadway Type	CO(g/mi)	NOx(g/mi)	CO2(g/mi)	SO2(g/mi)	PM10(g/mi)	PM2.5(g/mi)	CH4(g/mi)	N2O(g/mi)	VOC(g/mi)	RV CO(g/veh-day)	RV NOx(g/veh-day)	RV CO2(g/veh-day)	RV SO2(g/veh-day)	RV PM10(g/veh-day)	RV PM2.5(g/veh-day)	RV VOC(g/veh-day)	RP VOC(g/veh-day)
1	Taxiways	Cement Mixer	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Dump Truck Subbase Material	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Passenger Car	Gasoline	Urban Unrestricted Access	1.689671	0.102635	348.7876	0.002224	0.005214	0.004801	0.056039	0.003919	0.001767	38.12089	2.442831	438.9424	0.002799	0.047668	0.043893	5.310081	0

Fugitive Emissions (Emission Factors from Various Sources including AP-42)

Scenario ID	Project	Fugitive Type	Variable	Default Values	Units	User Value
1	Taxiways	Concrete Mixing/Batching	V = Volume of asphalt = 0.111 x L x W x 1.25 / 3	1213.6	yd3	
1	Taxiways	Concrete Mixing/Batching	PM10 = 0.037 x V	44.9	lbs	
1	Taxiways	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction	
1	Taxiways	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons	

1	Taxiways	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	1387.7 miles
1	Taxiways	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	38 lbs
1	Taxiways	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1 g/m3
1	Taxiways	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32 tons
1	Taxiways	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	1290 miles
1	Taxiways	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	12 lbs
1	Taxiways	Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	0.602 acres
1	Taxiways	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5 fraction
1	Taxiways	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63 fraction
1	Taxiways	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.5 years
1	Taxiways	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0 lbs
1	Taxiways	Soil Handling	u = Wind speed	5 mph
1	Taxiways	Soil Handling	m = Moisture content	0.25 fraction

1	Taxiways	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	721.6	tons
1	Taxiways	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	14.9	lbs

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ASSUMPTIONS

Emission factors were developed from the following models:

On-Road Vehicles: MOVES 2010b, revised January 2013

Non-Road Equipment: NONROAD2008a, July 2009

In addition to the overall project size dimensions (e.g., Length and width) provided by the user, an additional 10 ft length and 10 ft width is added to account for disturbance areas.

The number of employees is based on the higher of two methods: (1) number of equipment, and (2) multiply the project cost in million by 11.

The average employee travels 30 miles round-trip from home to construction site each day.

The average on-road material delivery round-trip distance per truck is 40 miles per day.

For calculating fugitive, re-entrained PM emissions from on-road and non-road material delivery and handling equipment, a nominal VMT of 5 miles is used for each vehicle per day.

In deriving emission factors from NONROAD, the horsepower for each equipment represents the most popular in each equipment category.

The total length of each modeled scenario is used to define the number of days associated with vehicle/equipment evaporative emissions.

The choice of location and season are assumed to adequately represent differences in fuel characteristics affecting emissions.

Only two seasons (Summer and Winter) are used to represent all seasons.

14 U.S. Counties are used to represent all other counties in the U.S. (all other counties are mapped to the 14).

The default methods assume that all construction equipment use diesel as well as heavy-duty on-road vehicles, while passenger vehicles (including motorcycles) use gasoline.

Fugitive emissions are only modeled for:

- Asphalt drying
- Asphalt storage and batching
- Concrete mixing/batching
- Soil handling
- Unstabilized land and wind erosion
- Material movement (unpaved roads)
- Material movement (paved roads)

On-Road vehicle speeds are not explicitly modeled. The associated emission factors for each modeled vehicle from MOVES represent averages over the driving cycles, the roadway type, and daily temperature variations.

The default equipment hours-of-use data are developed based on the overall size of the project provided by the user and activity rates based on expert engineering judgment.

Under the Construction Activity Type list (Activity Tab), when a choice between asphalt and concrete materials occurs, asphalt is always selected as default. To choose concrete, de-select the aphalt item and select the corresponding concrete item.

Two trips per day were assumed for each on-road material handling trucks.

Only CO2, CH4, and N2O are used to represent greenhouse gas emissions. Other potential greenhouse gases including air conditioning refrigerants were not included.

The following equipment are always modeled using diesel emission factors since gasoline-based emission factors are not available:

- Asphalt Deliveries/Ten Wheelers
- Bulldozer
- Concrete Ready Mix Trucks
- Concrete Ready Trucks Mix for Cores
- Concrete Truck
- Crack Filler (Trailer Mounted)
- Delivery of Tanks (3)
- Distributing Tanker
- Dozer
- Dump Truck
- Dump Truck (12 cy)
- Excavator
- Excavator for U/G Services/Tanks
- Flat Bed or Dump Trucks
- Flatbed Truck
- Grader
- Grout Wheel Truck
- Hoist Equipment with 40 Ton Rig
- Hydralic Hammer
- Hydroseeder
- Line Painting Truck and Sprayer
- Material Deliveries
- Off-Road Truck
- Pickup Truck
- Scraper
- Seed Truck Spreader
- Small Dozer
- Survey Crew Trucks
- Ten Wheelers
- Ten Wheelers- Material Delivery
- Tool Truck
- Tractor Trailer- Equipment Delivery
- Tractor Trailer- Material Delivery
- Tractor Trailer- Steel Deliveries
- Tractor Trailer- Stone Delivery
- Tractor Trailer- Topsoil & Seed
- Tractor Trailer- Truck Delivery
- Tractor Trailer with Boom Hoist- Curbs Del & Place
- Tractor Trailer with Boom Hoist- Delivery
- Tractor Trailers- Rebar Deliveries
- Tractor Trailers Temp Fac.
- Truck for Topsoil & Seed Del&Spread
- Water Truck
- Excavator with Bucket
- Excavator with Hoe Ram

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Airport Construction Emissions Inventory Tool (ACEIT)
Version 1.0
Run Date & Time: 4/9/2019 3:00:40 PM

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STUDY

Study Name

A-26-1

Study Description

Convert former Runway 11-29 to a new parallel Taxiway V (for ADG-III aircraft) and extend south to Taxiway C and north to a new cross Taxiway V7.

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EMISSIONS INVENTORY - SUMMARY

Total Emissions by Year

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Year	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	1.55555	1.483331	0.006266	0.381267	0.069001	0.355323	1070.486	0.02725	0.005457

Total Emissions by Source Categories

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases Emission: Metric Ton

Year	Emission Source	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	NonRoad	0.616202	1.289846	0.004977	0.067544	0.06214	0.302078	894.818	--	--
2020	OnRoad	0.939348	0.193485	0.001289	0.007173	0.00686	0.053246	175.6683	0.02725	0.005457
2020	Fugitive	0	0	0	0.30655	--	0	--	--	--
2020	TOTAL	1.55555	1.483331	0.006266	0.381267	0.069001	0.355323	1070.486	0.02725	0.005457

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EMISSIONS INVENTORY - DETAILS:

Non-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Construction Activity	Equipment	Fuel	HP Average	Load Factor	Hours of Activity	CO	NOx	SO2	PM10	PM2.5	VOC	CO2

1	2020	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	54	0.13454	0.000606	6.43E-05	0.004468	0.004111	0.032189	0.285237	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	2020	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	54	0.004345	0.007715	8.88E-06	0.000753	0.000692	0.000925	1.368376	
1	2020	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	72	0.006173	0.017654	7.44E-05	0.000712	0.000655	0.00401	13.6718	
1	2020	Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	66.276	0.003471	0.005637	1.02E-05	0.000496	0.000457	0.000686	1.680666	
1	2020	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	66.276	0.000901	0.005712	5.30E-06	0.000123	0.000113	0.000289	0.931663	
1	2020	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	276.15	0.023677	0.067709	0.000285	0.00273	0.002512	0.015296	52.43703	
1	2020	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	132.552	0.004219	0.015403	3.18E-05	0.001016	0.000934	0.001963	5.291597	
1	2020	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	198.828	0.017048	0.04875	0.000205	0.001966	0.001808	0.011022	37.75466	
1	2020	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	66.276	0.003607	0.008422	2.15E-05	0.000795	0.000732	0.001268	3.670115	
1	2020	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	66.276	0.003295	0.007573	2.12E-05	0.000711	0.000654	0.001231	3.670209	
1	2020	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	66.276	0.002564	0.004805	4.32E-06	0.000381	0.00035	0.000509	0.581388	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	48.896	0.002063	0.00476	1.54E-05	0.000424	0.000391	0.000876	2.707841	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	48.896	0.004192	0.011989	5.05E-05	0.000483	0.000445	0.002733	9.284668	
1	2020	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	48.896	0.001626	0.003902	1.50E-05	0.000301	0.000277	0.000838	2.707933	
1	2020	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	48.896	0.002661	0.006214	1.58E-05	0.000587	0.00054	0.000942	2.707676	
1	2020	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	175	0.43	48.896	0.001556	0.005682	1.17E-05	0.000375	0.000345	0.000744	1.951973	
1	2020	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	600	0.59	48.896	0.004192	0.011989	5.05E-05	0.000483	0.000445	0.002733	9.284668	
1	2020	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	100	0.59	48.896	0.004146	0.004155	1.00E-05	0.000498	0.000458	0.00058	1.718289	

1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	27.16444	0.002329	0.00666	2.81E-05	0.000269	0.000247	0.001532	5.158149
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	27.16444	0.001478	0.003452	8.79E-06	0.000326	0.0003	0.000535	1.504265
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	27.16444	0.000865	0.003157	6.51E-06	0.000208	0.000191	0.000428	1.084429
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	27.16444	0.002329	0.00666	2.81E-05	0.000269	0.000247	0.001532	5.158149
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	27.16444	0.002497	0.001933	2.54E-06	0.000345	0.000317	0.000468	0.395964
1	2020	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	1440	0.123467	0.353072	0.001488	0.014237	0.013098	0.079639	273.4359
1	2020	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	110.46	0.004661	0.010754	3.47E-05	0.000959	0.000882	0.001954	6.117231
1	2020	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	110.46	0.009471	0.027084	0.000114	0.001092	0.001005	0.006136	20.97481
1	2020	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	110.46	0.009471	0.027084	0.000114	0.001092	0.001005	0.006136	20.97481
1	2020	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	50.98154	0.004323	0.004332	1.05E-05	0.000519	0.000478	0.000604	1.791578
1	2020	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	82.845	0.003496	0.008065	2.60E-05	0.000719	0.000662	0.001471	4.587923
1	2020	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	220.92	0.018942	0.054167	0.000228	0.002184	0.002009	0.012243	41.94963
1	2020	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	66.276	0.002205	0.005289	2.04E-05	0.000408	0.000376	0.00113	3.670463
1	2020	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	66.276	0.005683	0.01625	6.85E-05	0.000655	0.000603	0.003694	12.58489
1	2020	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	66.276	0.005619	0.005632	1.36E-05	0.000675	0.000621	0.00078	2.329052
1	2020	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	82.845	0.01762	0.043779	9.32E-05	0.002602	0.002394	0.005076	15.72999

1	2020	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	31.18871	0.001316	0.003036	9.80E-06	0.000271	0.000249	0.000566	1.727218
1	2020	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	16.86667	0.001446	0.004136	1.74E-05	0.000167	0.000153	0.000962	3.202745
1	2020	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	67.46667	0.005785	0.016542	6.97E-05	0.000667	0.000614	0.00376	12.81098
1	2020	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	67.46667	0.002147	0.00784	1.62E-05	0.000517	0.000476	0.001015	2.693331
1	2020	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	67.46667	0.005785	0.016542	6.97E-05	0.000667	0.000614	0.00376	12.81098
1	2020	Taxiways	Fencing	Skid Steer Loader Tractors/Loader/Backhoe	Diesel	75	0.21	67.46667	0.005042	0.005475	4.91E-06	0.000736	0.000678	0.001032	0.736872
1	2020	Taxiways	Fencing		Diesel	100	0.21	67.46667	0.006201	0.0048	6.31E-06	0.000856	0.000787	0.001046	0.983431
1	2020	Taxiways	Grading	Dozer	Diesel	175	0.59	21.7098	0.000916	0.002114	6.82E-06	0.000188	0.000173	0.0004	1.20228
1	2020	Taxiways	Grading	Grader	Diesel	300	0.59	21.7098	0.00103	0.003195	1.14E-05	0.000159	0.000147	0.000647	2.061122
1	2020	Taxiways	Grading	Roller	Diesel	100	0.59	21.7098	0.001841	0.001845	4.46E-06	0.000221	0.000203	0.000268	0.762919
1	2020	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	19.5584	0.001677	0.004796	2.02E-05	0.000193	0.000178	0.001111	3.713867
1	2020	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	19.5584	0.001677	0.004796	2.02E-05	0.000193	0.000178	0.001111	3.713867
1	2020	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	21.81333	0.00187	0.005348	2.25E-05	0.000216	0.000198	0.001236	4.142048
1	2020	Taxiways	Lighting	Loader	Diesel	175	0.59	21.81333	0.001187	0.002772	7.06E-06	0.000262	0.000241	0.000434	1.20794
1	2020	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	21.81333	0.000694	0.002535	5.23E-06	0.000167	0.000154	0.00035	0.870808
1	2020	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	21.81333	0.00187	0.005348	2.25E-05	0.000216	0.000198	0.001236	4.142048
1	2020	Taxiways	Lighting	Skid Steer Loader Tractors/Loader/Backhoe	Diesel	75	0.21	21.81333	0.00163	0.00177	1.59E-06	0.000238	0.000219	0.000368	0.238246
1	2020	Taxiways	Lighting		Diesel	100	0.21	21.81333	0.002005	0.001552	2.04E-06	0.000277	0.000255	0.000391	0.317963
1	2020	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	409.4263	0.035105	0.100387	0.000423	0.004048	0.003724	0.022664	77.74434
1	2020	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	409.4263	0.013031	0.047576	9.81E-05	0.003137	0.002886	0.005998	16.34467
1	2020	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	409.4263	0.035105	0.100387	0.000423	0.004048	0.003724	0.022664	77.74434
1	2020	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	18	0.000573	0.002092	4.31E-06	0.000138	0.000127	0.000294	0.718576
1	2020	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	36	0.003087	0.008827	3.72E-05	0.000356	0.000327	0.00202	6.835898
1	2020	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	18	0.000418	0.000431	3.72E-07	3.92E-05	3.61E-05	6.20E-05	0.050099

1	2020	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	18	0.001654	0.001281	1.68E-06	0.000228	0.00021	0.000337	0.262378										
1	2020	Taxiways	Subbase Placement	Dozer	Diesel	175	0.59	41.85853	0.001766	0.004075	1.32E-05	0.000363	0.000334	0.000753	2.318109										
1	2020	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	294.56	0.025256	0.072223	0.000304	0.002912	0.002679	0.016314	55.93283										
1	2020	Taxiways	Subbase Placement	Pickup Truck	Diesel	600	0.59	41.85853	0.003589	0.010263	4.33E-05	0.000414	0.000381	0.002344	7.94835										
1	2020	Taxiways	Subbase Placement	Roller	Diesel	100	0.59	40.78523	0.003458	0.003466	8.38E-06	0.000415	0.000382	0.000487	1.433262										
1	2020	Taxiways	Topsoil Placement	Dozer	Diesel	175	0.59	48.244	0.002036	0.004697	1.52E-05	0.000419	0.000385	0.000865	2.671734										
1	2020	Taxiways	Topsoil Placement	Dump Truck	Diesel	600	0.59	48.244	0.004136	0.011829	4.99E-05	0.000477	0.000439	0.002697	9.160863										
1	2020	Taxiways	Topsoil Placement	Pickup Truck	Diesel	600	0.59	48.244	0.004136	0.011829	4.99E-05	0.000477	0.000439	0.002697	9.160863										

On-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Equipment	Equipment Category	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Distance for fugitive PM	Number of Vehicles	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Rate	VMT	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
1	2020	Taxiways	Cement Mixer	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	5	--	129	1518	118	--	--	--	--	--	41422	0.04943	0.091149	0.0004	0.003384	0.003283	0.000726	51.90258	0.00811	0.002883

1	2020	Taxiways	Dump Truck Subbase Material	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	3	--		129	1518	118	--	--	--	--	--	22092	0.027241	0.048699	0.000213	0.001806	0.001752	0.000425	27.69227	0.004325	0.001538
1	2020	Taxiways	Passenger Car	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	--		68.31	68.31	129	--	--	--	--	--	--	--	264360	0.862676	0.053637	0.000675	0.001983	0.001826	0.052095	96.07344	0.014815	0.001036

Fugitive Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Scenario ID	Year	Project	Fugitive Source Type	Number of Months	CO	NOx	SO2	PM10	VOC
1	2020	Taxiways	Concrete Mixing/Batching	6	0	0	0	0.15325	0
1	2020	Taxiways	Material Movement (Paved Roads)	6	0	0	0	0.02395	0
1	2020	Taxiways	Material Movement (Unpaved Roads)	6	0	0	0	0.07865	0
1	2020	Taxiways	Soil Handling	6	0	0	0	0.0507	0
1	2020	Taxiways	Unstabilized Land and Wind Erosion	6	0	0	0	3.61E-08	0

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INPUT DATA AND SPECIFICATIONS

State/County

California Santa Clara County

Scenarios

Scenario ID	Year	Number of Months	Season	Average Daily Temp (degF)	Max Daily Temp Change (degF)	Min Daily Temp Change (degF)
12	2020	6	Winter	50 < T <= 80	10 <= Change in T < 20	10 <= Change in T < 20

Project Final Selections

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	
1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	
1	Taxiways	Concrete Placement	Air Compressor	Diesel	
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	

1	Taxiways	Concrete Placement	Pickup Truck	Diesel
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel
1	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel
1	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel
1	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel
1	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel
1	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel
1	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel
1	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Dust Control	Water Truck	Diesel
1	Taxiways	Excavation (Borrow)	Dozer	Diesel
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel
1	Taxiways	Excavation (Borrow)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel
1	Taxiways	Fencing	Concrete Truck	Diesel
1	Taxiways	Fencing	Dump Truck	Diesel
1	Taxiways	Fencing	Other General Equipment	Diesel
1	Taxiways	Fencing	Pickup Truck	Diesel
1	Taxiways	Fencing	Skid Steer Loader	Diesel
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Grading	Dozer	Diesel
1	Taxiways	Grading	Grader	Diesel
1	Taxiways	Grading	Roller	Diesel
1	Taxiways	Hydroseeding	Hydroseeder	Diesel

1	Taxiways	Hydroseeding	Off-Road Truck	Diesel
1	Taxiways	Lighting	Dump Truck	Diesel
1	Taxiways	Lighting	Loader	Diesel
1	Taxiways	Lighting	Other General Equipment	Diesel
1	Taxiways	Lighting	Pickup Truck	Diesel
1	Taxiways	Lighting	Skid Steer Loader	Diesel
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Markings	Flatbed Truck	Diesel
1	Taxiways	Markings	Other General Equipment	Diesel
1	Taxiways	Markings	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Subbase Placement	Dozer	Diesel
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel
1	Taxiways	Subbase Placement	Pickup Truck	Diesel
1	Taxiways	Subbase Placement	Roller	Diesel
1	Taxiways	Topsoil Placement	Dozer	Diesel
1	Taxiways	Topsoil Placement	Dump Truck	Diesel
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel

Overall Size

Scenario ID	Project	Project Size Questions	User Input	Unit
1	Taxiways	What is the estimated cost of the project?	6.21	$ Million(s)
1	Taxiways	What is the maximum length of the taxiway (L) in feet?	1518	Feet
1	Taxiways	What is the maximum width of the taxiway (W) in feet?	118	Feet

Size Detail (Estimated based on engineering experience)

ScenarioID	Project	Construction Activity	Default Activity Size	Unit	User Activity Size
1	Taxiways	Clearing and Grubbing	4.5	Acres	
1	Taxiways	Concrete Placement	8284.5	Cubic Yards	
1	Taxiways	Drainage - 24 inch SICPP	1528	Linear Feet	
1	Taxiways	Drainage - 6 inch Perforated Underdrain	3056	Linear Feet	
1	Taxiways	Dust Control	180	Days	
1	Taxiways	Excavation (Borrow)	8284.5	Cubic Yards	

1	Taxiways	Excavation (Cut to Fill)	8284.5	Cubic Yards	
1	Taxiways	Excavation (Topsoil Stripping)	19882.8	Square Yards	
1	Taxiways	Fencing	1518	Linear Feet	
1	Taxiways	Grading	21709.8	Square Yards	
1	Taxiways	Hydroseeding	195584	Square Feet	
1	Taxiways	Lighting	3272	Linear Feet	
1	Taxiways	Markings	179124	Square Feet	
1	Taxiways	Soil Erosion/Sediment Control	4.5	Acres	
1	Taxiways	Subbase Placement	19882.8	Square Yards	
1	Taxiways	Subbase Placement	6627.6	Cubic Yards	
1	Taxiways	Topsoil Placement	3618.3	Cubic Yards	

Activity: Non-Road (Estimated based on engineering experience)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Activity Size	Activity Rate	Default Activity	Activity Unit	User Activity Data	
										*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
	1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	4.50 Acre	12 Hours per 1.00 Acre	54	hours	
	1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	4.50 Acre	12 Hours per 1.00 Acre	54	hours	
	1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	4.50 Acre	16 Hours per 1.00 Acre	72	hours	

1	Taxiways	Concrete Placement	Air Compressor	Diesel	8284.50 CY	8 Hours per 1000.00 CY	66.28	hours
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	8284.50 CY	8 Hours per 1000.00 CY	66.28	hours
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	8284.50 CY	8 Hours per 240.00 CY	276.15	hours
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	8284.50 CY	16 Hours per 1000.00 CY	132.55	hours
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	8284.50 CY	24 Hours per 1000.00 CY	198.83	hours
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	8284.50 CY	8 Hours per 1000.00 CY	66.28	hours
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	8284.50 CY	8 Hours per 1000.00 CY	66.28	hours
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	8284.50 CY	8 Hours per 1000.00 CY	66.28	hours
1	Taxiways	SICPP	Drainage - 24 inch Dozer	Diesel	1528.00 LF	8 Hours per 250.00 LF	48.9	hours
1	Taxiways	SICPP	Drainage - 24 inch Dump Truck	Diesel	1528.00 LF	8 Hours per 250.00 LF	48.9	hours
1	Taxiways	SICPP	Drainage - 24 inch Excavator	Diesel	1528.00 LF	8 Hours per 250.00 LF	48.9	hours
1	Taxiways	SICPP	Drainage - 24 inch Loader	Diesel	1528.00 LF	8 Hours per 250.00 LF	48.9	hours
1	Taxiways	SICPP	Drainage - 24 inch Other General Equipment	Diesel	1528.00 LF	8 Hours per 250.00 LF	48.9	hours
1	Taxiways	SICPP	Drainage - 24 inch Pickup Truck	Diesel	1528.00 LF	8 Hours per 250.00 LF	48.9	hours
1	Taxiways	SICPP	Drainage - 24 inch Roller	Diesel	1528.00 LF	8 Hours per 250.00 LF	48.9	hours
1	Taxiways	Underdrain	Drainage - 6 inch Perforated Dump Truck	Diesel	3056.00 LF	8 Hours per 900.00 LF	27.16	hours

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	3056.00 LF	8 Hours per 900.00 LF	27.16	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	3056.00 LF	8 Hours per 900.00 LF	27.16	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	3056.00 LF	8 Hours per 900.00 LF	27.16	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	3056.00 LF	8 Hours per 900.00 LF	27.16	hours
1	Taxiways	Dust Control	Water Truck	Diesel	180.00 Day	8 Hours per 1.00 Day	1440	hours
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	8284.50 CY	8 Hours per 600.00 CY	110.46	hours
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	8284.50 CY	8 Hours per 600.00 CY	110.46	hours
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	8284.50 CY	8 Hours per 600.00 CY	110.46	hours
1	Taxiways	Excavation (Borrow)	Roller	Diesel	8284.50 CY	8 Hours per 1300.00 CY	50.98	hours
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	8284.50 CY	8 Hours per 800.00 CY	82.85	hours
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	8284.50 CY	8 Hours per 300.00 CY	220.92	hours
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	8284.50 CY	8 Hours per 1000.00 CY	66.28	hours
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	8284.50 CY	8 Hours per 1000.00 CY	66.28	hours
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	8284.50 CY	8 Hours per 1000.00 CY	66.28	hours
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	8284.50 CY	8 Hours per 800.00 CY	82.85	hours

1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	19882.80 SY	8 Hours per 5100.00 SY	31.19 hours
1	Taxiways	Fencing	Concrete Truck	Diesel	1518.00 LF	2 Hours per 180.00 LF	16.87 hours
1	Taxiways	Fencing	Dump Truck	Diesel	1518.00 LF	8 Hours per 180.00 LF	67.47 hours
1	Taxiways	Fencing	Other General Equipment	Diesel	1518.00 LF	8 Hours per 180.00 LF	67.47 hours
1	Taxiways	Fencing	Pickup Truck	Diesel	1518.00 LF	8 Hours per 180.00 LF	67.47 hours
1	Taxiways	Fencing	Skid Steer Loader	Diesel	1518.00 LF	8 Hours per 180.00 LF	67.47 hours
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	1518.00 LF	8 Hours per 180.00 LF	67.47 hours
1	Taxiways	Grading	Dozer	Diesel	21709.80 SY	8 Hours per 8000.00 SY	21.71 hours
1	Taxiways	Grading	Grader	Diesel	21709.80 SY	8 Hours per 8000.00 SY	21.71 hours
1	Taxiways	Grading	Roller	Diesel	21709.80 SY	8 Hours per 8000.00 SY	21.71 hours
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	195584.00 SF	8 Hours per 80000.00 SF	19.56 hours
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	195584.00 SF	8 Hours per 80000.00 SF	19.56 hours
1	Taxiways	Lighting	Dump Truck	Diesel	3272.00 LF	8 Hours per 1200.00 LF	21.81 hours
1	Taxiways	Lighting	Loader	Diesel	3272.00 LF	8 Hours per 1200.00 LF	21.81 hours
1	Taxiways	Lighting	Other General Equipment	Diesel	3272.00 LF	8 Hours per 1200.00 LF	21.81 hours
1	Taxiways	Lighting	Pickup Truck	Diesel	3272.00 LF	8 Hours per 1200.00 LF	21.81 hours
1	Taxiways	Lighting	Skid Steer Loader	Diesel	3272.00 LF	8 Hours per 1200.00 LF	21.81 hours

1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	3272.00 LF	8 Hours per 1200.00 LF	21.81	hours
1	Taxiways	Markings	Flatbed Truck	Diesel	179124.00 SF	8 Hours per 3500.00 SF	409.43	hours
1	Taxiways	Markings	Other General Equipment	Diesel	179124.00 SF	8 Hours per 3500.00 SF	409.43	hours
1	Taxiways	Markings	Pickup Truck	Diesel	179124.00 SF	8 Hours per 3500.00 SF	409.43	hours
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	4.50 Acre	4 Hours per 1.00 Acre	18	hours
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	4.50 Acre	8 Hours per 1.00 Acre	36	hours
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	4.50 Acre	4 Hours per 1.00 Acre	18	hours
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	4.50 Acre	4 Hours per 1.00 Acre	18	hours
1	Taxiways	Subbase Placement	Dozer	Diesel	19882.80 SY	8 Hours per 3800.00 SY	41.86	hours
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	6627.60 CY	8 Hours per 180.00 CY	294.56	hours
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	19882.80 SY	8 Hours per 3800.00 SY	41.86	hours
1	Taxiways	Subbase Placement	Roller	Diesel	6627.60 CY	8 Hours per 1300.00 CY	40.79	hours
1	Taxiways	Topsoil Placement	Dozer	Diesel	3618.30 CY	8 Hours per 600.00 CY	48.24	hours
1	Taxiways	Topsoil Placement	Dump Truck	Diesel	3618.30 CY	8 Hours per 600.00 CY	48.24	hours
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	3618.30 CY	8 Hours per 600.00 CY	48.24	hours

Activity: On-Road (Estimated based on engineering experience)

Scenario ID	Project	Equipment	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Size	Activity Rate	Default VMT	User VMT
	1 Taxiways	Cement Mixer	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	1518	118	--	--	--	--	--	--	41422	
	1 Taxiways	Dump Truck Subbase Material	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	1518	118	--	--	--	--	--	--	22092	
	1 Taxiways	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	68.31	129	--	--	--	--	--	--	--	--	264360	

Emission Factor: Non-Road (from NONROAD)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Avg Rated HP	Load Factor	CO (g/hp-hr)	NOx (g/hp-hr)	CO2 (g/hp-hr)	SO2 (g/hp-hr)	PM10 (g/hp-hr)	PM2.5 (g/hp-hr)	VOC Exhaust (g/hp-hr)	VOC Evaporative (g/equipment-day)	
	1 Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	293.535	1.322993	685.9963	0.140192	9.748189	8.968334	61.88836	26.88131	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
	1 Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	1.6976	3.014009	589.3092	0.003468	0.294053	0.270529	0.349775	0.206615	
	1 Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234	
	1 Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	1.104829	1.794373	589.7346	0.003245	0.158031	0.145388	0.20937	0.195896	

1	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	0.522532	3.313194	595.6491	0.003072	0.071525	0.065803	0.167578	0.002633
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	0.436875	1.003913	536.3453	0.002812	0.094305	0.086761	0.16014	0.161771
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	2.379151	4.459281	594.7267	0.004009	0.353137	0.324886	0.472055	0.003483
1	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	0.545055	1.354215	536.363	0.002882	0.080485	0.074046	0.154332	0.607685
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012

1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Grading	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Grading	Grader	Diesel	300	0.59	0.24308	0.754295	536.3826	0.002696	0.037599	0.034591	0.147818	0.147813
1	Taxiways	Grading	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	4.4591	4.594026	588.4291	0.003967	0.417534	0.384131	0.640288	0.013554
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Subbase Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Subbase Placement	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Topsoil Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385

1	Taxiways	Topsoil Placement	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234						
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234						

Emission Factors: On-Road (from MOVES)

Scenario ID	Project Type	Equipment	Fuel Type	Roadway Type	CO(g/mi)	NOx(g/mi)	CO2(g/mi)	SO2(g/mi)	PM10(g/mi)	PM2.5(g/mi)	CH4(g/mi)	N2O(g/mi)	VOC(g/mi)	RV CO(g/veh-day)	RV NOx(g/veh-day)	RV CO2(g/veh-day)	RV SO2(g/veh-day)	RV PM10(g/veh-day)	RV PM2.5(g/veh-day)	RV VOC(g/veh-day)	RP VOC(g/veh-day)
1	Taxiways	Cement Mixer	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Dump Truck		Urban Unrestricted Access																	
1	Taxiways	Subbase Material	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Passenger Car	Gasoline	Urban Unrestricted Access	1.689671	0.102635	348.7876	0.002224	0.005214	0.004801	0.056039	0.003919	0.001767	38.12089	2.442831	438.9424	0.002799	0.047668	0.043893	5.310081	0

Fugitive Emissions (Emission Factors from Various Sources including AP-42)

Scenario ID	Project	Fugitive Type	Variable	Default Values	Units	User Value
1	Taxiways	Concrete Mixing/Batching	V = Volume of asphalt = 0.111 x L x W x 1.25 / 3	8284.5	yd3	
1	Taxiways	Concrete Mixing/Batching	PM10 = 0.037 x V	306.5	lbs	
1	Taxiways	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction	
1	Taxiways	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons	

1 Taxiways	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	5742.2	miles
1 Taxiways	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	157.3	lbs
1 Taxiways	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m3
1 Taxiways	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
1 Taxiways	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	5160	miles
1 Taxiways	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	47.9	lbs
1 Taxiways	Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	4.112	acres
1 Taxiways	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
1 Taxiways	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction
1 Taxiways	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.5	years
1 Taxiways	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0	lbs
1 Taxiways	Soil Handling	u = Wind speed	5	mph
1 Taxiways	Soil Handling	m = Moisture content	0.25	fraction

1	Taxiways	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	4925.9	tons
1	Taxiways	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	101.4	lbs

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ASSUMPTIONS

Emission factors were developed from the following models:

On-Road Vehicles: MOVES 2010b, revised January 2013

Non-Road Equipment: NONROAD2008a, July 2009

In addition to the overall project size dimensions (e.g., Length and width) provided by the user, an additional 10 ft length and 10 ft width is added to account for disturbance areas.

The number of employees is based on the higher of two methods: (1) number of equipment, and (2) multiply the project cost in million by 11.

The average employee travels 30 miles round-trip from home to construction site each day.

The average on-road material delivery round-trip distance per truck is 40 miles per day.

For calculating fugitive, re-entrained PM emissions from on-road and non-road material delivery and handling equipment, a nominal VMT of 5 miles is used for each vehicle per day.

In deriving emission factors from NONROAD, the horsepower for each equipment represents the most popular in each equipment category.

The total length of each modeled scenario is used to define the number of days associated with vehicle/equipment evaporative emissions.

The choice of location and season are assumed to adequately represent differences in fuel characteristics affecting emissions.

Only two seasons (Summer and Winter) are used to represent all seasons.

14 U.S. Counties are used to represent all other counties in the U.S. (all other counties are mapped to the 14).

The default methods assume that all construction equipment use diesel as well as heavy-duty on-road vehicles, while passenger vehicles (including motorcycles) use gasoline.

Fugitive emissions are only modeled for:

- Asphalt drying
- Asphalt storage and batching
- Concrete mixing/batching
- Soil handling
- Unstabilized land and wind erosion
- Material movement (unpaved roads)
- Material movement (paved roads)

On-Road vehicle speeds are not explicitly modeled. The associated emission factors for each modeled vehicle from MOVES represent averages over the driving cycles, the roadway type, and daily temperature variations.

The default equipment hours-of-use data are developed based on the overall size of the project provided by the user and activity rates based on expert engineering judgment.

Under the Construction Activity Type list (Activity Tab), when a choice between asphalt and concrete materials occurs, asphalt is always selected as default. To choose concrete, de-select the aphalt item and select the corresponding concrete item.

Two trips per day were assumed for each on-road material handling trucks.

Only CO2, CH4, and N2O are used to represent greenhouse gas emissions. Other potential greenhouse gases including air conditioning refrigerants were not included.

The following equipment are always modeled using diesel emission factors since gasoline-based emission factors are not available:

- Asphalt Deliveries/Ten Wheelers
- Bulldozer
- Concrete Ready Mix Trucks
- Concrete Ready Trucks Mix for Cores
- Concrete Truck
- Crack Filler (Trailer Mounted)
- Delivery of Tanks (3)
- Distributing Tanker
- Dozer
- Dump Truck
- Dump Truck (12 cy)
- Excavator
- Excavator for U/G Services/Tanks
- Flat Bed or Dump Trucks
- Flatbed Truck
- Grader
- Grout Wheel Truck
- Hoist Equipment with 40 Ton Rig
- Hydralic Hammer
- Hydroseeder
- Line Painting Truck and Sprayer
- Material Deliveries
- Off-Road Truck
- Pickup Truck
- Scraper
- Seed Truck Spreader
- Small Dozer
- Survey Crew Trucks
- Ten Wheelers
- Ten Wheelers- Material Delivery
- Tool Truck
- Tractor Trailer- Equipment Delivery
- Tractor Trailer- Material Delivery
- Tractor Trailer- Steel Deliveries
- Tractor Trailer- Stone Delivery
- Tractor Trailer- Topsoil & Seed
- Tractor Trailer- Truck Delivery
- Tractor Trailer with Boom Hoist- Curbs Del & Place
- Tractor Trailer with Boom Hoist- Delivery
- Tractor Trailers- Rebar Deliveries
- Tractor Trailers Temp Fac.
- Truck for Topsoil & Seed Del&Spread
- Water Truck
- Excavator with Bucket
- Excavator with Hoe Ram

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Airport Construction Emissions Inventory Tool (ACEIT)
Version 1.0
Run Date & Time: 4/9/2019 3:40:07 PM

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STUDY

Study Name

A-26-2

Study Description

Convert former Runway 11-29 to a new parallel Taxiway V (for ADG-III aircraft) and extend south to Taxiway C and north to a new cross Taxiway V7.

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EMISSIONS INVENTORY - SUMMARY

Total Emissions by Year

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Year	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	1.262624	0.979196	0.004328	0.219316	0.043716	0.251998	740.0255	0.020933	0.003354

Total Emissions by Source Categories

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases Emission: Metric Ton

Year	Emission Source	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	NonRoad	0.386356	0.852745	0.003349	0.042686	0.039271	0.200968	604.811	--	--
2020	OnRoad	0.876268	0.126452	0.000979	0.00468	0.004446	0.05103	135.2144	0.020933	0.003354
2020	Fugitive	0	0	0	0.17195	--	0	--	--	--
2020	TOTAL	1.262624	0.979196	0.004328	0.219316	0.043716	0.251998	740.0255	0.020933	0.003354

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EMISSIONS INVENTORY - DETAILS:

Non-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Construction Activity	Equipment	Fuel	HP Average	Load Factor	Hours of Activity	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	
1	2020	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	28.8	0.071755	0.000323	3.43E-05	0.002383	0.002192	0.018951	0.152127	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	2020	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	28.8	0.002317	0.004114	4.73E-06	0.000401	0.000369	0.000507	0.729801	
1	2020	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	38.4	0.003292	0.009415	3.97E-05	0.00038	0.000349	0.002153	7.291624	
1	2020	Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	35.2776	0.001847	0.003	5.43E-06	0.000264	0.000243	0.000378	0.89459	
1	2020	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	35.2776	0.00048	0.003041	2.82E-06	6.56E-05	6.04E-05	0.000154	0.495908	
1	2020	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	146.99	0.012603	0.03604	0.000152	0.001453	0.001337	0.008156	27.91135	
1	2020	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	70.5552	0.002246	0.008199	1.69E-05	0.000541	0.000497	0.00106	2.816628	
1	2020	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	105.8328	0.009074	0.025949	0.000109	0.001046	0.000963	0.005881	20.09617	
1	2020	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	35.2776	0.00192	0.004483	1.14E-05	0.000423	0.000389	0.000687	1.95354	
1	2020	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	35.2776	0.001754	0.004031	1.13E-05	0.000379	0.000348	0.000666	1.953591	
1	2020	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	35.2776	0.001365	0.002558	2.30E-06	0.000203	0.000186	0.000271	0.309463	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	26.176	0.001105	0.002548	8.22E-06	0.000227	0.000209	0.000478	1.449617	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	26.176	0.002244	0.006418	2.71E-05	0.000259	0.000238	0.001477	4.970457	
1	2020	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	26.176	0.000871	0.002089	8.05E-06	0.000161	0.000148	0.000455	1.449666	
1	2020	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	26.176	0.001424	0.003326	8.47E-06	0.000314	0.000289	0.000516	1.449528	
1	2020	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	175	0.43	26.176	0.000833	0.003042	6.27E-06	0.000201	0.000185	0.000413	1.04497	

1	2020	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	600	0.59	26.176	0.002244	0.006418	2.71E-05	0.000259	0.000238	0.001477	4.970457
1	2020	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	100	0.59	26.176	0.002219	0.002224	5.38E-06	0.000267	0.000245	0.000319	0.919869
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	14.54222	0.001247	0.003566	1.50E-05	0.000144	0.000132	0.000834	2.761365
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	14.54222	0.000791	0.001848	4.71E-06	0.000174	0.000161	0.000298	0.805293
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	14.54222	0.000463	0.00169	3.48E-06	0.000111	0.000103	0.000244	0.580539
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	14.54222	0.001247	0.003566	1.50E-05	0.000144	0.000132	0.000834	2.761365
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	14.54222	0.001337	0.001035	1.36E-06	0.000184	0.00017	0.000287	0.211975
1	2020	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	1440	0.123467	0.353072	0.001488	0.014237	0.013098	0.079639	273.4359
1	2020	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	58.796	0.002481	0.005724	1.85E-05	0.00051	0.00047	0.00105	3.256099
1	2020	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	58.796	0.005041	0.014416	6.08E-05	0.000581	0.000535	0.00328	11.16454
1	2020	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	58.796	0.005041	0.014416	6.08E-05	0.000581	0.000535	0.00328	11.16454
1	2020	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	27.13662	0.002301	0.002306	5.57E-06	0.000276	0.000254	0.00033	0.953627
1	2020	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	44.097	0.001861	0.004293	1.39E-05	0.000383	0.000352	0.000792	2.442074
1	2020	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	117.592	0.010082	0.028832	0.000122	0.001163	0.00107	0.006531	22.32908
1	2020	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	35.2776	0.001173	0.002815	1.08E-05	0.000217	0.0002	0.000608	1.953726
1	2020	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	35.2776	0.003025	0.00865	3.65E-05	0.000349	0.000321	0.00198	6.698724

1	2020	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	35.2776	0.002991	0.002998	7.25E-06	0.000359	0.00033	0.000424	1.239715
1	2020	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	44.097	0.009379	0.023303	4.96E-05	0.001385	0.001274	0.002742	8.372807
1	2020	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	16.6011	0.000701	0.001616	5.22E-06	0.000144	0.000133	0.00031	0.919362
1	2020	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	8.977778	0.00077	0.002201	9.28E-06	8.88E-05	8.17E-05	0.000526	1.704755
1	2020	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	35.91111	0.003079	0.008805	3.71E-05	0.000355	0.000327	0.002015	6.819019
1	2020	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	35.91111	0.001143	0.004173	8.60E-06	0.000275	0.000253	0.000555	1.433604
1	2020	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	35.91111	0.003079	0.008805	3.71E-05	0.000355	0.000327	0.002015	6.819019
1	2020	Taxiways	Fencing	Skid Steer Loader	Diesel	75	0.21	35.91111	0.002683	0.002914	2.62E-06	0.000392	0.000361	0.000573	0.392222
1	2020	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	35.91111	0.0033	0.002555	3.36E-06	0.000456	0.000419	0.000594	0.52346
1	2020	Taxiways	Grading	Dozer	Diesel	175	0.59	11.6221	0.00049	0.001131	3.65E-06	0.000101	9.28E-05	0.000223	0.643627
1	2020	Taxiways	Grading	Grader	Diesel	300	0.59	11.6221	0.000551	0.00171	6.11E-06	8.53E-05	7.84E-05	0.000356	1.103399
1	2020	Taxiways	Grading	Roller	Diesel	100	0.59	11.6221	0.000985	0.000988	2.39E-06	0.000118	0.000109	0.000152	0.40842
1	2020	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	10.4704	0.000898	0.002567	1.08E-05	0.000104	9.52E-05	0.000609	1.988183
1	2020	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	10.4704	0.000898	0.002567	1.08E-05	0.000104	9.52E-05	0.000609	1.988183
1	2020	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	12.34667	0.001059	0.003027	1.28E-05	0.000122	0.000112	0.000712	2.34446
1	2020	Taxiways	Lighting	Loader	Diesel	175	0.59	12.34667	0.000672	0.001569	4.00E-06	0.000148	0.000136	0.000257	0.683712
1	2020	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	12.34667	0.000393	0.001435	2.96E-06	9.46E-05	8.70E-05	0.000212	0.49289
1	2020	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	12.34667	0.001059	0.003027	1.28E-05	0.000122	0.000112	0.000712	2.34446
1	2020	Taxiways	Lighting	Skid Steer Loader	Diesel	75	0.21	12.34667	0.000923	0.001002	8.99E-07	0.000135	0.000124	0.00023	0.134851
1	2020	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	12.34667	0.001135	0.000878	1.15E-06	0.000157	0.000144	0.000256	0.179972
1	2020	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	217.9291	0.018685	0.053434	0.000225	0.002155	0.001982	0.012078	41.3817
1	2020	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	217.9291	0.006936	0.025324	5.22E-05	0.00167	0.001536	0.003207	8.69993
1	2020	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	217.9291	0.018685	0.053434	0.000225	0.002155	0.001982	0.012078	41.3817
1	2020	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	9.6	0.000306	0.001116	2.30E-06	7.36E-05	6.77E-05	0.000172	0.383241

1	2020	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel		600	0.59	19.2	0.001646	0.004708	1.98E-05	0.00019	0.000175	0.001091	3.645812										
1	2020	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel		11	0.43	9.6	0.000223	0.00023	1.99E-07	2.09E-05	1.92E-05	3.40E-05	0.026719										
1	2020	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel		100	0.21	9.6	0.000882	0.000683	8.98E-07	0.000122	0.000112	0.000216	0.139935										
1	2020	Taxiways	Subbase Placement	Dozer	Diesel		175	0.59	22.28042	0.00094	0.002169	7.00E-06	0.000193	0.000178	0.00041	1.233881										
1	2020	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel		600	0.59	156.7867	0.013443	0.038442	0.000162	0.00155	0.001426	0.008698	29.7716										
1	2020	Taxiways	Subbase Placement	Pickup Truck	Diesel		600	0.59	22.28042	0.00191	0.005463	2.30E-05	0.00022	0.000203	0.001262	4.230741										
1	2020	Taxiways	Subbase Placement	Roller	Diesel		100	0.59	21.70892	0.001841	0.001845	4.46E-06	0.000221	0.000203	0.000268	0.762889										
1	2020	Taxiways	Topsoil Placement	Dozer	Diesel		175	0.59	25.82667	0.00109	0.002514	8.11E-06	0.000224	0.000206	0.000472	1.430271										
1	2020	Taxiways	Topsoil Placement	Dump Truck	Diesel		600	0.59	25.82667	0.002214	0.006332	2.67E-05	0.000255	0.000235	0.001458	4.904124										
1	2020	Taxiways	Topsoil Placement	Pickup Truck	Diesel		600	0.59	25.82667	0.002214	0.006332	2.67E-05	0.000255	0.000235	0.001458	4.904124										

On-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Equipment	Equipment Category	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Distance for fugitive PM	Number of Vehicles	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Rate	VMT	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O

1	2020	Taxiways	Cement Mixer	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	3	--		129	808	118	--	--	--	--	--	22048	0.027203	0.048603	0.000213	0.001802	0.001748	0.000425	27.63731	0.004317	0.001535
1	2020	Taxiways	Dump Truck Subbase Material	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	2	--		129	808	118	--	--	--	--	--	11759	0.015562	0.026025	0.000114	0.000962	0.000933	0.000272	14.75265	0.002302	0.000818
1	2020	Taxiways	Passenger Car	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	--		66	66	129	--	--	--	--	--	--	--	255420	0.833503	0.051823	0.000652	0.001915	0.001764	0.050333	92.82448	0.014314	0.001001

Fugitive Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Scenario ID	Year	Project	Fugitive Source Type	Number of Months	CO	NOx	SO2	PM10	VOC
1	2020	Taxiways	Concrete Mixing/Batching	6	0	0	0	0.0816	0
1	2020	Taxiways	Material Movement (Paved Roads)	6	0	0	0	0.01495	0
1	2020	Taxiways	Material Movement (Unpaved Roads)	6	0	0	0	0.0484	0
1	2020	Taxiways	Soil Handling	6	0	0	0	0.027	0
1	2020	Taxiways	Unstabilized Land and Wind Erosion	6	0	0	0	1.92E-08	0

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Scenarios

Scenario ID	Year	Number of Months	Season	Average Daily Temp (degF)	Max Daily Temp Change (degF)	Min Daily Temp Change (degF)
1	2020	6	Winter	50 < T <= 80	10 <= Change in T < 20	10 <= Change in T < 20
2						

Project
Final
Selections

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	
1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	

1	Taxiways	Concrete Placement	Air Compressor	Diesel
1	Taxiways	Concrete Placement	Concrete Saws	Diesel
1	Taxiways	Concrete Placement	Concrete Truck	Diesel
1	Taxiways	Concrete Placement	Other General Equipment	Diesel
1	Taxiways	Concrete Placement	Pickup Truck	Diesel
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Dozer	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Dump Truck	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Excavator	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Loader	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Other General Equipment	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Pickup Truck	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Roller	Diesel
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Loader	Diesel

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Dust Control	Water Truck	Diesel
1	Taxiways	Excavation (Borrow)	Dozer	Diesel
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel
1	Taxiways	Excavation (Borrow)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel
1	Taxiways	Fencing	Concrete Truck	Diesel
1	Taxiways	Fencing	Dump Truck	Diesel
1	Taxiways	Fencing	Other General Equipment	Diesel

1	Taxiways	Fencing	Pickup Truck	Diesel
1	Taxiways	Fencing	Skid Steer Loader	Diesel
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Grading	Dozer	Diesel
1	Taxiways	Grading	Grader	Diesel
1	Taxiways	Grading	Roller	Diesel
1	Taxiways	Hydroseeding	Hydroseeder	Diesel
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel
1	Taxiways	Lighting	Dump Truck	Diesel
1	Taxiways	Lighting	Loader	Diesel
1	Taxiways	Lighting	Other General Equipment	Diesel
1	Taxiways	Lighting	Pickup Truck	Diesel
1	Taxiways	Lighting	Skid Steer Loader	Diesel
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Markings	Flatbed Truck	Diesel
1	Taxiways	Markings	Other General Equipment	Diesel
1	Taxiways	Markings	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Subbase Placement	Dozer	Diesel
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel
1	Taxiways	Subbase Placement	Pickup Truck	Diesel

1	Taxiways	Subbase Placement	Roller		Diesel
1	Taxiways	Topsoil Placement	Dozer		Diesel
1	Taxiways	Topsoil Placement	Dump Truck		Diesel
1	Taxiways	Topsoil Placement	Pickup Truck		Diesel

Overall Size

Scenario ID	Project	Project Size Questions	User Input	Unit
1	Taxiways	What is the estimated cost of the project?	3.31	$ Million(s)
1	Taxiways	What is the maximum length of the taxiway (L) in feet?	808	Feet
1	Taxiways	What is the maximum width of the taxiway (W) in feet?	118	Feet

Size Detail (Estimated based on engineering experience)

ScenarioID	Project	Construction Activity	Default Activity Size	Unit	User Activity Size
1	Taxiways	Clearing and Grubbing	2.4	Acres	
1	Taxiways	Concrete Placement	4409.7	Cubic Yards	

1	Taxiways	Drainage - 24 inch SICPP			818			Linear Feet	
1	Taxiways	Drainage - 6 inch Perforated Underdrain			1636			Linear Feet	
1	Taxiways	Dust Control			180			Days	
1	Taxiways	Excavation (Borrow)			4409.7			Cubic Yards	
1	Taxiways	Excavation (Cut to Fill)			4409.7			Cubic Yards	
1	Taxiways	Excavation (Topsoil Stripping)			10583.2			Square Yards	
1	Taxiways	Fencing			808			Linear Feet	
1	Taxiways	Grading			11622.1			Square Yards	
1	Taxiways	Hydroseeding			104704			Square Feet	
1	Taxiways	Lighting			1852			Linear Feet	
1	Taxiways	Markings			95344			Square Feet	
1	Taxiways	Soil Erosion/Sediment Control			2.4			Acres	
1	Taxiways	Subbase Placement			10583.2			Square Yards	
1	Taxiways	Subbase Placement			3527.7			Cubic Yards	
1	Taxiways	Topsoil Placement			1937			Cubic Yards	

Activity: Non-Road (Estimated based on engineering experience)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Activity Size	Activity Rate	Default Activity	Activity Unit	User Activity Data

1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	2.40 Acre	12 Hours per 1.00 Acre	28.8	hours
1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	2.40 Acre	12 Hours per 1.00 Acre	28.8	hours
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	2.40 Acre	16 Hours per 1.00 Acre	38.4	hours
1	Taxiways	Concrete Placement	Air Compressor	Diesel	4409.70 CY	8 Hours per 1000.00 CY	35.28	hours
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	4409.70 CY	8 Hours per 1000.00 CY	35.28	hours
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	4409.70 CY	8 Hours per 240.00 CY	146.99	hours
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	4409.70 CY	16 Hours per 1000.00 CY	70.56	hours
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	4409.70 CY	24 Hours per 1000.00 CY	105.83	hours
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	4409.70 CY	8 Hours per 1000.00 CY	35.28	hours
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	4409.70 CY	8 Hours per 1000.00 CY	35.28	hours
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	4409.70 CY	8 Hours per 1000.00 CY	35.28	hours
1	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	818.00 LF	250.00 LF	26.18	hours
1	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	818.00 LF	8 Hours per 250.00 LF	26.18	hours
1	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	818.00 LF	8 Hours per 250.00 LF	26.18	hours
1	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	818.00 LF	8 Hours per 250.00 LF	26.18	hours
1	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	818.00 LF	8 Hours per 250.00 LF	26.18	hours

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1	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	818.00 LF	8 Hours per 250.00 LF	26.18	hours
1	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	818.00 LF	8 Hours per 250.00 LF	26.18	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	1636.00 LF	8 Hours per 900.00 LF	14.54	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	1636.00 LF	8 Hours per 900.00 LF	14.54	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	1636.00 LF	8 Hours per 900.00 LF	14.54	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	1636.00 LF	8 Hours per 900.00 LF	14.54	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	1636.00 LF	8 Hours per 900.00 LF	14.54	hours
1	Taxiways	Dust Control	Water Truck	Diesel	180.00 Day	8 Hours per 1.00 Day	1440	hours
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	4409.70 CY	8 Hours per 600.00 CY	58.8	hours
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	4409.70 CY	8 Hours per 600.00 CY	58.8	hours
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	4409.70 CY	8 Hours per 600.00 CY	58.8	hours
1	Taxiways	Excavation (Borrow)	Roller	Diesel	4409.70 CY	8 Hours per 1300.00 CY	27.14	hours
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	4409.70 CY	8 Hours per 800.00 CY	44.1	hours
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	4409.70 CY	8 Hours per 300.00 CY	117.59	hours
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	4409.70 CY	8 Hours per 1000.00 CY	35.28	hours

1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	4409.70 CY	8 Hours per 1000.00 CY	35.28 hours
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	4409.70 CY	8 Hours per 1000.00 CY	35.28 hours
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	4409.70 CY	8 Hours per 800.00 CY	44.1 hours
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	10583.20 SY	8 Hours per 5100.00 SY	16.6 hours
1	Taxiways	Fencing	Concrete Truck	Diesel	808.00 LF	2 Hours per 180.00 LF	8.98 hours
1	Taxiways	Fencing	Dump Truck	Diesel	808.00 LF	8 Hours per 180.00 LF	35.91 hours
1	Taxiways	Fencing	Other General Equipment	Diesel	808.00 LF	8 Hours per 180.00 LF	35.91 hours
1	Taxiways	Fencing	Pickup Truck	Diesel	808.00 LF	8 Hours per 180.00 LF	35.91 hours
1	Taxiways	Fencing	Skid Steer Loader Tractors/Loader/Backhoe	Diesel	808.00 LF	8 Hours per 180.00 LF	35.91 hours
1	Taxiways	Grading	Dozer	Diesel	11622.10 SY	8 Hours per 8000.00 SY	11.62 hours
1	Taxiways	Grading	Grader	Diesel	11622.10 SY	8 Hours per 8000.00 SY	11.62 hours
1	Taxiways	Grading	Roller	Diesel	11622.10 SY	8 Hours per 8000.00 SY	11.62 hours
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	104704.00 SF	8 Hours per 80000.00 SF	10.47 hours
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	104704.00 SF	8 Hours per 80000.00 SF	10.47 hours
1	Taxiways	Lighting	Dump Truck	Diesel	1852.00 LF	8 Hours per 1200.00 LF	12.35 hours
1	Taxiways	Lighting	Loader	Diesel	1852.00 LF	8 Hours per 1200.00 LF	12.35 hours

1	Taxiways	Lighting	Other General Equipment	Diesel	1852.00 LF	8 Hours per 1200.00 LF	12.35	hours
1	Taxiways	Lighting	Pickup Truck	Diesel	1852.00 LF	8 Hours per 1200.00 LF	12.35	hours
1	Taxiways	Lighting	Skid Steer Loader	Diesel	1852.00 LF	8 Hours per 1200.00 LF	12.35	hours
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	1852.00 LF	8 Hours per 1200.00 LF	12.35	hours
1	Taxiways	Markings	Flatbed Truck	Diesel	95344.00 SF	8 Hours per 3500.00 SF	217.93	hours
1	Taxiways	Markings	Other General Equipment	Diesel	95344.00 SF	8 Hours per 3500.00 SF	217.93	hours
1	Taxiways	Markings	Pickup Truck	Diesel	95344.00 SF	8 Hours per 3500.00 SF	217.93	hours
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	2.40 Acre	4 Hours per 1.00 Acre	9.6	hours
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	2.40 Acre	8 Hours per 1.00 Acre	19.2	hours
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	2.40 Acre	4 Hours per 1.00 Acre	9.6	hours
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	2.40 Acre	4 Hours per 1.00 Acre	9.6	hours
1	Taxiways	Subbase Placement	Dozer	Diesel	10583.20 SY	8 Hours per 3800.00 SY	22.28	hours
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	3527.70 CY	8 Hours per 180.00 CY	156.79	hours
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	10583.20 SY	8 Hours per 3800.00 SY	22.28	hours
1	Taxiways	Subbase Placement	Roller	Diesel	3527.70 CY	8 Hours per 1300.00 CY	21.71	hours
1	Taxiways	Topsoil Placement	Dozer	Diesel	1937.00 CY	8 Hours per 600.00 CY	25.83	hours

1	Taxiways	Topsoil Placement	Dump Truck	Diesel	1937.00 CY	8 Hours per 600.00 CY	25.83	hours	
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	1937.00 CY	8 Hours per 600.00 CY	25.83	hours	

Activity: On-Road (Estimated based on engineering experience)

Scenario ID	Project	Equipment	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Size	Activity Rate	Default VMT	User VMT
1	Taxiways	Cement Mixer	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	808	118	--	--	--	--	--	--	22048	
1	Taxiways	Dump Truck Subbase Material	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	808	118	--	--	--	--	--	--	11759	
1	Taxiways	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	66	129	--	--	--	--	--	--	--	--	255420	

Emission Factor: Non-Road (from NONROAD)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Avg Rated HP	Load Factor	CO (g/hp-hr)	NOx (g/hp-hr)	CO2 (g/hp-hr)	SO2 (g/hp-hr)	PM10 (g/hp-hr)	PM2.5 (g/hp-hr)	VOC Exhaust (g/hp-hr)	VOC Evaporative (g/equipment-day)	
1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	293.535	1.322993	685.9963	0.140192	9.748189	8.968334	61.88836	26.88131	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***

1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	1.6976	3.014009	589.3092	0.003468	0.294053	0.270529	0.349775	0.206615
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	1.104829	1.794373	589.7346	0.003245	0.158031	0.145388	0.20937	0.195896
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	0.522532	3.313194	595.6491	0.003072	0.071525	0.065803	0.167578	0.002633
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	0.436875	1.003913	536.3453	0.002812	0.094305	0.086761	0.16014	0.161771
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	2.379151	4.459281	594.7267	0.004009	0.353137	0.324886	0.472055	0.003483
1	Taxiways	SICPP Drainage - 24 inch	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	SICPP Drainage - 24 inch	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	SICPP Drainage - 24 inch	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	SICPP Drainage - 24 inch	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	SICPP Drainage - 24 inch	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	SICPP Drainage - 24 inch	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	SICPP Drainage - 24 inch	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	0.545055	1.354215	536.363	0.002882	0.080485	0.074046	0.154332	0.607685
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

1	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Grading	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Grading	Grader	Diesel	300	0.59	0.24308	0.754295	536.3826	0.002696	0.037599	0.034591	0.147818	0.147813
1	Taxiways	Grading	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	4.4591	4.594026	588.4291	0.003967	0.417534	0.384131	0.640288	0.013554
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Subbase Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385

1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Subbase Placement	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296								
1	Taxiways	Topsoil Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385								
1	Taxiways	Topsoil Placement	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								

Emission Factors: On-Road (from MOVES)

Scenario ID	Project Type	Equipment	Fuel Type	Roadway Type	CO(g/mi)	NOx(g/mi)	CO2(g/mi)	SO2(g/mi)	PM10(g/mi)	PM2.5(g/mi)	CH4(g/mi)	N2O(g/mi)	VOC(g/mi)	RV CO(g/veh-day)	RV NOx(g/veh-day)	RV CO2(g/veh-day)	RV SO2(g/veh-day)	RV PM10(g/veh-day)	RV PM2.5(g/veh-day)	RV VOC(g/veh-day)	RP VOC(g/veh-day)
1	Taxiways	Cement Mixer	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Dump Truck Subbase Material	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Passenger Car	Gasoline	Urban Unrestricted Access	1.689671	0.102635	348.7876	0.002224	0.005214	0.004801	0.056039	0.003919	0.001767	38.12089	2.442831	438.9424	0.002799	0.047668	0.043893	5.310081	0

Fugitive Emissions (Emission Factors from Various Sources including AP-42)

Scenario ID	Project	Fugitive Type	Variable	Default Values	Units	User Value
1	Taxiways	Concrete Mixing/Batching	V = Volume of asphalt = 0.111 x L x W x 1.25 / 3	4409.7	yd3	

1	Taxiways	Concrete Mixing/Batching	PM10 = 0.037 x V	163.2	lbs
1	Taxiways	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
1	Taxiways	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
1	Taxiways	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	3536	miles
1	Taxiways	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	96.8	lbs
1	Taxiways	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m3
1	Taxiways	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
1	Taxiways	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	3225	miles
1	Taxiways	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	29.9	lbs
1	Taxiways	Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	2.189	acres
1	Taxiways	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
1	Taxiways	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction

1	Taxiways	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.5 years
1	Taxiways	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0 lbs
1	Taxiways	Soil Handling	u = Wind speed	5 mph
1	Taxiways	Soil Handling	m = Moisture content	0.25 fraction
1	Taxiways	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	2622 tons
1	Taxiways	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	54 lbs

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ASSUMPTIONS

Emission factors were developed from the following models:

On-Road Vehicles: MOVES 2010b, revised January 2013

Non-Road Equipment: NONROAD2008a, July 2009

In addition to the overall project size dimensions (e.g., Length and width) provided by the user, an additional 10 ft length and 10 ft width is added to account for disturbance areas.

The number of employees is based on the higher of two methods: (1) number of equipment, and (2) multiply the project cost in million by 11.

The average employee travels 30 miles round-trip from home to construction site each day.

The average on-road material delivery round-trip distance per truck is 40 miles per day.

For calculating fugitive, re-entrained PM emissions from on-road and non-road material delivery and handling equipment, a nominal VMT of 5 miles is used for each vehicle per day.

In deriving emission factors from NONROAD, the horsepower for each equipment represents the most popular in each equipment category.

The total length of each modeled scenario is used to define the number of days associated with vehicle/equipment evaporative emissions.

The choice of location and season are assumed to adequately represent differences in fuel characteristics affecting emissions.

Only two seasons (Summer and Winter) are used to represent all seasons.

14 U.S. Counties are used to represent all other counties in the U.S. (all other counties are mapped to the 14).

The default methods assume that all construction equipment use diesel as well as heavy-duty on-road vehicles, while passenger vehicles (including motorcycles) use gasoline.

Fugitive emissions are only modeled for:

Asphalt drying
Asphalt storage and batching
Concrete mixing/batching
Soil handling
Unstabilized land and wind erosion
Material movement (unpaved roads)
Material movement (paved roads)

On-Road vehicle speeds are not explicitly modeled. The associated emission factors for each modeled vehicle from MOVES represent averages over the driving cycles, the roadway type, and daily temperature variations.

The default equipment hours-of-use data are developed based on the overall size of the project provided by the user and activity rates based on expert engineering judgment.

Under the Construction Activity Type list (Activity Tab), when a choice between asphalt and concrete materials occurs, asphalt is always selected as default. To choose concrete, de-select the aphalt item and select the corresponding concrete item.

Two trips per day were assumed for each on-road material handling trucks.

Only CO2, CH4, and N2O are used to represent greenhouse gas emissions. Other potential greenhouse gases including air conditioning refrigerants were not included.

The following equipment are always modeled using diesel emission factors since gasoline-based emission factors are not available:
Asphalt Deliveries/Ten Wheelers
Bulldozer
Concrete Ready Mix Trucks
Concrete Ready Trucks Mix for Cores
Concrete Truck
Crack Filler (Trailer Mounted)
Delivery of Tanks (3)
Distributing Tanker
Dozer
Dump Truck
Dump Truck (12 cy)
Excavator
Excavator for U/G Services/Tanks
Flat Bed or Dump Trucks
Flatbed Truck
Grader
Grout Wheel Truck
Hoist Equipment with 40 Ton Rig
Hydralic Hammer
Hydroseeder
Line Painting Truck and Sprayer
Material Deliveries
Off-Road Truck
Pickup Truck
Scraper
Seed Truck Spreader
Small Dozer
Survey Crew Trucks
Ten Wheelers
Ten Wheelers- Material Delivery
Tool Truck
Tractor Trailer- Equipment Delivery
Tractor Trailer- Material Delivery
Tractor Trailer- Steel Deliveries
Tractor Trailer- Stone Delivery
Tractor Trailer- Topsoil & Seed
Tractor Trailer- Truck Delivery
Tractor Trailer with Boom Hoist- Curbs Del & Place
Tractor Trailer with Boom Hoist- Delivery
Tractor Trailers- Rebar Deliveries
Tractor Trailers Temp Fac.
Truck for Topsoil & Seed Del&Spread
Water Truck
Excavator with Bucket
Excavator with Hoe Ram

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Airport Construction Emissions Inventory Tool (ACEIT)
Version 1.0
Run Date & Time: 4/9/2019 4:08:44 PM

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STUDY

Study Name

A-27

Study Description

Construct new cross Taxiway V7 from north end of new Taxiway V to Taxiway W (for ADG-III aircraft).

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EMISSION
S
INVENTOR
Y -
SUMMAR
Y

Total
Emissions
by Year

Units for
Non-
Greenhou
se Gases
Emission:
Short Ton

Units for
Greenhou
se Gases
(CO2,
CH4, and
N2O)
Emission:
Metric
Ton

Year	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	1.012523	0.504427	0.002517	0.064213	0.019877	0.155917	430.7475	0.015426	0.001396

Total
Emissions
by Source
Categories

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases Emission: Metric Ton

Year	Emission Source	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	NonRoad	0.168779	0.439764	0.00181	0.019195	0.01766	0.105335	330.7629	--	--
2020	OnRoad	0.843745	0.064663	0.000708	0.002383	0.002217	0.050582	99.98452	0.015426	0.001396
2020	Fugitive	0	0	0	0.042635	--	0	--	--	--
2020	TOTAL	1.012523	0.504427	0.002517	0.064213	0.019877	0.155917	430.7475	0.015426	0.001396

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EMISSIONS INVENTORY - DETAILS:

Non-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Construction Activity	Equipment	Fuel	HP Average	Load Factor	Hours of Activity	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	
1	2020	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	4.8	0.011959	5.39E-05	5.71E-06	0.000397	0.000365	0.006344	0.025354	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	2020	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	4.8	0.000386	0.000686	7.89E-07	6.69E-05	6.16E-05	0.000109	0.121633	
1	2020	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	6.4	0.000549	0.001569	6.61E-06	6.33E-05	5.82E-05	0.000384	1.215271	
1	2020	Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	5.9288	0.00031	0.000504	9.12E-07	4.44E-05	4.09E-05	8.67E-05	0.150346	
1	2020	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	5.9288	8.06E-05	0.000511	4.74E-07	1.10E-05	1.01E-05	2.62E-05	0.083343	
1	2020	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	24.70333	0.002118	0.006057	2.55E-05	0.000244	0.000225	0.001395	4.690818	
1	2020	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	11.8576	0.000377	0.001378	2.84E-06	9.09E-05	8.36E-05	0.000205	0.473366	
1	2020	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	17.7864	0.001525	0.004361	1.84E-05	0.000176	0.000162	0.001013	3.377389	
1	2020	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	5.9288	0.000323	0.000753	1.92E-06	7.11E-05	6.54E-05	0.000136	0.328315	
1	2020	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	5.9288	0.000295	0.000677	1.90E-06	6.36E-05	5.85E-05	0.000131	0.328323	
1	2020	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	5.9288	0.000229	0.00043	3.86E-07	3.40E-05	3.13E-05	4.60E-05	0.052009	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	5.024	0.000212	0.000489	1.58E-06	4.36E-05	4.01E-05	0.000108	0.278227	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	5.024	0.000431	0.001232	5.19E-06	4.97E-05	4.57E-05	0.000307	0.953988	
1	2020	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	5.024	0.000167	0.000401	1.54E-06	3.09E-05	2.85E-05	9.92E-05	0.278237	
1	2020	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	5.024	0.000273	0.000638	1.63E-06	6.03E-05	5.55E-05	0.00012	0.27821	
1	2020	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	175	0.43	5.024	0.00016	0.000584	1.20E-06	3.85E-05	3.54E-05	0.000105	0.200563	

1	2020	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	600	0.59	5.024	0.000431	0.001232	5.19E-06	4.97E-05	4.57E-05	0.000307	0.953988
1	2020	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	100	0.59	5.024	0.000426	0.000427	1.03E-06	5.12E-05	4.71E-05	7.65E-05	0.176552
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	2.791111	0.000239	0.000684	2.88E-06	2.76E-05	2.54E-05	0.000184	0.529993
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	2.791111	0.000152	0.000355	9.03E-07	3.35E-05	3.08E-05	7.77E-05	0.154561
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	2.791111	8.88E-05	0.000324	6.69E-07	2.14E-05	1.97E-05	7.25E-05	0.111424
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	2.791111	0.000239	0.000684	2.88E-06	2.76E-05	2.54E-05	0.000184	0.529993
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	2.791111	0.000257	0.000199	2.61E-06	3.54E-05	3.26E-05	0.000119	0.040685
1	2020	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	1440	0.123467	0.353072	0.001488	0.014237	0.013098	0.079639	273.4359
1	2020	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	9.881333	0.000417	0.000962	3.10E-06	8.58E-05	7.89E-05	0.000193	0.547224
1	2020	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	9.881333	0.000847	0.002423	1.02E-05	9.77E-05	8.99E-05	0.000576	1.876327
1	2020	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	9.881333	0.000847	0.002423	1.02E-05	9.77E-05	8.99E-05	0.000576	1.876327
1	2020	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	4.560615	0.000387	0.000388	9.37E-07	4.64E-05	4.27E-05	7.12E-05	0.160268
1	2020	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	7.411	0.000313	0.000721	2.33E-06	6.43E-05	5.92E-05	0.000149	0.410418
1	2020	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	19.76267	0.001694	0.004846	2.04E-05	0.000195	0.00018	0.001122	3.752655
1	2020	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	5.9288	0.000197	0.000473	1.82E-06	3.65E-05	3.36E-05	0.000114	0.328346
1	2020	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	5.9288	0.000508	0.001454	6.13E-06	5.86E-05	5.39E-05	0.000358	1.125796

1	2020	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	5.9288	0.000503	0.000504	1.22E-06	6.04E-05	5.55E-05	8.69E-05	0.208348
1	2020	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	7.411	0.001576	0.003916	8.34E-06	0.000233	0.000214	0.000533	1.407145
1	2020	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	2.789961	0.000118	0.000272	8.77E-07	2.42E-05	2.23E-05	6.86E-05	0.154507
1	2020	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	1.633333	0.00014	0.0004	1.69E-06	1.61E-05	1.49E-05	0.00012	0.310147
1	2020	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	6.533333	0.00056	0.001602	6.75E-06	6.46E-05	5.94E-05	0.000391	1.240589
1	2020	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	6.533333	0.000208	0.000759	1.57E-06	5.01E-05	4.61E-05	0.000127	0.260817
1	2020	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	6.533333	0.00056	0.001602	6.75E-06	6.46E-05	5.94E-05	0.000391	1.240589
1	2020	Taxiways	Fencing	Skid Steer Loader	Diesel	75	0.21	6.533333	0.000488	0.00053	4.76E-07	7.13E-05	6.56E-05	0.000146	0.071357
1	2020	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	6.533333	0.0006	0.000465	6.11E-07	8.29E-05	7.62E-05	0.000172	0.095233
1	2020	Taxiways	Grading	Dozer	Diesel	175	0.59	2.0738	8.75E-05	0.000202	6.52E-07	1.80E-05	1.66E-05	5.60E-05	0.114846
1	2020	Taxiways	Grading	Grader	Diesel	300	0.59	2.0738	9.84E-05	0.000305	1.09E-06	1.52E-05	1.40E-05	8.08E-05	0.196886
1	2020	Taxiways	Grading	Roller	Diesel	100	0.59	2.0738	0.000176	0.000176	4.26E-07	2.11E-05	1.94E-05	4.26E-05	0.072877
1	2020	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	1.8683	0.00016	0.000458	1.93E-06	1.85E-05	1.70E-05	0.000133	0.354764
1	2020	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	1.8683	0.00016	0.000458	1.93E-06	1.85E-05	1.70E-05	0.000133	0.354764
1	2020	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	3.413333	0.000293	0.000837	3.53E-06	3.37E-05	3.10E-05	0.000218	0.648144
1	2020	Taxiways	Lighting	Loader	Diesel	175	0.59	3.413333	0.000186	0.000434	1.10E-06	4.10E-05	3.77E-05	8.93E-05	0.189018
1	2020	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	3.413333	0.000109	0.000397	8.18E-07	2.62E-05	2.41E-05	8.16E-05	0.136263
1	2020	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	3.413333	0.000293	0.000837	3.53E-06	3.37E-05	3.10E-05	0.000218	0.648144
1	2020	Taxiways	Lighting	Skid Steer Loader	Diesel	75	0.21	3.413333	0.000255	0.000277	2.49E-07	3.73E-05	3.43E-05	0.000101	0.037281
1	2020	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	3.413333	0.000314	0.000243	3.19E-07	4.33E-05	3.98E-05	0.000128	0.049755
1	2020	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	36.624	0.00314	0.00898	3.78E-05	0.000362	0.000333	0.002054	6.954387
1	2020	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	36.624	0.001166	0.004256	8.77E-06	0.000281	0.000258	0.000566	1.462063
1	2020	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	36.624	0.00314	0.00898	3.78E-05	0.000362	0.000333	0.002054	6.954387
1	2020	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	1.6	5.09E-05	0.000186	3.83E-07	1.23E-05	1.13E-05	5.52E-05	0.063873

1	2020	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel		600	0.59	3.2	0.000274	0.000785	3.31E-06	3.16E-05	2.91E-05	0.000207	0.607635										
1	2020	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel		11	0.43	1.6	3.72E-05	3.83E-05	3.31E-08	3.48E-06	3.20E-06	7.27E-06	0.004453										
1	2020	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel		100	0.21	1.6	0.000147	0.000114	1.50E-07	2.03E-05	1.87E-05	0.000102	0.023322										
1	2020	Taxiways	Subbase Placement	Dozer	Diesel		175	0.59	3.744421	0.000158	0.000365	1.18E-06	3.25E-05	2.99E-05	8.53E-05	0.207365										
1	2020	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel		600	0.59	26.35111	0.002259	0.006461	2.72E-05	0.000261	0.00024	0.001487	5.003708										
1	2020	Taxiways	Subbase Placement	Pickup Truck	Diesel		600	0.59	3.744421	0.000321	0.000918	3.87E-06	3.70E-05	3.41E-05	0.000237	0.711013										
1	2020	Taxiways	Subbase Placement	Roller	Diesel		100	0.59	3.648615	0.000309	0.00031	7.50E-07	3.72E-05	3.42E-05	6.07E-05	0.128219										
1	2020	Taxiways	Topsoil Placement	Dozer	Diesel		175	0.59	4.608	0.000194	0.000449	1.45E-06	4.00E-05	3.68E-05	0.0001	0.255189										
1	2020	Taxiways	Topsoil Placement	Dump Truck	Diesel		600	0.59	4.608	0.000395	0.00113	4.76E-06	4.56E-05	4.19E-05	0.000285	0.874995										
1	2020	Taxiways	Topsoil Placement	Pickup Truck	Diesel		600	0.59	4.608	0.000395	0.00113	4.76E-06	4.56E-05	4.19E-05	0.000285	0.874995										

On-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO_2, CH_4, and N_2O) Emission: Metric Ton

Scenario ID	Year	Project	Equipment	Equipment Category	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Distance for fugitive PM	Number of Vehicles	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Rate	VMT	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O

1	2020	Taxiways	Cement Mixer	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	1	--		129	147	109	--	--	--	--	--	3705	0.005878	0.008295	3.59E-05	0.000304	0.000295	0.000128	4.65995	0.000725	0.000258
1	2020	Taxiways	Dump Truck Subbase Material	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	1	--		129	147	109	--	--	--	--	--	1976	0.004364	0.004544	1.93E-05	0.000163	0.000159	0.000121	2.500091	0.000387	0.000138
1	2020	Taxiways	Passenger Car	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	--		66	66	129	--	--	--	--	--	--	--	255420	0.833503	0.051823	0.000652	0.001915	0.001764	0.050333	92.82448	0.014314	0.001001

Fugitive Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Scenario ID	Year	Project	Fugitive Source Type	Number of Months	CO	NOx	SO2	PM10	VOC
1	2020	Taxiways	Concrete Mixing/Batching	6	0	0	0	0.0137	0
1	2020	Taxiways	Material Movement (Paved Roads)	6	0	0	0	0.006	0
1	2020	Taxiways	Material Movement (Unpaved Roads)	6	0	0	0	0.0184	0
1	2020	Taxiways	Soil Handling	6	0	0	0	0.004535	0
1	2020	Taxiways	Unstabilized Land and Wind Erosion	6	0	0	0	3.23E-09	0

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Scenarios

Scenario ID	Year	Number of Months	Season	Average Daily Temp (degF)	Max Daily Temp Change (degF)	Min Daily Temp Change (degF)
1	2020	6	Winter	50 < T <= 80	10 <= Change in T < 20	10 <= Change in T < 20
2						

Project
Final
Selections

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	
1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	

1	Taxiways	Concrete Placement	Air Compressor	Diesel
1	Taxiways	Concrete Placement	Concrete Saws	Diesel
1	Taxiways	Concrete Placement	Concrete Truck	Diesel
1	Taxiways	Concrete Placement	Other General Equipment	Diesel
1	Taxiways	Concrete Placement	Pickup Truck	Diesel
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Dozer	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Dump Truck	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Excavator	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Loader	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Other General Equipment	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Pickup Truck	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Roller	Diesel
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Loader	Diesel

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Dust Control	Water Truck	Diesel
1	Taxiways	Excavation (Borrow)	Dozer	Diesel
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel
1	Taxiways	Excavation (Borrow)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel
1	Taxiways	Fencing	Concrete Truck	Diesel
1	Taxiways	Fencing	Dump Truck	Diesel
1	Taxiways	Fencing	Other General Equipment	Diesel

1	Taxiways	Fencing	Pickup Truck	Diesel
1	Taxiways	Fencing	Skid Steer Loader	Diesel
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Grading	Dozer	Diesel
1	Taxiways	Grading	Grader	Diesel
1	Taxiways	Grading	Roller	Diesel
1	Taxiways	Hydroseeding	Hydroseeder	Diesel
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel
1	Taxiways	Lighting	Dump Truck	Diesel
1	Taxiways	Lighting	Loader	Diesel
1	Taxiways	Lighting	Other General Equipment	Diesel
1	Taxiways	Lighting	Pickup Truck	Diesel
1	Taxiways	Lighting	Skid Steer Loader	Diesel
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Markings	Flatbed Truck	Diesel
1	Taxiways	Markings	Other General Equipment	Diesel
1	Taxiways	Markings	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Subbase Placement	Dozer	Diesel
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel
1	Taxiways	Subbase Placement	Pickup Truck	Diesel

1	Taxiways	Subbase Placement	Roller		Diesel
1	Taxiways	Topsoil Placement	Dozer		Diesel
1	Taxiways	Topsoil Placement	Dump Truck		Diesel
1	Taxiways	Topsoil Placement	Pickup Truck		Diesel

Overall Size

Scenario ID	Project	Project Size Questions	User Input	Unit
1	Taxiways	What is the estimated cost of the project?	0.56	$ Million(s)
1	Taxiways	What is the maximum length of the taxiway (L) in feet?	147	Feet
1	Taxiways	What is the maximum width of the taxiway (W) in feet?	109	Feet

Size Detail (Estimated based on engineering experience)

ScenarioID	Project	Construction Activity	Default Activity Size	Unit	User Activity Size
1	Taxiways	Clearing and Grubbing	0.4	Acres	
1	Taxiways	Concrete Placement	741.1	Cubic Yards	

1	Taxiways	Drainage - 24 inch SICPP			157			Linear Feet	
1	Taxiways	Drainage - 6 inch Perforated Underdrain			314			Linear Feet	
1	Taxiways	Dust Control			180			Days	
1	Taxiways	Excavation (Borrow)			741.1			Cubic Yards	
1	Taxiways	Excavation (Cut to Fill)			741.1			Cubic Yards	
1	Taxiways	Excavation (Topsoil Stripping)			1778.6			Square Yards	
1	Taxiways	Fencing			147			Linear Feet	
1	Taxiways	Grading			2073.8			Square Yards	
1	Taxiways	Hydroseeding			18683			Square Feet	
1	Taxiways	Lighting			512			Linear Feet	
1	Taxiways	Markings			16023			Square Feet	
1	Taxiways	Soil Erosion/Sediment Control			0.4			Acres	
1	Taxiways	Subbase Placement			1778.6			Square Yards	
1	Taxiways	Subbase Placement			592.9			Cubic Yards	
1	Taxiways	Topsoil Placement			345.6			Cubic Yards	

Activity: Non-Road (Estimated based on engineering experience)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Activity Size	Activity Rate	Default Activity	Activity Unit	User Activity Data

1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	0.40 Acre	12 Hours per 1.00 Acre	4.8	hours
1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	0.40 Acre	12 Hours per 1.00 Acre	4.8	hours
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	0.40 Acre	16 Hours per 1.00 Acre	6.4	hours
1	Taxiways	Concrete Placement	Air Compressor	Diesel	741.10 CY	8 Hours per 1000.00 CY	5.93	hours
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	741.10 CY	8 Hours per 1000.00 CY	5.93	hours
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	741.10 CY	8 Hours per 240.00 CY	24.7	hours
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	741.10 CY	16 Hours per 1000.00 CY	11.86	hours
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	741.10 CY	24 Hours per 1000.00 CY	17.79	hours
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	741.10 CY	8 Hours per 1000.00 CY	5.93	hours
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	741.10 CY	8 Hours per 1000.00 CY	5.93	hours
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	741.10 CY	8 Hours per 1000.00 CY	5.93	hours
1	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	157.00 LF	8 Hours per 250.00 LF	5.02	hours
1	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	157.00 LF	8 Hours per 250.00 LF	5.02	hours
1	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	157.00 LF	8 Hours per 250.00 LF	5.02	hours
1	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	157.00 LF	8 Hours per 250.00 LF	5.02	hours
1	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	157.00 LF	8 Hours per 250.00 LF	5.02	hours

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1	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	157.00 LF	8 Hours per 250.00 LF	5.02 hours
1	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	157.00 LF	8 Hours per 250.00 LF	5.02 hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	314.00 LF	8 Hours per 900.00 LF	2.79 hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	314.00 LF	8 Hours per 900.00 LF	2.79 hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	314.00 LF	8 Hours per 900.00 LF	2.79 hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	314.00 LF	8 Hours per 900.00 LF	2.79 hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	314.00 LF	8 Hours per 900.00 LF	2.79 hours
1	Taxiways	Dust Control	Water Truck	Diesel	180.00 Day	8 Hours per 1.00 Day	1440 hours
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	741.10 CY	8 Hours per 600.00 CY	9.88 hours
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	741.10 CY	8 Hours per 600.00 CY	9.88 hours
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	741.10 CY	8 Hours per 600.00 CY	9.88 hours
1	Taxiways	Excavation (Borrow)	Roller	Diesel	741.10 CY	8 Hours per 1300.00 CY	4.56 hours
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	741.10 CY	8 Hours per 800.00 CY	7.41 hours
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	741.10 CY	8 Hours per 300.00 CY	19.76 hours
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	741.10 CY	8 Hours per 1000.00 CY	5.93 hours

1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	741.10 CY	8 Hours per 1000.00 CY	5.93	hours
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	741.10 CY	8 Hours per 1000.00 CY	5.93	hours
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	741.10 CY	8 Hours per 800.00 CY	7.41	hours
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	1778.60 SY	8 Hours per 5100.00 SY	2.79	hours
1	Taxiways	Fencing	Concrete Truck	Diesel	147.00 LF	2 Hours per 180.00 LF	1.63	hours
1	Taxiways	Fencing	Dump Truck	Diesel	147.00 LF	8 Hours per 180.00 LF	6.53	hours
1	Taxiways	Fencing	Other General Equipment	Diesel	147.00 LF	8 Hours per 180.00 LF	6.53	hours
1	Taxiways	Fencing	Pickup Truck	Diesel	147.00 LF	8 Hours per 180.00 LF	6.53	hours
1	Taxiways	Fencing	Skid Steer Loader Tractors/Loader/Backhoe	Diesel	147.00 LF	8 Hours per 180.00 LF	6.53	hours
1	Taxiways	Grading	Dozer	Diesel	2073.80 SY	8 Hours per 8000.00 SY	2.07	hours
1	Taxiways	Grading	Grader	Diesel	2073.80 SY	8 Hours per 8000.00 SY	2.07	hours
1	Taxiways	Grading	Roller	Diesel	2073.80 SY	8 Hours per 8000.00 SY	2.07	hours
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	18683.00 SF	8 Hours per 80000.00 SF	1.87	hours
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	18683.00 SF	8 Hours per 80000.00 SF	1.87	hours
1	Taxiways	Lighting	Dump Truck	Diesel	512.00 LF	8 Hours per 1200.00 LF	3.41	hours
1	Taxiways	Lighting	Loader	Diesel	512.00 LF	8 Hours per 1200.00 LF	3.41	hours

1	Taxiways	Lighting	Other General Equipment	Diesel	512.00 LF	8 Hours per 1200.00 LF	3.41	hours
1	Taxiways	Lighting	Pickup Truck	Diesel	512.00 LF	8 Hours per 1200.00 LF	3.41	hours
1	Taxiways	Lighting	Skid Steer Loader	Diesel	512.00 LF	8 Hours per 1200.00 LF	3.41	hours
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	512.00 LF	8 Hours per 1200.00 LF	3.41	hours
1	Taxiways	Markings	Flatbed Truck	Diesel	16023.00 SF	8 Hours per 3500.00 SF	36.62	hours
1	Taxiways	Markings	Other General Equipment	Diesel	16023.00 SF	8 Hours per 3500.00 SF	36.62	hours
1	Taxiways	Markings	Pickup Truck	Diesel	16023.00 SF	8 Hours per 3500.00 SF	36.62	hours
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	0.40 Acre	4 Hours per 1.00 Acre	1.6	hours
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	0.40 Acre	8 Hours per 1.00 Acre	3.2	hours
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	0.40 Acre	4 Hours per 1.00 Acre	1.6	hours
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	0.40 Acre	4 Hours per 1.00 Acre	1.6	hours
1	Taxiways	Subbase Placement	Dozer	Diesel	1778.60 SY	8 Hours per 3800.00 SY	3.74	hours
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	592.90 CY	8 Hours per 180.00 CY	26.35	hours
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	1778.60 SY	8 Hours per 3800.00 SY	3.74	hours
1	Taxiways	Subbase Placement	Roller	Diesel	592.90 CY	8 Hours per 1300.00 CY	3.65	hours
1	Taxiways	Topsoil Placement	Dozer	Diesel	345.60 CY	8 Hours per 600.00 CY	4.61	hours

1	Taxiways	Topsoil Placement	Dump Truck	Diesel	345.60 CY	8 Hours per 600.00 CY	4.61	hours	
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	345.60 CY	8 Hours per 600.00 CY	4.61	hours	

Activity: On-Road (Estimated based on engineering experience)

Scenario ID	Project	Equipment	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Size	Activity Rate	Default VMT	User VMT
1	Taxiways	Cement Mixer	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	147	109	--	--	--	--	--	--	3705	
1	Taxiways	Dump Truck Subbase Material	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	147	109	--	--	--	--	--	--	1976	
1	Taxiways	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	66	129	--	--	--	--	--	--	--	--	255420	

Emission Factor: Non-Road (from NONROAD)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Avg Rated HP	Load Factor	CO (g/hp-hr)	NOx (g/hp-hr)	CO2 (g/hp-hr)	SO2 (g/hp-hr)	PM10 (g/hp-hr)	PM2.5 (g/hp-hr)	VOC Exhaust (g/hp-hr)	VOC Evaporative (g/equipment-day)	
1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	293.535	1.322993	685.9963	0.140192	9.748189	8.968334	61.88836	26.88131	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***

1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	1.6976	3.014009	589.3092	0.003468	0.294053	0.270529	0.349775	0.206615
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	1.104829	1.794373	589.7346	0.003245	0.158031	0.145388	0.20937	0.195896
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	0.522532	3.313194	595.6491	0.003072	0.071525	0.065803	0.167578	0.002633
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	0.436875	1.003913	536.3453	0.002812	0.094305	0.086761	0.16014	0.161771
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	2.379151	4.459281	594.7267	0.004009	0.353137	0.324886	0.472055	0.003483
1	Taxiways	SICPP Drainage - 24 inch	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	SICPP Drainage - 24 inch	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	SICPP Drainage - 24 inch	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	SICPP Drainage - 24 inch	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	SICPP Drainage - 24 inch	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	SICPP Drainage - 24 inch	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	SICPP Drainage - 24 inch	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	0.545055	1.354215	536.363	0.002882	0.080485	0.074046	0.154332	0.607685
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

1	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Grading	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Grading	Grader	Diesel	300	0.59	0.24308	0.754295	536.3826	0.002696	0.037599	0.034591	0.147818	0.147813
1	Taxiways	Grading	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	4.4591	4.594026	588.4291	0.003967	0.417534	0.384131	0.640288	0.013554
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Subbase Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385

1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Subbase Placement	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296								
1	Taxiways	Topsoil Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385								
1	Taxiways	Topsoil Placement	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								

Emission Factors: On-Road (from MOVES)

Scenario ID	Project Type	Equipment	Fuel Type	Roadway Type	CO(g/mi)	NOx(g/mi)	CO2(g/mi)	SO2(g/mi)	PM10(g/mi)	PM2.5(g/mi)	CH4(g/mi)	N2O(g/mi)	VOC(g/mi)	RV CO(g/veh-day)	RV NOx(g/veh-day)	RV CO2(g/veh-day)	RV SO2(g/veh-day)	RV PM10(g/veh-day)	RV PM2.5(g/veh-day)	RV VOC(g/veh-day)	RP VOC(g/veh-day)
1	Taxiways	Cement Mixer	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Dump Truck Subbase Material	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Passenger Car	Gasoline	Urban Unrestricted Access	1.689671	0.102635	348.7876	0.002224	0.005214	0.004801	0.056039	0.003919	0.001767	38.12089	2.442831	438.9424	0.002799	0.047668	0.043893	5.310081	0

Fugitive Emissions (Emission Factors from Various Sources including AP-42)

Scenario ID	Project	Fugitive Type	Variable	Default Values	Units	User Value
1	Taxiways	Concrete Mixing/Batching	V = Volume of asphalt = 0.111 x L x W x 1.25 / 3	741.1	yd3	

1	Taxiways	Concrete Mixing/Batching	PM10 = 0.037 x V	27.4	lbs
1	Taxiways	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
1	Taxiways	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
1	Taxiways	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	1345.3	miles
1	Taxiways	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	36.8	lbs
1	Taxiways	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m3
1	Taxiways	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
1	Taxiways	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	1290	miles
1	Taxiways	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	12	lbs
1	Taxiways	Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	0.368	acres
1	Taxiways	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
1	Taxiways	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction

1	Taxiways	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.5 years
1	Taxiways	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0 lbs
1	Taxiways	Soil Handling	u = Wind speed	5 mph
1	Taxiways	Soil Handling	m = Moisture content	0.25 fraction
1	Taxiways	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	440.6 tons
1	Taxiways	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	9.07 lbs

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ASSUMPTIONS

Emission factors were developed from the following models:

On-Road Vehicles: MOVES 2010b, revised January 2013

Non-Road Equipment: NONROAD2008a, July 2009

In addition to the overall project size dimensions (e.g., Length and width) provided by the user, an additional 10 ft length and 10 ft width is added to account for disturbance areas.

The number of employees is based on the higher of two methods: (1) number of equipment, and (2) multiply the project cost in million by 11.

The average employee travels 30 miles round-trip from home to construction site each day.

The average on-road material delivery round-trip distance per truck is 40 miles per day.

For calculating fugitive, re-entrained PM emissions from on-road and non-road material delivery and handling equipment, a nominal VMT of 5 miles is used for each vehicle per day.

In deriving emission factors from NONROAD, the horsepower for each equipment represents the most popular in each equipment category.

The total length of each modeled scenario is used to define the number of days associated with vehicle/equipment evaporative emissions.

The choice of location and season are assumed to adequately represent differences in fuel characteristics affecting emissions.

Only two seasons (Summer and Winter) are used to represent all seasons.

14 U.S. Counties are used to represent all other counties in the U.S. (all other counties are mapped to the 14).

The default methods assume that all construction equipment use diesel as well as heavy-duty on-road vehicles, while passenger vehicles (including motorcycles) use gasoline.

Fugitive emissions are only modeled for:

Asphalt drying
Asphalt storage and batching
Concrete mixing/batching
Soil handling
Unstabilized land and wind erosion
Material movement (unpaved roads)
Material movement (paved roads)

On-Road vehicle speeds are not explicitly modeled. The associated emission factors for each modeled vehicle from MOVES represent averages over the driving cycles, the roadway type, and daily temperature variations.

The default equipment hours-of-use data are developed based on the overall size of the project provided by the user and activity rates based on expert engineering judgment.

Under the Construction Activity Type list (Activity Tab), when a choice between asphalt and concrete materials occurs, asphalt is always selected as default. To choose concrete, de-select the aphalt item and select the corresponding concrete item.

Two trips per day were assumed for each on-road material handling trucks.

Only CO2, CH4, and N2O are used to represent greenhouse gas emissions. Other potential greenhouse gases including air conditioning refrigerants were not included.

The following equipment are always modeled using diesel emission factors since gasoline-based emission factors are not available:
Asphalt Deliveries/Ten Wheelers
Bulldozer
Concrete Ready Mix Trucks
Concrete Ready Trucks Mix for Cores
Concrete Truck
Crack Filler (Trailer Mounted)
Delivery of Tanks (3)
Distributing Tanker
Dozer
Dump Truck
Dump Truck (12 cy)
Excavator
Excavator for U/G Services/Tanks
Flat Bed or Dump Trucks
Flatbed Truck
Grader
Grout Wheel Truck
Hoist Equipment with 40 Ton Rig
Hydralic Hammer
Hydroseeder
Line Painting Truck and Sprayer
Material Deliveries
Off-Road Truck
Pickup Truck
Scraper
Seed Truck Spreader
Small Dozer
Survey Crew Trucks
Ten Wheelers
Ten Wheelers- Material Delivery
Tool Truck
Tractor Trailer- Equipment Delivery
Tractor Trailer- Material Delivery
Tractor Trailer- Steel Deliveries
Tractor Trailer- Stone Delivery
Tractor Trailer- Topsoil & Seed
Tractor Trailer- Truck Delivery
Tractor Trailer with Boom Hoist- Curbs Del & Place
Tractor Trailer with Boom Hoist- Delivery
Tractor Trailers- Rebar Deliveries
Tractor Trailers Temp Fac.
Truck for Topsoil & Seed Del&Spread
Water Truck
Excavator with Bucket
Excavator with Hoe Ram

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Airport Construction Emissions Inventory Tool (ACEIT)
Version 1.0
Run Date & Time: 4/9/2019 4:49:44 PM

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STUDY

Study Name

A-37-1

Study Description

Close existing Taxiway V and replace with a parallel apron-edge taxilane (for ADG-III aircraft).

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EMISSION
S
INVENTOR
Y -
SUMMAR
Y

Total
Emissions
by Year

Units for
Non-
Greenhou
se Gases
Emission:
Short Ton

Units for
Greenhou
se Gases
(CO2,
CH4, and
N2O)
Emission:
Metric
Ton

Year	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	1.621754	1.654805	0.006829	0.379322	0.079948	0.390673	1172.307	0.02663	0.005332

Total
Emissions
by Source
Categories

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases Emission: Metric Ton

Year	Emission Source	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	NonRoad	0.705769	1.465958	0.00557	0.079616	0.073247	0.338721	1000.663	--	--
2020	OnRoad	0.915985	0.188847	0.001259	0.007006	0.006701	0.051952	171.6443	0.02663	0.005332
2020	Fugitive	0	0	0	0.2927	--	0	--	--	--
2020	TOTAL	1.621754	1.654805	0.006829	0.379322	0.079948	0.390673	1172.307	0.02663	0.005332

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EMISSIONS INVENTORY - DETAILS:

Non-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Construction Activity	Equipment	Fuel	HP Average	Load Factor	Hours of Activity	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	
1	2020	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	57.6	0.143509	0.000647	6.85E-05	0.004766	0.004385	0.03408	0.304253	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	2020	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	57.6	0.004635	0.008229	9.47E-06	0.000803	0.000739	0.000984	1.459601	
1	2020	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	76.8	0.006585	0.01883	7.94E-05	0.000759	0.000699	0.004276	14.58325	
1	2020	Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	64.7504	0.003391	0.005507	9.96E-06	0.000485	0.000446	0.00067	1.641979	
1	2020	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	64.7504	0.00088	0.005581	5.18E-06	0.00012	0.000111	0.000283	0.910217	
1	2020	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	269.7933	0.023132	0.06615	0.000279	0.002667	0.002454	0.014945	51.22999	
1	2020	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	129.5008	0.004122	0.015048	3.10E-05	0.000992	0.000913	0.001919	5.16979	
1	2020	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	194.2512	0.016655	0.047628	0.000201	0.00192	0.001767	0.010769	36.88559	
1	2020	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	64.7504	0.003524	0.008228	2.10E-05	0.000777	0.000715	0.001239	3.585633	
1	2020	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	64.7504	0.00322	0.007398	2.07E-05	0.000695	0.000639	0.001203	3.585725	
1	2020	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	64.7504	0.002505	0.004695	4.22E-06	0.000372	0.000342	0.000497	0.568005	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	112.32	0.00474	0.010935	3.53E-05	0.000975	0.000897	0.001987	6.220237	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	112.32	0.00963	0.02754	0.000116	0.00111	0.001022	0.006239	21.328	
1	2020	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	112.32	0.003736	0.008964	3.45E-05	0.000692	0.000637	0.001905	6.220448	
1	2020	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	112.32	0.006112	0.014273	3.64E-05	0.001348	0.00124	0.002131	6.219858	
1	2020	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	175	0.43	112.32	0.003575	0.013052	2.69E-05	0.000861	0.000792	0.001668	4.483917	

1	2020	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	600	0.59	112.32	0.00963	0.02754	0.000116	0.00111	0.001022	0.006239	21.328
1	2020	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	100	0.59	112.32	0.009523	0.009544	2.31E-05	0.001144	0.001052	0.001308	3.947116
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	62.4	0.00535	0.0153	6.45E-05	0.000617	0.000568	0.003479	11.84889
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	62.4	0.003396	0.00793	2.02E-05	0.000749	0.000689	0.001195	3.455477
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	62.4	0.001986	0.007251	1.49E-05	0.000478	0.00044	0.000941	2.491065
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	62.4	0.00535	0.0153	6.45E-05	0.000617	0.000568	0.003479	11.84889
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	62.4	0.005735	0.00444	5.83E-06	0.000792	0.000728	0.000974	0.909577
1	2020	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	1440	0.123467	0.353072	0.001488	0.014237	0.013098	0.079639	273.4359
1	2020	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	107.9173	0.004554	0.010506	3.39E-05	0.000937	0.000862	0.00191	5.976419
1	2020	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	107.9173	0.009253	0.02646	0.000112	0.001067	0.000982	0.005996	20.492
1	2020	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	107.9173	0.009253	0.02646	0.000112	0.001067	0.000982	0.005996	20.492
1	2020	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	49.808	0.004223	0.004232	1.02E-05	0.000507	0.000467	0.000591	1.750338
1	2020	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	80.938	0.003416	0.00788	2.54E-05	0.000703	0.000646	0.001437	4.482314
1	2020	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	215.8347	0.018506	0.05292	0.000223	0.002134	0.001963	0.011962	40.98399
1	2020	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	64.7504	0.002154	0.005168	1.99E-05	0.000399	0.000367	0.001105	3.585973
1	2020	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	64.7504	0.005552	0.015876	6.69E-05	0.00064	0.000589	0.003609	12.2952

1	2020	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	64.7504	0.00549	0.005502	1.33E-05	0.000659	0.000607	0.000762	2.275439
1	2020	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	80.938	0.017215	0.042771	9.10E-05	0.002542	0.002339	0.004961	15.3679
1	2020	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	30.47059	0.001286	0.002966	9.57E-06	0.000265	0.000243	0.000553	1.687449
1	2020	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	38.88889	0.003334	0.009535	4.02E-05	0.000384	0.000354	0.00218	7.384457
1	2020	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	155.5556	0.013338	0.03814	0.000161	0.001538	0.001415	0.008629	29.53783
1	2020	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	155.5556	0.004951	0.018076	3.73E-05	0.001192	0.001097	0.002298	6.209919
1	2020	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	155.5556	0.013338	0.03814	0.000161	0.001538	0.001415	0.008629	29.53783
1	2020	Taxiways	Fencing	Skid Steer Loader	Diesel	75	0.21	155.5556	0.011624	0.012623	1.13E-05	0.001698	0.001562	0.002312	1.698981
1	2020	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	155.5556	0.014297	0.011068	1.45E-05	0.001973	0.001815	0.00231	2.267464
1	2020	Taxiways	Grading	Dozer	Diesel	175	0.59	23.3766	0.000986	0.002276	7.34E-06	0.000203	0.000187	0.000429	1.294587
1	2020	Taxiways	Grading	Grader	Diesel	300	0.59	23.3766	0.001109	0.00344	1.23E-05	0.000171	0.000158	0.000695	2.219368
1	2020	Taxiways	Grading	Roller	Diesel	100	0.59	23.3766	0.001982	0.001986	4.80E-06	0.000238	0.000219	0.000287	0.821494
1	2020	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	21.06	0.001806	0.005164	2.18E-05	0.000208	0.000192	0.001194	3.999
1	2020	Taxiways	Lighting	Off-Road Truck	Diesel	600	0.59	47.33333	0.004058	0.011606	4.89E-05	0.000468	0.000431	0.002647	8.98794
1	2020	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	47.33333	0.002576	0.006015	1.53E-05	0.000568	0.000522	0.000913	2.621142
1	2020	Taxiways	Lighting	Loader	Diesel	175	0.59	47.33333	0.001506	0.0055	1.13E-05	0.000363	0.000334	0.000722	1.88959
1	2020	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	47.33333	0.004058	0.011606	4.89E-05	0.000468	0.000431	0.002647	8.98794
1	2020	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	47.33333	0.003537	0.003841	3.45E-06	0.000517	0.000475	0.000739	0.516976
1	2020	Taxiways	Lighting	Skid Steer Loader	Diesel	75	0.21	47.33333	0.00435	0.003368	4.43E-06	0.0006	0.000552	0.000757	0.689957
1	2020	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	47.33333	0.00435	0.003368	4.43E-06	0.0006	0.000552	0.000757	0.689957
1	2020	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	400	0.034296	0.098076	0.000413	0.003955	0.003638	0.022143	75.95442
1	2020	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	400	0.012731	0.04648	9.58E-05	0.003065	0.00282	0.00586	15.96836
1	2020	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	400	0.034296	0.098076	0.000413	0.003955	0.003638	0.022143	75.95442
1	2020	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	19.2	0.000611	0.002231	4.60E-06	0.000147	0.000135	0.000312	0.766481

1	2020	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	38.4	0.003292	0.009415	3.97E-05	0.00038	0.000349	0.002153	7.291624
1	2020	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	19.2	0.000446	0.00046	3.97E-07	4.18E-05	3.85E-05	6.60E-05	0.053439
1	2020	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	19.2	0.001765	0.001366	1.80E-06	0.000244	0.000224	0.000354	0.27987
1	2020	Taxiways	Subbase Placement	Dozer	Diesel	175	0.59	40.89474	0.001726	0.003981	1.28E-05	0.000355	0.000327	0.000736	2.264734
1	2020	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	287.7778	0.024674	0.07056	0.000297	0.002845	0.002618	0.015939	54.64499
1	2020	Taxiways	Subbase Placement	Pickup Truck	Diesel	600	0.59	40.89474	0.003506	0.010027	4.23E-05	0.000404	0.000372	0.002291	7.76534
1	2020	Taxiways	Subbase Placement	Roller	Diesel	100	0.59	39.84615	0.003378	0.003386	8.19E-06	0.000406	0.000373	0.000476	1.400262
1	2020	Taxiways	Topsoil Placement	Dozer	Diesel	175	0.59	51.948	0.002192	0.005057	1.63E-05	0.000451	0.000415	0.00093	2.87686
1	2020	Taxiways	Topsoil Placement	Dump Truck	Diesel	600	0.59	51.948	0.004454	0.012737	5.37E-05	0.000514	0.000473	0.002902	9.8642
1	2020	Taxiways	Topsoil Placement	Pickup Truck	Diesel	600	0.59	51.948	0.004454	0.012737	5.37E-05	0.000514	0.000473	0.002902	9.8642

On-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Equipment	Equipment Category	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Distance for fugitive PM	Number of Vehicles	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Rate	VMT	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O

1	2020	Taxiways	Cement Mixer	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	4	--		129	3500	50	--	--	--	--	--	40469	0.045962	0.088824	0.00039	0.003304	0.003205	0.000609	50.68042	0.007923	0.002817
1	2020	Taxiways	Dump Truck Subbase Material	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	3	--		129	3500	50	--	--	--	--	--	21583	0.026796	0.047595	0.000208	0.001764	0.001712	0.000423	27.05643	0.004226	0.001502
1	2020	Taxiways	Passenger Car	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	--		66.77	66.77	129	--	--	--	--	--	--	--	258400	0.843227	0.052428	0.00066	0.001938	0.001784	0.05092	93.90747	0.014481	0.001013

Fugitive Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Scenario ID	Year	Project	Fugitive Source Type	Number of Months	CO	NOx	SO2	PM10	VOC
1	2020	Taxiways	Concrete Mixing/Batching	6	0	0	0	0.14975	0
1	2020	Taxiways	Material Movement (Paved Roads)	6	0	0	0	0.02095	0
1	2020	Taxiways	Material Movement (Unpaved Roads)	6	0	0	0	0.07245	0
1	2020	Taxiways	Soil Handling	6	0	0	0	0.04955	0
1	2020	Taxiways	Unstabilized Land and Wind Erosion	6	0	0	0	3.53E-08	0

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Scenarios

Scenario ID	Year	Number of Months	Season	Average Daily Temp (degF)	Max Daily Temp Change (degF)	Min Daily Temp Change (degF)
1	2020	6	Winter	50 < T <= 80	10 <= Change in T < 20	10 <= Change in T < 20
2						

Project
Final
Selections

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	
1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	

1	Taxiways	Concrete Placement	Air Compressor	Diesel
1	Taxiways	Concrete Placement	Concrete Saws	Diesel
1	Taxiways	Concrete Placement	Concrete Truck	Diesel
1	Taxiways	Concrete Placement	Other General Equipment	Diesel
1	Taxiways	Concrete Placement	Pickup Truck	Diesel
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Dozer	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Dump Truck	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Excavator	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Loader	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Other General Equipment	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Pickup Truck	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Roller	Diesel
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Loader	Diesel

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Dust Control	Water Truck	Diesel
1	Taxiways	Excavation (Borrow)	Dozer	Diesel
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel
1	Taxiways	Excavation (Borrow)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel
1	Taxiways	Fencing	Concrete Truck	Diesel
1	Taxiways	Fencing	Dump Truck	Diesel
1	Taxiways	Fencing	Other General Equipment	Diesel

1	Taxiways	Fencing	Pickup Truck	Diesel
1	Taxiways	Fencing	Skid Steer Loader	Diesel
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Grading	Dozer	Diesel
1	Taxiways	Grading	Grader	Diesel
1	Taxiways	Grading	Roller	Diesel
1	Taxiways	Hydroseeding	Hydroseeder	Diesel
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel
1	Taxiways	Lighting	Dump Truck	Diesel
1	Taxiways	Lighting	Loader	Diesel
1	Taxiways	Lighting	Other General Equipment	Diesel
1	Taxiways	Lighting	Pickup Truck	Diesel
1	Taxiways	Lighting	Skid Steer Loader	Diesel
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Markings	Flatbed Truck	Diesel
1	Taxiways	Markings	Other General Equipment	Diesel
1	Taxiways	Markings	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Subbase Placement	Dozer	Diesel
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel
1	Taxiways	Subbase Placement	Pickup Truck	Diesel

1	Taxiways	Subbase Placement	Roller		Diesel
1	Taxiways	Topsoil Placement	Dozer		Diesel
1	Taxiways	Topsoil Placement	Dump Truck		Diesel
1	Taxiways	Topsoil Placement	Pickup Truck		Diesel

Overall Size

Scenario ID	Project	Project Size Questions	User Input	Unit
1	Taxiways	What is the estimated cost of the project?	6.07	$ Million(s)
1	Taxiways	What is the maximum length of the taxiway (L) in feet?	3500	Feet
1	Taxiways	What is the maximum width of the taxiway (W) in feet?	50	Feet

Size Detail (Estimated based on engineering experience)

ScenarioID	Project	Construction Activity	Default Activity Size	Unit	User Activity Size
1	Taxiways	Clearing and Grubbing	4.8	Acres	
1	Taxiways	Concrete Placement	8093.8	Cubic Yards	

1	Taxiways	Drainage - 24 inch SICPP	3510	Linear Feet	
1	Taxiways	Drainage - 6 inch Perforated Underdrain	7020	Linear Feet	
1	Taxiways	Dust Control	180	Days	
1	Taxiways	Excavation (Borrow)	8093.8	Cubic Yards	
1	Taxiways	Excavation (Cut to Fill)	8093.8	Cubic Yards	
1	Taxiways	Excavation (Topsoil Stripping)	19425	Square Yards	
1	Taxiways	Fencing	3500	Linear Feet	
1	Taxiways	Grading	23376.6	Square Yards	
1	Taxiways	Hydroseeding	210600	Square Feet	
1	Taxiways	Lighting	7100	Linear Feet	
1	Taxiways	Markings	175000	Square Feet	
1	Taxiways	Soil Erosion/Sediment Control	4.8	Acres	
1	Taxiways	Subbase Placement	19425	Square Yards	
1	Taxiways	Subbase Placement	6475	Cubic Yards	
1	Taxiways	Topsoil Placement	3896.1	Cubic Yards	

Activity: Non-Road (Estimated based on engineering experience)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Activity Size	Activity Rate	Default Activity	Activity Unit	User Activity Data

1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	4.80 Acre	12 Hours per 1.00 Acre	57.6	hours
1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	4.80 Acre	12 Hours per 1.00 Acre	57.6	hours
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	4.80 Acre	16 Hours per 1.00 Acre	76.8	hours
1	Taxiways	Concrete Placement	Air Compressor	Diesel	8093.80 CY	8 Hours per 1000.00 CY	64.75	hours
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	8093.80 CY	8 Hours per 1000.00 CY	64.75	hours
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	8093.80 CY	8 Hours per 240.00 CY	269.79	hours
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	8093.80 CY	16 Hours per 1000.00 CY	129.5	hours
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	8093.80 CY	24 Hours per 1000.00 CY	194.25	hours
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	8093.80 CY	8 Hours per 1000.00 CY	64.75	hours
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	8093.80 CY	8 Hours per 1000.00 CY	64.75	hours
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	8093.80 CY	8 Hours per 1000.00 CY	64.75	hours
1	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	3510.00 LF	8 Hours per 250.00 LF	112.32	hours
1	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	3510.00 LF	8 Hours per 250.00 LF	112.32	hours
1	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	3510.00 LF	8 Hours per 250.00 LF	112.32	hours
1	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	3510.00 LF	8 Hours per 250.00 LF	112.32	hours
1	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	3510.00 LF	8 Hours per 250.00 LF	112.32	hours

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1	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	3510.00 LF	8 Hours per 250.00 LF	112.32	hours
1	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	3510.00 LF	8 Hours per 250.00 LF	112.32	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	7020.00 LF	8 Hours per 900.00 LF	62.4	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	7020.00 LF	8 Hours per 900.00 LF	62.4	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	7020.00 LF	8 Hours per 900.00 LF	62.4	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	7020.00 LF	8 Hours per 900.00 LF	62.4	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	7020.00 LF	8 Hours per 900.00 LF	62.4	hours
1	Taxiways	Dust Control	Water Truck	Diesel	180.00 Day	8 Hours per 1.00 Day	1440	hours
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	8093.80 CY	8 Hours per 600.00 CY	107.92	hours
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	8093.80 CY	8 Hours per 600.00 CY	107.92	hours
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	8093.80 CY	8 Hours per 600.00 CY	107.92	hours
1	Taxiways	Excavation (Borrow)	Roller	Diesel	8093.80 CY	8 Hours per 1300.00 CY	49.81	hours
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	8093.80 CY	8 Hours per 800.00 CY	80.94	hours
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	8093.80 CY	8 Hours per 300.00 CY	215.83	hours
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	8093.80 CY	8 Hours per 1000.00 CY	64.75	hours

1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	8093.80 CY	8 Hours per 1000.00 CY	64.75	hours
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	8093.80 CY	8 Hours per 1000.00 CY	64.75	hours
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	8093.80 CY	8 Hours per 800.00 CY	80.94	hours
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	19425.00 SY	8 Hours per 5100.00 SY	30.47	hours
1	Taxiways	Fencing	Concrete Truck	Diesel	3500.00 LF	2 Hours per 180.00 LF	38.89	hours
1	Taxiways	Fencing	Dump Truck	Diesel	3500.00 LF	8 Hours per 180.00 LF	155.56	hours
1	Taxiways	Fencing	Other General Equipment	Diesel	3500.00 LF	8 Hours per 180.00 LF	155.56	hours
1	Taxiways	Fencing	Pickup Truck	Diesel	3500.00 LF	8 Hours per 180.00 LF	155.56	hours
1	Taxiways	Fencing	Skid Steer Loader	Diesel	3500.00 LF	8 Hours per 180.00 LF	155.56	hours
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	3500.00 LF	8 Hours per 180.00 LF	155.56	hours
1	Taxiways	Grading	Dozer	Diesel	23376.60 SY	8 Hours per 8000.00 SY	23.38	hours
1	Taxiways	Grading	Grader	Diesel	23376.60 SY	8 Hours per 8000.00 SY	23.38	hours
1	Taxiways	Grading	Roller	Diesel	23376.60 SY	8 Hours per 8000.00 SY	23.38	hours
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	210600.00 SF	8 Hours per 80000.00 SF	21.06	hours
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	210600.00 SF	8 Hours per 80000.00 SF	21.06	hours
1	Taxiways	Lighting	Dump Truck	Diesel	7100.00 LF	8 Hours per 1200.00 LF	47.33	hours
1	Taxiways	Lighting	Loader	Diesel	7100.00 LF	8 Hours per 1200.00 LF	47.33	hours

1	Taxiways	Lighting	Other General Equipment	Diesel	7100.00 LF	8 Hours per 1200.00 LF	47.33	hours
1	Taxiways	Lighting	Pickup Truck	Diesel	7100.00 LF	8 Hours per 1200.00 LF	47.33	hours
1	Taxiways	Lighting	Skid Steer Loader	Diesel	7100.00 LF	8 Hours per 1200.00 LF	47.33	hours
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	7100.00 LF	8 Hours per 1200.00 LF	47.33	hours
1	Taxiways	Markings	Flatbed Truck	Diesel	175000.00 SF	8 Hours per 3500.00 SF	400	hours
1	Taxiways	Markings	Other General Equipment	Diesel	175000.00 SF	8 Hours per 3500.00 SF	400	hours
1	Taxiways	Markings	Pickup Truck	Diesel	175000.00 SF	8 Hours per 3500.00 SF	400	hours
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	4.80 Acre	4 Hours per 1.00 Acre	19.2	hours
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	4.80 Acre	8 Hours per 1.00 Acre	38.4	hours
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	4.80 Acre	4 Hours per 1.00 Acre	19.2	hours
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	4.80 Acre	4 Hours per 1.00 Acre	19.2	hours
1	Taxiways	Subbase Placement	Dozer	Diesel	19425.00 SY	8 Hours per 3800.00 SY	40.89	hours
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	6475.00 CY	8 Hours per 180.00 CY	287.78	hours
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	19425.00 SY	8 Hours per 3800.00 SY	40.89	hours
1	Taxiways	Subbase Placement	Roller	Diesel	6475.00 CY	8 Hours per 1300.00 CY	39.85	hours
1	Taxiways	Topsoil Placement	Dozer	Diesel	3896.10 CY	8 Hours per 600.00 CY	51.95	hours

1	Taxiways	Topsoil Placement	Dump Truck	Diesel	3896.10 CY	8 Hours per 600.00 CY	51.95	hours	
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	3896.10 CY	8 Hours per 600.00 CY	51.95	hours	

Activity: On-Road (Estimated based on engineering experience)

Scenario ID	Project	Equipment	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Size	Activity Rate	Default VMT	User VMT
1	Taxiways	Cement Mixer	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	3500	50	--	--	--	--	--	--	40469	
1	Taxiways	Dump Truck Subbase Material	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	3500	50	--	--	--	--	--	--	21583	
1	Taxiways	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	66.77	129	--	--	--	--	--	--	--	--	258400	

Emission Factor: Non-Road (from NONROAD)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Avg Rated HP	Load Factor	CO (g/hp-hr)	NOx (g/hp-hr)	CO2 (g/hp-hr)	SO2 (g/hp-hr)	PM10 (g/hp-hr)	PM2.5 (g/hp-hr)	VOC Exhaust (g/hp-hr)	VOC Evaporative (g/equipment-day)	
1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	293.535	1.322993	685.9963	0.140192	9.748189	8.968334	61.88836	26.88131	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***

1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	1.6976	3.014009	589.3092	0.003468	0.294053	0.270529	0.349775	0.206615
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	1.104829	1.794373	589.7346	0.003245	0.158031	0.145388	0.20937	0.195896
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	0.522532	3.313194	595.6491	0.003072	0.071525	0.065803	0.167578	0.002633
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	0.436875	1.003913	536.3453	0.002812	0.094305	0.086761	0.16014	0.161771
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	2.379151	4.459281	594.7267	0.004009	0.353137	0.324886	0.472055	0.003483
1	Taxiways	SICPP Drainage - 24 inch	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	SICPP Drainage - 24 inch	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	SICPP Drainage - 24 inch	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	SICPP Drainage - 24 inch	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	SICPP Drainage - 24 inch	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	SICPP Drainage - 24 inch	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	SICPP Drainage - 24 inch	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	0.545055	1.354215	536.363	0.002882	0.080485	0.074046	0.154332	0.607685
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

1	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Grading	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Grading	Grader	Diesel	300	0.59	0.24308	0.754295	536.3826	0.002696	0.037599	0.034591	0.147818	0.147813
1	Taxiways	Grading	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	4.4591	4.594026	588.4291	0.003967	0.417534	0.384131	0.640288	0.013554
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Subbase Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385

1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Subbase Placement	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296								
1	Taxiways	Topsoil Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385								
1	Taxiways	Topsoil Placement	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								

Emission Factors: On-Road (from MOVES)

Scenario ID	Project Type	Equipment	Fuel Type	Roadway Type	CO(g/mi)	NOx(g/mi)	CO2(g/mi)	SO2(g/mi)	PM10(g/mi)	PM2.5(g/mi)	CH4(g/mi)	N2O(g/mi)	VOC(g/mi)	RV CO(g/veh-day)	RV NOx(g/veh-day)	RV CO2(g/veh-day)	RV SO2(g/veh-day)	RV PM10(g/veh-day)	RV PM2.5(g/veh-day)	RV VOC(g/veh-day)	RP VOC(g/veh-day)
1	Taxiways	Cement Mixer	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Dump Truck Subbase Material	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Passenger Car	Gasoline	Urban Unrestricted Access	1.689671	0.102635	348.7876	0.002224	0.005214	0.004801	0.056039	0.003919	0.001767	38.12089	2.442831	438.9424	0.002799	0.047668	0.043893	5.310081	0

Fugitive Emissions (Emission Factors from Various Sources including AP-42)

Scenario ID	Project	Fugitive Type	Variable	Default Values	Units	User Value
1	Taxiways	Concrete Mixing/Batching	V = Volume of asphalt = 0.111 x L x W x 1.25 / 3	8093.8	yd3	

1	Taxiways	Concrete Mixing/Batching	PM10 = 0.037 x V	299.5	lbs
1	Taxiways	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
1	Taxiways	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
1	Taxiways	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	5290.9	miles
1	Taxiways	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	144.9	lbs
1	Taxiways	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m3
1	Taxiways	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
1	Taxiways	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	4515	miles
1	Taxiways	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	41.9	lbs
1	Taxiways	Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	4.017	acres
1	Taxiways	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
1	Taxiways	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction

1	Taxiways	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.5 years
1	Taxiways	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0 lbs
1	Taxiways	Soil Handling	u = Wind speed	5 mph
1	Taxiways	Soil Handling	m = Moisture content	0.25 fraction
1	Taxiways	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	4812.5 tons
1	Taxiways	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	99.1 lbs

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ASSUMPTIONS

Emission factors were developed from the following models:

On-Road Vehicles: MOVES 2010b, revised January 2013

Non-Road Equipment: NONROAD2008a, July 2009

In addition to the overall project size dimensions (e.g., Length and width) provided by the user, an additional 10 ft length and 10 ft width is added to account for disturbance areas.

The number of employees is based on the higher of two methods: (1) number of equipment, and (2) multiply the project cost in million by 11.

The average employee travels 30 miles round-trip from home to construction site each day.

The average on-road material delivery round-trip distance per truck is 40 miles per day.

For calculating fugitive, re-entrained PM emissions from on-road and non-road material delivery and handling equipment, a nominal VMT of 5 miles is used for each vehicle per day.

In deriving emission factors from NONROAD, the horsepower for each equipment represents the most popular in each equipment category.

The total length of each modeled scenario is used to define the number of days associated with vehicle/equipment evaporative emissions.

The choice of location and season are assumed to adequately represent differences in fuel characteristics affecting emissions.

Only two seasons (Summer and Winter) are used to represent all seasons.

14 U.S. Counties are used to represent all other counties in the U.S. (all other counties are mapped to the 14).

The default methods assume that all construction equipment use diesel as well as heavy-duty on-road vehicles, while passenger vehicles (including motorcycles) use gasoline.

Fugitive emissions are only modeled for:

Asphalt drying
Asphalt storage and batching
Concrete mixing/batching
Soil handling
Unstabilized land and wind erosion
Material movement (unpaved roads)
Material movement (paved roads)

On-Road vehicle speeds are not explicitly modeled. The associated emission factors for each modeled vehicle from MOVES represent averages over the driving cycles, the roadway type, and daily temperature variations.

The default equipment hours-of-use data are developed based on the overall size of the project provided by the user and activity rates based on expert engineering judgment.

Under the Construction Activity Type list (Activity Tab), when a choice between asphalt and concrete materials occurs, asphalt is always selected as default. To choose concrete, de-select the aphalt item and select the corresponding concrete item.

Two trips per day were assumed for each on-road material handling trucks.

Only CO2, CH4, and N2O are used to represent greenhouse gas emissions. Other potential greenhouse gases including air conditioning refrigerants were not included.

The following equipment are always modeled using diesel emission factors since gasoline-based emission factors are not available:
Asphalt Deliveries/Ten Wheelers
Bulldozer
Concrete Ready Mix Trucks
Concrete Ready Trucks Mix for Cores
Concrete Truck
Crack Filler (Trailer Mounted)
Delivery of Tanks (3)
Distributing Tanker
Dozer
Dump Truck
Dump Truck (12 cy)
Excavator
Excavator for U/G Services/Tanks
Flat Bed or Dump Trucks
Flatbed Truck
Grader
Grout Wheel Truck
Hoist Equipment with 40 Ton Rig
Hydralic Hammer
Hydroseeder
Line Painting Truck and Sprayer
Material Deliveries
Off-Road Truck
Pickup Truck
Scraper
Seed Truck Spreader
Small Dozer
Survey Crew Trucks
Ten Wheelers
Ten Wheelers- Material Delivery
Tool Truck
Tractor Trailer- Equipment Delivery
Tractor Trailer- Material Delivery
Tractor Trailer- Steel Deliveries
Tractor Trailer- Stone Delivery
Tractor Trailer- Topsoil & Seed
Tractor Trailer- Truck Delivery
Tractor Trailer with Boom Hoist- Curbs Del & Place
Tractor Trailer with Boom Hoist- Delivery
Tractor Trailers- Rebar Deliveries
Tractor Trailers Temp Fac.
Truck for Topsoil & Seed Del&Spread
Water Truck
Excavator with Bucket
Excavator with Hoe Ram

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Airport Construction Emissions Inventory Tool (ACEIT)
Version 1.0
Run Date & Time: 4/9/2019 4:52:32 PM

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STUDY

Study Name

A-37-2

Study Description

Close existing Taxiway V and replace with a parallel apron-edge taxilane (for ADG-III aircraft).

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EMISSION
S
INVENTOR
Y -
SUMMAR
Y

Total
Emissions
by Year

Units for
Non-
Greenhou
se Gases
Emission:
Short Ton

Units for
Greenhou
se Gases
(CO2,
CH4, and
N2O)
Emission:
Metric
Ton

Year	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	2.222921	2.082696	0.008703	0.530259	0.1002	0.495335	1481.687	0.038815	0.00777

Total
Emissions
by Source
Categories

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases Emission: Metric Ton

Year	Emission Source	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	NonRoad	0.888012	1.807525	0.006868	0.098298	0.090434	0.419613	1231.503	--	--
2020	OnRoad	1.334909	0.27517	0.001835	0.01021	0.009765	0.075722	250.1841	0.038815	0.00777
2020	Fugitive	0	0	0	0.42175	--	0	--	--	--
2020	TOTAL	2.222921	2.082696	0.008703	0.530259	0.1002	0.495335	1481.687	0.038815	0.00777

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EMISSIONS INVENTORY - DETAILS:

Non-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Construction Activity	Equipment	Fuel	HP Average	Load Factor	Hours of Activity	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	
1	2020	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	80.4	0.200315	0.000903	9.57E-05	0.006652	0.00612	0.046056	0.424687	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	2020	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	80.4	0.006469	0.011486	1.32E-05	0.001121	0.001031	0.001362	2.03736	
1	2020	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	107.2	0.009191	0.026284	0.000111	0.00106	0.000975	0.005956	20.35578	
1	2020	Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	94.3504	0.004941	0.008025	1.45E-05	0.000707	0.00065	0.000964	2.392593	
1	2020	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	94.3504	0.001283	0.008132	7.54E-06	0.000176	0.000162	0.000412	1.326314	
1	2020	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	393.1267	0.033707	0.09639	0.000406	0.003887	0.003576	0.021763	74.64927	
1	2020	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	188.7008	0.006006	0.021927	4.52E-05	0.001446	0.00133	0.002781	7.533108	
1	2020	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	283.0512	0.024269	0.069401	0.000293	0.002798	0.002575	0.015678	53.74747	
1	2020	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	94.3504	0.005135	0.01199	3.05E-05	0.001132	0.001041	0.001794	5.224769	
1	2020	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	94.3504	0.004691	0.01078	3.02E-05	0.001013	0.000932	0.001743	5.224904	
1	2020	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	94.3504	0.00365	0.006841	6.15E-06	0.000542	0.000498	0.000725	0.827662	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	109.12	0.004605	0.010623	3.43E-05	0.000947	0.000872	0.001931	6.043022	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	109.12	0.009356	0.026755	0.000113	0.001079	0.000993	0.006062	20.72037	
1	2020	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	109.12	0.00363	0.008709	3.35E-05	0.000672	0.000618	0.001852	6.043227	
1	2020	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	109.12	0.005938	0.013867	3.53E-05	0.001309	0.001205	0.002071	6.042654	
1	2020	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	175	0.43	109.12	0.003473	0.01268	2.61E-05	0.000836	0.000769	0.001622	4.35617	

1	2020	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	600	0.59	109.12	0.009356	0.026755	0.000113	0.001079	0.000993	0.006062	20.72037
1	2020	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	100	0.59	109.12	0.009252	0.009272	2.24E-05	0.001111	0.001022	0.001271	3.834663
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	60.62222	0.005198	0.014864	6.26E-05	0.000599	0.000551	0.003381	11.51131
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	60.62222	0.003299	0.007704	1.96E-05	0.000727	0.000669	0.001162	3.35703
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	60.62222	0.001929	0.007044	1.45E-05	0.000464	0.000427	0.000915	2.420094
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	60.62222	0.005198	0.014864	6.26E-05	0.000599	0.000551	0.003381	11.51131
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	60.62222	0.005572	0.004313	5.67E-06	0.000769	0.000707	0.000948	0.883663
1	2020	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	1440	0.123467	0.353072	0.001488	0.014237	0.013098	0.079639	273.4359
1	2020	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	157.2507	0.006636	0.015309	4.94E-05	0.001365	0.001256	0.002774	8.70848
1	2020	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	157.2507	0.013483	0.038556	0.000163	0.001555	0.00143	0.008723	29.85971
1	2020	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	157.2507	0.013483	0.038556	0.000163	0.001555	0.00143	0.008723	29.85971
1	2020	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	72.57723	0.006154	0.006167	1.49E-05	0.000739	0.00068	0.000852	2.550488
1	2020	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	117.938	0.004977	0.011482	3.71E-05	0.001024	0.000942	0.002085	6.53136
1	2020	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	314.5013	0.026966	0.077112	0.000325	0.003109	0.002861	0.017417	59.71942
1	2020	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	94.3504	0.003138	0.00753	2.90E-05	0.000581	0.000535	0.001603	5.225265
1	2020	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	94.3504	0.00809	0.023134	9.75E-05	0.000933	0.000858	0.005246	17.91582

1	2020	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	94.3504	0.008	0.008017	1.94E-05	0.000961	0.000884	0.001102	3.315634
1	2020	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	117.938	0.025084	0.062323	0.000133	0.003704	0.003408	0.007189	22.39318
1	2020	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	44.4	0.001874	0.004323	1.39E-05	0.000385	0.000355	0.000797	2.458854
1	2020	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	37.77778	0.003239	0.009263	3.90E-05	0.000373	0.000344	0.002118	7.173473
1	2020	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	151.1111	0.012956	0.037051	0.000156	0.001494	0.001374	0.008384	28.69389
1	2020	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	151.1111	0.004809	0.017559	3.62E-05	0.001158	0.001065	0.002234	6.032493
1	2020	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	151.1111	0.012956	0.037051	0.000156	0.001494	0.001374	0.008384	28.69389
1	2020	Taxiways	Fencing	Skid Steer Loader	Diesel	75	0.21	151.1111	0.011292	0.012262	1.10E-05	0.00165	0.001518	0.002248	1.650439
1	2020	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	151.1111	0.013888	0.010752	1.41E-05	0.001917	0.001763	0.002246	2.202679
1	2020	Taxiways	Grading	Dozer	Diesel	175	0.59	32.1734	0.001358	0.003132	1.01E-05	0.000279	0.000257	0.000583	1.78175
1	2020	Taxiways	Grading	Grader	Diesel	300	0.59	32.1734	0.001526	0.004735	1.69E-05	0.000236	0.000217	0.000949	3.054534
1	2020	Taxiways	Grading	Roller	Diesel	100	0.59	32.1734	0.002728	0.002734	6.61E-06	0.000328	0.000301	0.000388	1.130628
1	2020	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	28.985	0.002485	0.007107	3.00E-05	0.000287	0.000264	0.001632	5.503847
1	2020	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	28.985	0.002485	0.007107	3.00E-05	0.000287	0.000264	0.001632	5.503847
1	2020	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	46.33333	0.003973	0.01136	4.79E-05	0.000458	0.000421	0.002591	8.798054
1	2020	Taxiways	Lighting	Loader	Diesel	175	0.59	46.33333	0.002521	0.005888	1.50E-05	0.000556	0.000511	0.000894	2.565765
1	2020	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	46.33333	0.001475	0.005384	1.11E-05	0.000355	0.000327	0.000707	1.849669
1	2020	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	46.33333	0.003973	0.01136	4.79E-05	0.000458	0.000421	0.002591	8.798054
1	2020	Taxiways	Lighting	Skid Steer Loader	Diesel	75	0.21	46.33333	0.003462	0.00376	3.37E-06	0.000506	0.000465	0.000725	0.506054
1	2020	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	46.33333	0.004258	0.003297	4.33E-06	0.000588	0.000541	0.000743	0.67538
1	2020	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	582.8571	0.049975	0.14291	0.000602	0.005763	0.005302	0.032252	110.6764
1	2020	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	582.8571	0.018551	0.067728	0.00014	0.004466	0.004109	0.008525	23.26819
1	2020	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	582.8571	0.049975	0.14291	0.000602	0.005763	0.005302	0.032252	110.6764
1	2020	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	26.8	0.000853	0.003114	6.42E-06	0.000205	0.000189	0.000422	1.06988

1	2020	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	53.6	0.004596	0.013142	5.54E-05	0.00053	0.000488	0.002993	10.17789
1	2020	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	26.8	0.000623	0.000642	5.54E-07	5.83E-05	5.37E-05	9.14E-05	0.074592
1	2020	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	26.8	0.002463	0.001907	2.51E-06	0.00034	0.000313	0.000463	0.390652
1	2020	Taxiways	Subbase Placement	Dozer	Diesel	175	0.59	59.58947	0.002515	0.005801	1.87E-05	0.000517	0.000476	0.001063	3.300042
1	2020	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	419.3333	0.035954	0.102816	0.000433	0.004146	0.003814	0.023212	79.62555
1	2020	Taxiways	Subbase Placement	Pickup Truck	Diesel	600	0.59	59.58947	0.005109	0.014611	6.16E-05	0.000589	0.000542	0.003324	11.31521
1	2020	Taxiways	Subbase Placement	Roller	Diesel	100	0.59	58.06154	0.004923	0.004934	1.19E-05	0.000591	0.000544	0.000685	2.040381
1	2020	Taxiways	Topsoil Placement	Dozer	Diesel	175	0.59	71.496	0.003017	0.00696	2.25E-05	0.000621	0.000571	0.001272	3.95942
1	2020	Taxiways	Topsoil Placement	Dump Truck	Diesel	600	0.59	71.496	0.00613	0.01753	7.39E-05	0.000707	0.00065	0.003982	13.57609
1	2020	Taxiways	Topsoil Placement	Pickup Truck	Diesel	600	0.59	71.496	0.00613	0.01753	7.39E-05	0.000707	0.00065	0.003982	13.57609

On-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Equipment	Equipment Category	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Distance for fugitive PM	Number of Vehicles	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Rate	VMT	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O

1	2020	Taxiways	Cement Mixer	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	6	--		129	3400	75	--	--	--	--	--	58969	0.067424	0.129473	0.000569	0.004815	0.004671	0.000906	73.8539	0.011545	0.004105
1	2020	Taxiways	Dump Truck Subbase Material	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	4	--		129	3400	75	--	--	--	--	--	31450	0.038067	0.069258	0.000304	0.00257	0.002493	0.000574	39.41392	0.006158	0.002189
1	2020	Taxiways	Passenger Car	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	--		97.35	97.35	129	--	--	--	--	--	--	--	376745	1.229417	0.07644	0.000962	0.002825	0.002602	0.074242	136.9163	0.021112	0.001476

Fugitive Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Scenario ID	Year	Project	Fugitive Source Type	Number of Months	CO	NOx	SO2	PM10	VOC
1	2020	Taxiways	Concrete Mixing/Batching	6	0	0	0	0.2182	0
1	2020	Taxiways	Material Movement (Paved Roads)	6	0	0	0	0.02995	0
1	2020	Taxiways	Material Movement (Unpaved Roads)	6	0	0	0	0.1014	0
1	2020	Taxiways	Soil Handling	6	0	0	0	0.0722	0
1	2020	Taxiways	Unstabilized Land and Wind Erosion	6	0	0	0	5.15E-08	0

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Scenarios

Scenario ID	Year	Number of Months	Season	Average Daily Temp (degF)	Max Daily Temp Change (degF)	Min Daily Temp Change (degF)
1	2020	6	Winter	50 < T <= 80	10 <= Change in T < 20	10 <= Change in T < 20
2						

Project
Final
Selections

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	
1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	

1	Taxiways	Concrete Placement	Air Compressor	Diesel
1	Taxiways	Concrete Placement	Concrete Saws	Diesel
1	Taxiways	Concrete Placement	Concrete Truck	Diesel
1	Taxiways	Concrete Placement	Other General Equipment	Diesel
1	Taxiways	Concrete Placement	Pickup Truck	Diesel
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Dozer	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Dump Truck	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Excavator	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Loader	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Other General Equipment	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Pickup Truck	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Roller	Diesel
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Loader	Diesel

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Dust Control	Water Truck	Diesel
1	Taxiways	Excavation (Borrow)	Dozer	Diesel
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel
1	Taxiways	Excavation (Borrow)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel
1	Taxiways	Fencing	Concrete Truck	Diesel
1	Taxiways	Fencing	Dump Truck	Diesel
1	Taxiways	Fencing	Other General Equipment	Diesel

1	Taxiways	Fencing	Pickup Truck	Diesel
1	Taxiways	Fencing	Skid Steer Loader	Diesel
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Grading	Dozer	Diesel
1	Taxiways	Grading	Grader	Diesel
1	Taxiways	Grading	Roller	Diesel
1	Taxiways	Hydroseeding	Hydroseeder	Diesel
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel
1	Taxiways	Lighting	Dump Truck	Diesel
1	Taxiways	Lighting	Loader	Diesel
1	Taxiways	Lighting	Other General Equipment	Diesel
1	Taxiways	Lighting	Pickup Truck	Diesel
1	Taxiways	Lighting	Skid Steer Loader	Diesel
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Markings	Flatbed Truck	Diesel
1	Taxiways	Markings	Other General Equipment	Diesel
1	Taxiways	Markings	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Subbase Placement	Dozer	Diesel
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel
1	Taxiways	Subbase Placement	Pickup Truck	Diesel

1	Taxiways	Subbase Placement	Roller		Diesel
1	Taxiways	Topsoil Placement	Dozer		Diesel
1	Taxiways	Topsoil Placement	Dump Truck		Diesel
1	Taxiways	Topsoil Placement	Pickup Truck		Diesel

Overall Size

Scenario ID	Project	Project Size Questions	User Input	Unit
1	Taxiways	What is the estimated cost of the project?	8.85	$ Million(s)
1	Taxiways	What is the maximum length of the taxiway (L) in feet?	3400	Feet
1	Taxiways	What is the maximum width of the taxiway (W) in feet?	75	Feet

Size Detail (Estimated based on engineering experience)

ScenarioID	Project	Construction Activity	Default Activity Size	Unit	User Activity Size
1	Taxiways	Clearing and Grubbing	6.7	Acres	
1	Taxiways	Concrete Placement	11793.8	Cubic Yards	

1	Taxiways	Drainage - 24 inch SICPP			3410			Linear Feet	
1	Taxiways	Drainage - 6 inch Perforated Underdrain			6820			Linear Feet	
1	Taxiways	Dust Control			180			Days	
1	Taxiways	Excavation (Borrow)			11793.8			Cubic Yards	
1	Taxiways	Excavation (Cut to Fill)			11793.8			Cubic Yards	
1	Taxiways	Excavation (Topsoil Stripping)			28305			Square Yards	
1	Taxiways	Fencing			3400			Linear Feet	
1	Taxiways	Grading			32173.4			Square Yards	
1	Taxiways	Hydroseeding			289850			Square Feet	
1	Taxiways	Lighting			6950			Linear Feet	
1	Taxiways	Markings			255000			Square Feet	
1	Taxiways	Soil Erosion/Sediment Control			6.7			Acres	
1	Taxiways	Subbase Placement			28305			Square Yards	
1	Taxiways	Subbase Placement			9435			Cubic Yards	
1	Taxiways	Topsoil Placement			5362.2			Cubic Yards	

Activity: Non-Road (Estimated based on engineering experience)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Activity Size	Activity Rate	Default Activity	Activity Unit	User Activity Data

1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	6.70 Acre	12 Hours per 1.00 Acre	80.4	hours
1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	6.70 Acre	12 Hours per 1.00 Acre	80.4	hours
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	6.70 Acre	16 Hours per 1.00 Acre	107.2	hours
1	Taxiways	Concrete Placement	Air Compressor	Diesel	11793.80 CY	8 Hours per 1000.00 CY	94.35	hours
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	11793.80 CY	8 Hours per 1000.00 CY	94.35	hours
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	11793.80 CY	8 Hours per 240.00 CY	393.13	hours
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	11793.80 CY	16 Hours per 1000.00 CY	188.7	hours
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	11793.80 CY	24 Hours per 1000.00 CY	283.05	hours
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	11793.80 CY	8 Hours per 1000.00 CY	94.35	hours
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	11793.80 CY	8 Hours per 1000.00 CY	94.35	hours
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	11793.80 CY	8 Hours per 1000.00 CY	94.35	hours
1	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	3410.00 LF	8 Hours per 250.00 LF	109.12	hours
1	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	3410.00 LF	8 Hours per 250.00 LF	109.12	hours
1	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	3410.00 LF	8 Hours per 250.00 LF	109.12	hours
1	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	3410.00 LF	8 Hours per 250.00 LF	109.12	hours
1	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	3410.00 LF	8 Hours per 250.00 LF	109.12	hours

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1	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	3410.00 LF	8 Hours per 250.00 LF	109.12	hours
1	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	3410.00 LF	8 Hours per 250.00 LF	109.12	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	6820.00 LF	8 Hours per 900.00 LF	60.62	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	6820.00 LF	8 Hours per 900.00 LF	60.62	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	6820.00 LF	8 Hours per 900.00 LF	60.62	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	6820.00 LF	8 Hours per 900.00 LF	60.62	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	6820.00 LF	8 Hours per 900.00 LF	60.62	hours
1	Taxiways	Dust Control	Water Truck	Diesel	180.00 Day	8 Hours per 1.00 Day	1440	hours
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	11793.80 CY	8 Hours per 600.00 CY	157.25	hours
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	11793.80 CY	8 Hours per 600.00 CY	157.25	hours
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	11793.80 CY	8 Hours per 600.00 CY	157.25	hours
1	Taxiways	Excavation (Borrow)	Roller	Diesel	11793.80 CY	8 Hours per 1300.00 CY	72.58	hours
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	11793.80 CY	8 Hours per 800.00 CY	117.94	hours
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	11793.80 CY	8 Hours per 300.00 CY	314.5	hours
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	11793.80 CY	8 Hours per 1000.00 CY	94.35	hours

1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	11793.80 CY	8 Hours per 1000.00 CY	94.35	hours
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	11793.80 CY	8 Hours per 1000.00 CY	94.35	hours
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	11793.80 CY	8 Hours per 800.00 CY	117.94	hours
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	28305.00 SY	8 Hours per 5100.00 SY	44.4	hours
1	Taxiways	Fencing	Concrete Truck	Diesel	3400.00 LF	2 Hours per 180.00 LF	37.78	hours
1	Taxiways	Fencing	Dump Truck	Diesel	3400.00 LF	8 Hours per 180.00 LF	151.11	hours
1	Taxiways	Fencing	Other General Equipment	Diesel	3400.00 LF	8 Hours per 180.00 LF	151.11	hours
1	Taxiways	Fencing	Pickup Truck	Diesel	3400.00 LF	8 Hours per 180.00 LF	151.11	hours
1	Taxiways	Fencing	Skid Steer Loader	Diesel	3400.00 LF	8 Hours per 180.00 LF	151.11	hours
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	3400.00 LF	8 Hours per 180.00 LF	151.11	hours
1	Taxiways	Grading	Dozer	Diesel	32173.40 SY	8 Hours per 8000.00 SY	32.17	hours
1	Taxiways	Grading	Grader	Diesel	32173.40 SY	8 Hours per 8000.00 SY	32.17	hours
1	Taxiways	Grading	Roller	Diesel	32173.40 SY	8 Hours per 8000.00 SY	32.17	hours
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	289850.00 SF	8 Hours per 80000.00 SF	28.99	hours
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	289850.00 SF	8 Hours per 80000.00 SF	28.99	hours
1	Taxiways	Lighting	Dump Truck	Diesel	6950.00 LF	8 Hours per 1200.00 LF	46.33	hours
1	Taxiways	Lighting	Loader	Diesel	6950.00 LF	8 Hours per 1200.00 LF	46.33	hours

1	Taxiways	Lighting	Other General Equipment	Diesel	6950.00 LF	8 Hours per 1200.00 LF	46.33	hours
1	Taxiways	Lighting	Pickup Truck	Diesel	6950.00 LF	8 Hours per 1200.00 LF	46.33	hours
1	Taxiways	Lighting	Skid Steer Loader	Diesel	6950.00 LF	8 Hours per 1200.00 LF	46.33	hours
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	6950.00 LF	8 Hours per 1200.00 LF	46.33	hours
1	Taxiways	Markings	Flatbed Truck	Diesel	255000.00 SF	8 Hours per 3500.00 SF	582.86	hours
1	Taxiways	Markings	Other General Equipment	Diesel	255000.00 SF	8 Hours per 3500.00 SF	582.86	hours
1	Taxiways	Markings	Pickup Truck	Diesel	255000.00 SF	8 Hours per 3500.00 SF	582.86	hours
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	6.70 Acre	4 Hours per 1.00 Acre	26.8	hours
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	6.70 Acre	8 Hours per 1.00 Acre	53.6	hours
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	6.70 Acre	4 Hours per 1.00 Acre	26.8	hours
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	6.70 Acre	4 Hours per 1.00 Acre	26.8	hours
1	Taxiways	Subbase Placement	Dozer	Diesel	28305.00 SY	8 Hours per 3800.00 SY	59.59	hours
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	9435.00 CY	8 Hours per 180.00 CY	419.33	hours
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	28305.00 SY	8 Hours per 3800.00 SY	59.59	hours
1	Taxiways	Subbase Placement	Roller	Diesel	9435.00 CY	8 Hours per 1300.00 CY	58.06	hours
1	Taxiways	Topsoil Placement	Dozer	Diesel	5362.20 CY	8 Hours per 600.00 CY	71.5	hours

1	Taxiways	Topsoil Placement	Dump Truck	Diesel	5362.20 CY	8 Hours per 600.00 CY	71.5	hours	
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	5362.20 CY	8 Hours per 600.00 CY	71.5	hours	

Activity: On-Road (Estimated based on engineering experience)

Scenario ID	Project	Equipment	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Size	Activity Rate	Default VMT	User VMT
1	Taxiways	Cement Mixer	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	3400	75	--	--	--	--	--	--	58969	
1	Taxiways	Dump Truck Subbase Material	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	3400	75	--	--	--	--	--	--	31450	
1	Taxiways	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	97.35	129	--	--	--	--	--	--	--	--	376745	

Emission Factor: Non-Road (from NONROAD)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Avg Rated HP	Load Factor	CO (g/hp-hr)	NOx (g/hp-hr)	CO2 (g/hp-hr)	SO2 (g/hp-hr)	PM10 (g/hp-hr)	PM2.5 (g/hp-hr)	VOC Exhaust (g/hp-hr)	VOC Evaporative (g/equipment-day)	
1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	293.535	1.322993	685.9963	0.140192	9.748189	8.968334	61.88836	26.88131	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***

1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	1.6976	3.014009	589.3092	0.003468	0.294053	0.270529	0.349775	0.206615
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	1.104829	1.794373	589.7346	0.003245	0.158031	0.145388	0.20937	0.195896
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	0.522532	3.313194	595.6491	0.003072	0.071525	0.065803	0.167578	0.002633
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	0.436875	1.003913	536.3453	0.002812	0.094305	0.086761	0.16014	0.161771
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	2.379151	4.459281	594.7267	0.004009	0.353137	0.324886	0.472055	0.003483
1	Taxiways	SICPP Drainage - 24 inch	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	SICPP Drainage - 24 inch	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	SICPP Drainage - 24 inch	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	SICPP Drainage - 24 inch	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	SICPP Drainage - 24 inch	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	SICPP Drainage - 24 inch	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	SICPP Drainage - 24 inch	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	0.545055	1.354215	536.363	0.002882	0.080485	0.074046	0.154332	0.607685
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

1	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Grading	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Grading	Grader	Diesel	300	0.59	0.24308	0.754295	536.3826	0.002696	0.037599	0.034591	0.147818	0.147813
1	Taxiways	Grading	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	4.4591	4.594026	588.4291	0.003967	0.417534	0.384131	0.640288	0.013554
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Subbase Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385

1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Subbase Placement	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296								
1	Taxiways	Topsoil Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385								
1	Taxiways	Topsoil Placement	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								

Emission Factors: On-Road (from MOVES)

Scenario ID	Project Type	Equipment	Fuel Type	Roadway Type	CO(g/mi)	NOx(g/mi)	CO2(g/mi)	SO2(g/mi)	PM10(g/mi)	PM2.5(g/mi)	CH4(g/mi)	N2O(g/mi)	VOC(g/mi)	RV CO(g/veh-day)	RV NOx(g/veh-day)	RV CO2(g/veh-day)	RV SO2(g/veh-day)	RV PM10(g/veh-day)	RV PM2.5(g/veh-day)	RV VOC(g/veh-day)	RP VOC(g/veh-day)
1	Taxiways	Cement Mixer	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Dump Truck Subbase Material	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Passenger Car	Gasoline	Urban Unrestricted Access	1.689671	0.102635	348.7876	0.002224	0.005214	0.004801	0.056039	0.003919	0.001767	38.12089	2.442831	438.9424	0.002799	0.047668	0.043893	5.310081	0

Fugitive Emissions (Emission Factors from Various Sources including AP-42)

Scenario ID	Project	Fugitive Type	Variable	Default Values	Units	User Value
1	Taxiways	Concrete Mixing/Batching	V = Volume of asphalt = 0.111 x L x W x 1.25 / 3	11793.8	yd3	

1 Taxiways	Concrete Mixing/Batching	PM10 = 0.037 x V	436.4	lbs
1 Taxiways	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
1 Taxiways	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
1 Taxiways	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	7404.9	miles
1 Taxiways	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	202.8	lbs
1 Taxiways	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m3
1 Taxiways	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
1 Taxiways	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	6450	miles
1 Taxiways	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	59.9	lbs
1 Taxiways	Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	5.854	acres
1 Taxiways	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
1 Taxiways	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction

1	Taxiways	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.5	years
1	Taxiways	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0	lbs
1	Taxiways	Soil Handling	u = Wind speed	5	mph
1	Taxiways	Soil Handling	m = Moisture content	0.25	fraction
1	Taxiways	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	7012.5	tons
1	Taxiways	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	144.4	lbs

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ASSUMPTIONS

Emission factors were developed from the following models:

On-Road Vehicles: MOVES 2010b, revised January 2013

Non-Road Equipment: NONROAD2008a, July 2009

In addition to the overall project size dimensions (e.g., Length and width) provided by the user, an additional 10 ft length and 10 ft width is added to account for disturbance areas.

The number of employees is based on the higher of two methods: (1) number of equipment, and (2) multiply the project cost in million by 11.

The average employee travels 30 miles round-trip from home to construction site each day.

The average on-road material delivery round-trip distance per truck is 40 miles per day.

For calculating fugitive, re-entrained PM emissions from on-road and non-road material delivery and handling equipment, a nominal VMT of 5 miles is used for each vehicle per day.

In deriving emission factors from NONROAD, the horsepower for each equipment represents the most popular in each equipment category.

The total length of each modeled scenario is used to define the number of days associated with vehicle/equipment evaporative emissions.

The choice of location and season are assumed to adequately represent differences in fuel characteristics affecting emissions.

Only two seasons (Summer and Winter) are used to represent all seasons.

14 U.S. Counties are used to represent all other counties in the U.S. (all other counties are mapped to the 14).

The default methods assume that all construction equipment use diesel as well as heavy-duty on-road vehicles, while passenger vehicles (including motorcycles) use gasoline.

Fugitive emissions are only modeled for:

Asphalt drying
Asphalt storage and batching
Concrete mixing/batching
Soil handling
Unstabilized land and wind erosion
Material movement (unpaved roads)
Material movement (paved roads)

On-Road vehicle speeds are not explicitly modeled. The associated emission factors for each modeled vehicle from MOVES represent averages over the driving cycles, the roadway type, and daily temperature variations.

The default equipment hours-of-use data are developed based on the overall size of the project provided by the user and activity rates based on expert engineering judgment.

Under the Construction Activity Type list (Activity Tab), when a choice between asphalt and concrete materials occurs, asphalt is always selected as default. To choose concrete, de-select the aphalt item and select the corresponding concrete item.

Two trips per day were assumed for each on-road material handling trucks.

Only CO2, CH4, and N2O are used to represent greenhouse gas emissions. Other potential greenhouse gases including air conditioning refrigerants were not included.

The following equipment are always modeled using diesel emission factors since gasoline-based emission factors are not available:
Asphalt Deliveries/Ten Wheelers
Bulldozer
Concrete Ready Mix Trucks
Concrete Ready Trucks Mix for Cores
Concrete Truck
Crack Filler (Trailer Mounted)
Delivery of Tanks (3)
Distributing Tanker
Dozer
Dump Truck
Dump Truck (12 cy)
Excavator
Excavator for U/G Services/Tanks
Flat Bed or Dump Trucks
Flatbed Truck
Grader
Grout Wheel Truck
Hoist Equipment with 40 Ton Rig
Hydralic Hammer
Hydroseeder
Line Painting Truck and Sprayer
Material Deliveries
Off-Road Truck
Pickup Truck
Scraper
Seed Truck Spreader
Small Dozer
Survey Crew Trucks
Ten Wheelers
Ten Wheelers- Material Delivery
Tool Truck
Tractor Trailer- Equipment Delivery
Tractor Trailer- Material Delivery
Tractor Trailer- Steel Deliveries
Tractor Trailer- Stone Delivery
Tractor Trailer- Topsoil & Seed
Tractor Trailer- Truck Delivery
Tractor Trailer with Boom Hoist- Curbs Del & Place
Tractor Trailer with Boom Hoist- Delivery
Tractor Trailers- Rebar Deliveries
Tractor Trailers Temp Fac.
Truck for Topsoil & Seed Del&Spread
Water Truck
Excavator with Bucket
Excavator with Hoe Ram

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Airport Construction Emissions Inventory Tool (ACEIT)
Version 1.0
Run Date & Time: 4/9/2019 4:57:56 PM

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STUDY

Study Name

A-38

Study Description

Construct up to seven new taxiway connectors (V1-V7)
between the expanded west side apron (Project G-9) and new Taxiway V (for ADG-III aircraft).

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EMISSION
S
INVENTOR
Y -
SUMMAR
Y

Total
Emissions
by Year

Units for
Non-
Greenhou
se Gases
Emission:
Short Ton

Units for
Greenhou
se Gases
(CO2,
CH4, and
N2O)
Emission:
Metric
Ton

Year	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	1.217601	0.899652	0.004028	0.176758	0.03969	0.23589	688.6624	0.020081	0.003051

Total
Emissions
by Source
Categories

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases Emission: Metric Ton

Year	Emission Source	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	NonRoad	0.35041	0.783152	0.003092	0.038688	0.035593	0.185104	558.9453	--	--
2020	OnRoad	0.867191	0.1165	0.000937	0.004321	0.004097	0.050786	129.7171	0.020081	0.003051
2020	Fugitive	0	0	0	0.13375	--	0	--	--	--
2020	TOTAL	1.217601	0.899652	0.004028	0.176758	0.03969	0.23589	688.6624	0.020081	0.003051

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EMISSIONS INVENTORY - DETAILS:

Non-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Construction Activity	Equipment	Fuel	HP Average	Load Factor	Hours of Activity	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	
1	2020	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	25.2	0.062785	0.000283	3.00E-05	0.002085	0.001918	0.01706	0.133111	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	2020	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	25.2	0.002028	0.0036	4.14E-06	0.000351	0.000323	0.000447	0.638575	
1	2020	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	33.6	0.002881	0.008238	3.47E-05	0.000332	0.000306	0.001887	6.380171	
1	2020	Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	30.7384	0.00161	0.002614	4.73E-06	0.00023	0.000212	0.000333	0.779482	
1	2020	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	30.7384	0.000418	0.002649	2.46E-06	5.72E-05	5.26E-05	0.000134	0.432099	
1	2020	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	128.0767	0.010981	0.031403	0.000132	0.001266	0.001165	0.00711	24.31997	
1	2020	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	61.4768	0.001957	0.007144	1.47E-05	0.000471	0.000433	0.000928	2.45421	
1	2020	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	92.2152	0.007907	0.02261	9.53E-05	0.000912	0.000839	0.005128	17.51038	
1	2020	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	30.7384	0.001673	0.003906	9.95E-06	0.000369	0.000339	0.000602	1.702177	
1	2020	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	30.7384	0.001528	0.003512	9.84E-06	0.00033	0.000304	0.000583	1.702221	
1	2020	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	30.7384	0.001189	0.002229	2.00E-06	0.000176	0.000162	0.000236	0.269644	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	20.928	0.000883	0.002037	6.57E-06	0.000182	0.000167	0.000386	1.158984	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	20.928	0.001794	0.005131	2.16E-05	0.000207	0.00019	0.001187	3.973935	
1	2020	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	20.928	0.000696	0.00167	6.43E-06	0.000129	0.000119	0.000367	1.159024	
1	2020	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	20.928	0.001139	0.002659	6.77E-06	0.000251	0.000231	0.000418	1.158914	
1	2020	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	175	0.43	20.928	0.000666	0.002432	5.01E-06	0.00016	0.000148	0.000337	0.835465	

1	2020	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	600	0.59	20.928	0.001794	0.005131	2.16E-05	0.000207	0.00019	0.001187	3.973935
1	2020	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	100	0.59	20.928	0.001774	0.001778	4.30E-06	0.000213	0.000196	0.000259	0.735446
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	11.62667	0.000997	0.002851	1.20E-05	0.000115	0.000106	0.000673	2.207742
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	11.62667	0.000633	0.001477	3.76E-06	0.00014	0.000128	0.000243	0.643841
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	11.62667	0.00037	0.001351	2.79E-06	8.91E-05	8.20E-05	0.000201	0.464147
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	11.62667	0.000997	0.002851	1.20E-05	0.000115	0.000106	0.000673	2.207742
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	11.62667	0.001069	0.000827	1.09E-06	0.000147	0.000136	0.000245	0.169477
1	2020	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	1440	0.123467	0.353072	0.001488	0.014237	0.013098	0.079639	273.4359
1	2020	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	51.23067	0.002162	0.004988	1.61E-05	0.000445	0.000409	0.000917	2.837134
1	2020	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	51.23067	0.004393	0.012561	5.29E-05	0.000507	0.000466	0.002862	9.727989
1	2020	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	51.23067	0.004393	0.012561	5.29E-05	0.000507	0.000466	0.002862	9.727989
1	2020	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	23.64492	0.002005	0.002009	4.86E-06	0.000241	0.000222	0.00029	0.830923
1	2020	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	38.423	0.001621	0.003741	1.21E-05	0.000334	0.000307	0.000693	2.127851
1	2020	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	102.4613	0.008785	0.025122	0.000106	0.001013	0.000932	0.005694	19.45598
1	2020	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	30.7384	0.001022	0.002453	9.45E-06	0.000189	0.000174	0.000532	1.702338
1	2020	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	30.7384	0.002636	0.007537	3.18E-05	0.000304	0.00028	0.001729	5.836793

1	2020	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	30.7384	0.002606	0.002612	6.31E-06	0.000313	0.000288	0.000372	1.0802
1	2020	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	38.423	0.008172	0.020304	4.32E-05	0.001207	0.00111	0.0024	7.295471
1	2020	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	14.46494	0.00061	0.001408	4.54E-06	0.000126	0.000116	0.000273	0.801063
1	2020	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	7.155556	0.000614	0.001754	7.39E-06	7.07E-05	6.51E-05	0.000425	1.35874
1	2020	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	28.62222	0.002454	0.007018	2.96E-05	0.000283	0.00026	0.001612	5.434961
1	2020	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	28.62222	0.000911	0.003326	6.86E-06	0.000219	0.000202	0.000449	1.142625
1	2020	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	28.62222	0.002454	0.007018	2.96E-05	0.000283	0.00026	0.001612	5.434961
1	2020	Taxiways	Fencing	Skid Steer Loader	Diesel	75	0.21	28.62222	0.002139	0.002323	2.08E-06	0.000312	0.000287	0.000467	0.312613
1	2020	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	28.62222	0.002631	0.002037	2.68E-06	0.000363	0.000334	0.000489	0.417213
1	2020	Taxiways	Grading	Dozer	Diesel	175	0.59	10.0906	0.000426	0.000982	3.17E-06	8.76E-05	8.06E-05	0.000196	0.558813
1	2020	Taxiways	Grading	Grader	Diesel	300	0.59	10.0906	0.000479	0.001485	5.31E-06	7.40E-05	6.81E-05	0.000312	0.957999
1	2020	Taxiways	Grading	Roller	Diesel	100	0.59	10.0906	0.000856	0.000857	2.07E-06	0.000103	9.45E-05	0.000135	0.354601
1	2020	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	9.0906	0.000779	0.002229	9.39E-06	8.99E-05	8.27E-05	0.000532	1.726178
1	2020	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	9.0906	0.000779	0.002229	9.39E-06	8.99E-05	8.27E-05	0.000532	1.726178
1	2020	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	10.30667	0.000884	0.002527	1.07E-05	0.000102	9.37E-05	0.0006	1.957092
1	2020	Taxiways	Lighting	Loader	Diesel	175	0.59	10.30667	0.000561	0.00131	3.34E-06	0.000124	0.000114	0.000219	0.570744
1	2020	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	10.30667	0.000328	0.001198	2.47E-06	7.90E-05	7.27E-05	0.000182	0.411452
1	2020	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	10.30667	0.000884	0.002527	1.07E-05	0.000102	9.37E-05	0.0006	1.957092
1	2020	Taxiways	Lighting	Skid Steer Loader	Diesel	75	0.21	10.30667	0.00077	0.000836	7.51E-07	0.000113	0.000104	0.000201	0.11257
1	2020	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	10.30667	0.000947	0.000733	9.64E-07	0.000131	0.00012	0.000226	0.150236
1	2020	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	189.888	0.016281	0.046558	0.000196	0.001877	0.001727	0.010528	36.05708
1	2020	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	189.888	0.006044	0.022065	4.55E-05	0.001455	0.001339	0.002799	7.580502
1	2020	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	189.888	0.016281	0.046558	0.000196	0.001877	0.001727	0.010528	36.05708
1	2020	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	8.4	0.000267	0.000976	2.01E-06	6.44E-05	5.92E-05	0.000154	0.335336

1	2020	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel		600	0.59	16.8	0.00144	0.004119	1.74E-05	0.000166	0.000153	0.000959	3.190086									
1	2020	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel		11	0.43	8.4	0.000195	0.000201	1.74E-07	1.83E-05	1.68E-05	3.00E-05	0.023379									
1	2020	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel		100	0.21	8.4	0.000772	0.000598	7.85E-07	0.000107	9.80E-05	0.000199	0.122443									
1	2020	Taxiways	Subbase Placement	Dozer	Diesel		175	0.59	19.41347	0.000819	0.00189	6.10E-06	0.000169	0.000155	0.00036	1.075111									
1	2020	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel		600	0.59	136.6133	0.011713	0.033496	0.000141	0.001351	0.001243	0.007582	25.94097									
1	2020	Taxiways	Subbase Placement	Pickup Truck	Diesel		600	0.59	19.41347	0.001665	0.00476	2.01E-05	0.000192	0.000177	0.001103	3.686348									
1	2020	Taxiways	Subbase Placement	Roller	Diesel		100	0.59	18.91569	0.001604	0.001607	3.89E-06	0.000193	0.000177	0.000236	0.66473									
1	2020	Taxiways	Topsoil Placement	Dozer	Diesel		175	0.59	22.424	0.000946	0.002183	7.04E-06	0.000195	0.000179	0.000412	1.241832									
1	2020	Taxiways	Topsoil Placement	Dump Truck	Diesel		600	0.59	22.424	0.001923	0.005498	2.32E-05	0.000222	0.000204	0.001269	4.258005									
1	2020	Taxiways	Topsoil Placement	Pickup Truck	Diesel		600	0.59	22.424	0.001923	0.005498	2.32E-05	0.000222	0.000204	0.001269	4.258005									

On-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO_2, CH_4, and N_2O) Emission: Metric Ton

Scenario ID	Year	Project	Equipment	Equipment Category	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Distance for fugitive PM	Number of Vehicles	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Rate	VMT	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O

1	2020	Taxiways	Cement Mixer	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	2	--		129	644	129	--	--	--	--	--	19211	0.022085	0.042192	0.000185	0.001569	0.001522	0.0003	24.06166	0.003761	0.001337
1	2020	Taxiways	Dump Truck Subbase Material	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	1	--		129	644	129	--	--	--	--	--	10246	0.011603	0.022485	9.89E-05	0.000836	0.000811	0.000153	12.83094	0.002006	0.000713
1	2020	Taxiways	Passenger Car	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	--		66	66	129	--	--	--	--	--	--	--	255420	0.833503	0.051823	0.000652	0.001915	0.001764	0.050333	92.82448	0.014314	0.001001

Fugitive Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Scenario ID	Year	Project	Fugitive Source Type	Number of Months	CO	NOx	SO2	PM10	VOC
1	2020	Taxiways	Concrete Mixing/Batching	6	0	0	0	0.0711	0
1	2020	Taxiways	Material Movement (Paved Roads)	6	0	0	0	0.009	0
1	2020	Taxiways	Material Movement (Unpaved Roads)	6	0	0	0	0.03015	0
1	2020	Taxiways	Soil Handling	6	0	0	0	0.0235	0
1	2020	Taxiways	Unstabilized Land and Wind Erosion	6	0	0	0	1.68E-08	0

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Scenarios

Scenario ID	Year	Number of Months	Season	Average Daily Temp (degF)	Max Daily Temp Change (degF)	Min Daily Temp Change (degF)
1	2020	6	Winter	50 < T <= 80	10 <= Change in T < 20	10 <= Change in T < 20
2						

Project
Final
Selections

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	
1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	

1	Taxiways	Concrete Placement	Air Compressor	Diesel
1	Taxiways	Concrete Placement	Concrete Saws	Diesel
1	Taxiways	Concrete Placement	Concrete Truck	Diesel
1	Taxiways	Concrete Placement	Other General Equipment	Diesel
1	Taxiways	Concrete Placement	Pickup Truck	Diesel
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Dozer	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Dump Truck	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Excavator	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Loader	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Other General Equipment	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Pickup Truck	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Roller	Diesel
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Loader	Diesel

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Dust Control	Water Truck	Diesel
1	Taxiways	Excavation (Borrow)	Dozer	Diesel
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel
1	Taxiways	Excavation (Borrow)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel
1	Taxiways	Fencing	Concrete Truck	Diesel
1	Taxiways	Fencing	Dump Truck	Diesel
1	Taxiways	Fencing	Other General Equipment	Diesel

1	Taxiways	Fencing	Pickup Truck	Diesel
1	Taxiways	Fencing	Skid Steer Loader	Diesel
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Grading	Dozer	Diesel
1	Taxiways	Grading	Grader	Diesel
1	Taxiways	Grading	Roller	Diesel
1	Taxiways	Hydroseeding	Hydroseeder	Diesel
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel
1	Taxiways	Lighting	Dump Truck	Diesel
1	Taxiways	Lighting	Loader	Diesel
1	Taxiways	Lighting	Other General Equipment	Diesel
1	Taxiways	Lighting	Pickup Truck	Diesel
1	Taxiways	Lighting	Skid Steer Loader	Diesel
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Markings	Flatbed Truck	Diesel
1	Taxiways	Markings	Other General Equipment	Diesel
1	Taxiways	Markings	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Subbase Placement	Dozer	Diesel
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel
1	Taxiways	Subbase Placement	Pickup Truck	Diesel

1	Taxiways	Subbase Placement	Roller		Diesel
1	Taxiways	Topsoil Placement	Dozer		Diesel
1	Taxiways	Topsoil Placement	Dump Truck		Diesel
1	Taxiways	Topsoil Placement	Pickup Truck		Diesel

Overall Size

Scenario ID	Project	Project Size Questions	User Input	Unit
1	Taxiways	What is the estimated cost of the project?	2.88	$ Million(s)
1	Taxiways	What is the maximum length of the taxiway (L) in feet?	644	Feet
1	Taxiways	What is the maximum width of the taxiway (W) in feet?	129	Feet

Size Detail (Estimated based on engineering experience)

ScenarioID	Project	Construction Activity	Default Activity Size	Unit	User Activity Size
1	Taxiways	Clearing and Grubbing	2.1	Acres	
1	Taxiways	Concrete Placement	3842.3	Cubic Yards	

1	Taxiways	Drainage - 24 inch SICPP	654	Linear Feet	
1	Taxiways	Drainage - 6 inch Perforated Underdrain	1308	Linear Feet	
1	Taxiways	Dust Control	180	Days	
1	Taxiways	Excavation (Borrow)	3842.3	Cubic Yards	
1	Taxiways	Excavation (Cut to Fill)	3842.3	Cubic Yards	
1	Taxiways	Excavation (Topsoil Stripping)	9221.4	Square Yards	
1	Taxiways	Fencing	644	Linear Feet	
1	Taxiways	Grading	10090.6	Square Yards	
1	Taxiways	Hydroseeding	90906	Square Feet	
1	Taxiways	Lighting	1546	Linear Feet	
1	Taxiways	Markings	83076	Square Feet	
1	Taxiways	Soil Erosion/Sediment Control	2.1	Acres	
1	Taxiways	Subbase Placement	9221.4	Square Yards	
1	Taxiways	Subbase Placement	3073.8	Cubic Yards	
1	Taxiways	Topsoil Placement	1681.8	Cubic Yards	

Activity: Non-Road (Estimated based on engineering experience)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Activity Size	Activity Rate	Default Activity	Activity Unit	User Activity Data

1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	2.10 Acre	12 Hours per 1.00 Acre	25.2 hours
1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	2.10 Acre	12 Hours per 1.00 Acre	25.2 hours
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	2.10 Acre	16 Hours per 1.00 Acre	33.6 hours
1	Taxiways	Concrete Placement	Air Compressor	Diesel	3842.30 CY	8 Hours per 1000.00 CY	30.74 hours
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	3842.30 CY	8 Hours per 1000.00 CY	30.74 hours
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	3842.30 CY	8 Hours per 240.00 CY	128.08 hours
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	3842.30 CY	16 Hours per 1000.00 CY	61.48 hours
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	3842.30 CY	24 Hours per 1000.00 CY	92.22 hours
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	3842.30 CY	8 Hours per 1000.00 CY	30.74 hours
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	3842.30 CY	8 Hours per 1000.00 CY	30.74 hours
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	3842.30 CY	8 Hours per 1000.00 CY	30.74 hours
1	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	654.00 LF	8 Hours per 250.00 LF	20.93 hours
1	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	654.00 LF	8 Hours per 250.00 LF	20.93 hours
1	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	654.00 LF	8 Hours per 250.00 LF	20.93 hours
1	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	654.00 LF	8 Hours per 250.00 LF	20.93 hours
1	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	654.00 LF	8 Hours per 250.00 LF	20.93 hours

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1	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	654.00 LF	8 Hours per 250.00 LF	20.93	hours
1	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	654.00 LF	8 Hours per 250.00 LF	20.93	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	1308.00 LF	8 Hours per 900.00 LF	11.63	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	1308.00 LF	8 Hours per 900.00 LF	11.63	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	1308.00 LF	8 Hours per 900.00 LF	11.63	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	1308.00 LF	8 Hours per 900.00 LF	11.63	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	1308.00 LF	8 Hours per 900.00 LF	11.63	hours
1	Taxiways	Dust Control	Water Truck	Diesel	180.00 Day	8 Hours per 1.00 Day	1440	hours
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	3842.30 CY	8 Hours per 600.00 CY	51.23	hours
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	3842.30 CY	8 Hours per 600.00 CY	51.23	hours
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	3842.30 CY	8 Hours per 600.00 CY	51.23	hours
1	Taxiways	Excavation (Borrow)	Roller	Diesel	3842.30 CY	8 Hours per 1300.00 CY	23.64	hours
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	3842.30 CY	8 Hours per 800.00 CY	38.42	hours
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	3842.30 CY	8 Hours per 300.00 CY	102.46	hours
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	3842.30 CY	8 Hours per 1000.00 CY	30.74	hours

1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	3842.30 CY	8 Hours per 1000.00 CY	30.74	hours
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	3842.30 CY	8 Hours per 1000.00 CY	30.74	hours
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	3842.30 CY	8 Hours per 800.00 CY	38.42	hours
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	9221.40 SY	8 Hours per 5100.00 SY	14.46	hours
1	Taxiways	Fencing	Concrete Truck	Diesel	644.00 LF	2 Hours per 180.00 LF	7.16	hours
1	Taxiways	Fencing	Dump Truck	Diesel	644.00 LF	8 Hours per 180.00 LF	28.62	hours
1	Taxiways	Fencing	Other General Equipment	Diesel	644.00 LF	8 Hours per 180.00 LF	28.62	hours
1	Taxiways	Fencing	Pickup Truck	Diesel	644.00 LF	8 Hours per 180.00 LF	28.62	hours
1	Taxiways	Fencing	Skid Steer Loader Tractors/Loader/Backhoe	Diesel	644.00 LF	8 Hours per 180.00 LF	28.62	hours
1	Taxiways	Grading	Dozer	Diesel	10090.60 SY	8 Hours per 8000.00 SY	10.09	hours
1	Taxiways	Grading	Grader	Diesel	10090.60 SY	8 Hours per 8000.00 SY	10.09	hours
1	Taxiways	Grading	Roller	Diesel	10090.60 SY	8 Hours per 8000.00 SY	10.09	hours
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	90906.00 SF	8 Hours per 80000.00 SF	9.09	hours
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	90906.00 SF	8 Hours per 80000.00 SF	9.09	hours
1	Taxiways	Lighting	Dump Truck	Diesel	1546.00 LF	8 Hours per 1200.00 LF	10.31	hours
1	Taxiways	Lighting	Loader	Diesel	1546.00 LF	8 Hours per 1200.00 LF	10.31	hours

1	Taxiways	Lighting	Other General Equipment	Diesel	1546.00 LF	8 Hours per 1200.00 LF	10.31	hours
1	Taxiways	Lighting	Pickup Truck	Diesel	1546.00 LF	8 Hours per 1200.00 LF	10.31	hours
1	Taxiways	Lighting	Skid Steer Loader	Diesel	1546.00 LF	8 Hours per 1200.00 LF	10.31	hours
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	1546.00 LF	8 Hours per 1200.00 LF	10.31	hours
1	Taxiways	Markings	Flatbed Truck	Diesel	83076.00 SF	8 Hours per 3500.00 SF	189.89	hours
1	Taxiways	Markings	Other General Equipment	Diesel	83076.00 SF	8 Hours per 3500.00 SF	189.89	hours
1	Taxiways	Markings	Pickup Truck	Diesel	83076.00 SF	8 Hours per 3500.00 SF	189.89	hours
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	2.10 Acre	4 Hours per 1.00 Acre	8.4	hours
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	2.10 Acre	8 Hours per 1.00 Acre	16.8	hours
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	2.10 Acre	4 Hours per 1.00 Acre	8.4	hours
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	2.10 Acre	4 Hours per 1.00 Acre	8.4	hours
1	Taxiways	Subbase Placement	Dozer	Diesel	9221.40 SY	8 Hours per 3800.00 SY	19.41	hours
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	3073.80 CY	8 Hours per 180.00 CY	136.61	hours
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	9221.40 SY	8 Hours per 3800.00 SY	19.41	hours
1	Taxiways	Subbase Placement	Roller	Diesel	3073.80 CY	8 Hours per 1300.00 CY	18.92	hours
1	Taxiways	Topsoil Placement	Dozer	Diesel	1681.80 CY	8 Hours per 600.00 CY	22.42	hours

1	Taxiways	Topsoil Placement	Dump Truck	Diesel	1681.80 CY	8 Hours per 600.00 CY	22.42	hours	
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	1681.80 CY	8 Hours per 600.00 CY	22.42	hours	

Activity: On-Road (Estimated based on engineering experience)

Scenario ID	Project	Equipment	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Size	Activity Rate	Default VMT	User VMT
1	Taxiways	Cement Mixer	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	644	129	--	--	--	--	--	--	19211	
1	Taxiways	Dump Truck Subbase Material	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	644	129	--	--	--	--	--	--	10246	
1	Taxiways	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	66	129	--	--	--	--	--	--	--	--	255420	

Emission Factor: Non-Road (from NONROAD)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Avg Rated HP	Load Factor	CO (g/hp-hr)	NOx (g/hp-hr)	CO2 (g/hp-hr)	SO2 (g/hp-hr)	PM10 (g/hp-hr)	PM2.5 (g/hp-hr)	VOC Exhaust (g/hp-hr)	VOC Evaporative (g/equipment-day)	
1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	293.535	1.322993	685.9963	0.140192	9.748189	8.968334	61.88836	26.88131	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***

1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	1.6976	3.014009	589.3092	0.003468	0.294053	0.270529	0.349775	0.206615
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	1.104829	1.794373	589.7346	0.003245	0.158031	0.145388	0.20937	0.195896
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	0.522532	3.313194	595.6491	0.003072	0.071525	0.065803	0.167578	0.002633
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	0.436875	1.003913	536.3453	0.002812	0.094305	0.086761	0.16014	0.161771
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	2.379151	4.459281	594.7267	0.004009	0.353137	0.324886	0.472055	0.003483
1	Taxiways	SICPP Drainage - 24 inch	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	SICPP Drainage - 24 inch	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	SICPP Drainage - 24 inch	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	SICPP Drainage - 24 inch	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	SICPP Drainage - 24 inch	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	SICPP Drainage - 24 inch	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	SICPP Drainage - 24 inch	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	0.545055	1.354215	536.363	0.002882	0.080485	0.074046	0.154332	0.607685
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

1	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Grading	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Grading	Grader	Diesel	300	0.59	0.24308	0.754295	536.3826	0.002696	0.037599	0.034591	0.147818	0.147813
1	Taxiways	Grading	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	4.4591	4.594026	588.4291	0.003967	0.417534	0.384131	0.640288	0.013554
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Subbase Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385

1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Subbase Placement	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296								
1	Taxiways	Topsoil Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385								
1	Taxiways	Topsoil Placement	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								

Emission Factors: On-Road (from MOVES)

Scenario ID	Project Type	Equipment	Fuel Type	Roadway Type	CO(g/mi)	NOx(g/mi)	CO2(g/mi)	SO2(g/mi)	PM10(g/mi)	PM2.5(g/mi)	CH4(g/mi)	N2O(g/mi)	VOC(g/mi)	RV CO(g/veh-day)	RV NOx(g/veh-day)	RV CO2(g/veh-day)	RV SO2(g/veh-day)	RV PM10(g/veh-day)	RV PM2.5(g/veh-day)	RV VOC(g/veh-day)	RP VOC(g/veh-day)
1	Taxiways	Cement Mixer	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Dump Truck Subbase Material	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Passenger Car	Gasoline	Urban Unrestricted Access	1.689671	0.102635	348.7876	0.002224	0.005214	0.004801	0.056039	0.003919	0.001767	38.12089	2.442831	438.9424	0.002799	0.047668	0.043893	5.310081	0

Fugitive Emissions (Emission Factors from Various Sources including AP-42)

Scenario ID	Project	Fugitive Type	Variable	Default Values	Units	User Value
1	Taxiways	Concrete Mixing/Batching	V = Volume of asphalt = 0.111 x L x W x 1.25 / 3	3842.3	yd3	

1	Taxiways	Concrete Mixing/Batching	PM10 = 0.037 x V	142.2	lbs
1	Taxiways	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
1	Taxiways	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
1	Taxiways	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	2200.2	miles
1	Taxiways	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	60.3	lbs
1	Taxiways	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m3
1	Taxiways	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
1	Taxiways	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	1935	miles
1	Taxiways	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	18	lbs
1	Taxiways	Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	1.907	acres
1	Taxiways	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
1	Taxiways	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction

1	Taxiways	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.5 years
1	Taxiways	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0 lbs
1	Taxiways	Soil Handling	u = Wind speed	5 mph
1	Taxiways	Soil Handling	m = Moisture content	0.25 fraction
1	Taxiways	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	2284.6 tons
1	Taxiways	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	47 lbs

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ASSUMPTIONS

Emission factors were developed from the following models:

On-Road Vehicles: MOVES 2010b, revised January 2013

Non-Road Equipment: NONROAD2008a, July 2009

In addition to the overall project size dimensions (e.g., Length and width) provided by the user, an additional 10 ft length and 10 ft width is added to account for disturbance areas.

The number of employees is based on the higher of two methods: (1) number of equipment, and (2) multiply the project cost in million by 11.

The average employee travels 30 miles round-trip from home to construction site each day.

The average on-road material delivery round-trip distance per truck is 40 miles per day.

For calculating fugitive, re-entrained PM emissions from on-road and non-road material delivery and handling equipment, a nominal VMT of 5 miles is used for each vehicle per day.

In deriving emission factors from NONROAD, the horsepower for each equipment represents the most popular in each equipment category.

The total length of each modeled scenario is used to define the number of days associated with vehicle/equipment evaporative emissions.

The choice of location and season are assumed to adequately represent differences in fuel characteristics affecting emissions.

Only two seasons (Summer and Winter) are used to represent all seasons.

14 U.S. Counties are used to represent all other counties in the U.S. (all other counties are mapped to the 14).

The default methods assume that all construction equipment use diesel as well as heavy-duty on-road vehicles, while passenger vehicles (including motorcycles) use gasoline.

Fugitive emissions are only modeled for:

Asphalt drying
Asphalt storage and batching
Concrete mixing/batching
Soil handling
Unstabilized land and wind erosion
Material movement (unpaved roads)
Material movement (paved roads)

On-Road vehicle speeds are not explicitly modeled. The associated emission factors for each modeled vehicle from MOVES represent averages over the driving cycles, the roadway type, and daily temperature variations.

The default equipment hours-of-use data are developed based on the overall size of the project provided by the user and activity rates based on expert engineering judgment.

Under the Construction Activity Type list (Activity Tab), when a choice between asphalt and concrete materials occurs, asphalt is always selected as default. To choose concrete, de-select the aphalt item and select the corresponding concrete item.

Two trips per day were assumed for each on-road material handling trucks.

Only CO2, CH4, and N2O are used to represent greenhouse gas emissions. Other potential greenhouse gases including air conditioning refrigerants were not included.

The following equipment are always modeled using diesel emission factors since gasoline-based emission factors are not available:
Asphalt Deliveries/Ten Wheelers
Bulldozer
Concrete Ready Mix Trucks
Concrete Ready Trucks Mix for Cores
Concrete Truck
Crack Filler (Trailer Mounted)
Delivery of Tanks (3)
Distributing Tanker
Dozer
Dump Truck
Dump Truck (12 cy)
Excavator
Excavator for U/G Services/Tanks
Flat Bed or Dump Trucks
Flatbed Truck
Grader
Grout Wheel Truck
Hoist Equipment with 40 Ton Rig
Hydralic Hammer
Hydroseeder
Line Painting Truck and Sprayer
Material Deliveries
Off-Road Truck
Pickup Truck
Scraper
Seed Truck Spreader
Small Dozer
Survey Crew Trucks
Ten Wheelers
Ten Wheelers- Material Delivery
Tool Truck
Tractor Trailer- Equipment Delivery
Tractor Trailer- Material Delivery
Tractor Trailer- Steel Deliveries
Tractor Trailer- Stone Delivery
Tractor Trailer- Topsoil & Seed
Tractor Trailer- Truck Delivery
Tractor Trailer with Boom Hoist- Curbs Del & Place
Tractor Trailer with Boom Hoist- Delivery
Tractor Trailers- Rebar Deliveries
Tractor Trailers Temp Fac.
Truck for Topsoil & Seed Del&Spread
Water Truck
Excavator with Bucket
Excavator with Hoe Ram

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Airport Construction Emissions Inventory Tool (ACEIT)
Version 1.0
Run Date & Time: 4/10/2019 1:53:53 PM

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STUDY

Study Name

A-41

Study Description

Relocate existing general aviation run-up pad to southwest apron area. REMOVAL

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EMISSIONS INVENTORY - SUMMARY

Total Emissions by Year

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Year	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	0.054901	0.041355	0.000191	0.025585	0.001796	0.009916	32.56124	0.001119	0.000212

Total Emissions by Source Categories

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases Emission: Metric Ton

Year	Emission Source	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	NonRoad	0.012288	0.033557	0.000138	0.001657	0.001524	0.007505	25.32469	--	--
2020	OnRoad	0.042613	0.007798	5.29E-05	0.000284	0.000271	0.002411	7.236552	0.001119	0.000212
2020	Fugitive	0	0	0	0.023644	--	--	0	--	--
2020	TOTAL	0.054901	0.041355	0.000191	0.025585	0.001796	0.009916	32.56124	0.001119	0.000212

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EMISSIONS INVENTORY - DETAILS:

Non-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Construction Activity	Equipment	Fuel	HP Average	Load Factor	Hours of Activity	CO	NOx	SO2	PM10	PM2.5	VOC	CO2
1	2020	Demolition - Concrete	Concrete Demolition	Excavator with Bucket	Diesel	175	0.59	51.62667	0.001717	0.00412	1.59E-05	0.000318	0.000293	0.000884	2.859161
1	2020	Demolition - Concrete	Concrete Demolition	Excavator with Hoe Ram	Diesel	175	0.59	51.62667	0.001717	0.00412	1.59E-05	0.000318	0.000293	0.000884	2.859161
1	2020	Demolition - Concrete	Concrete Demolition	Pickup Truck	Diesel	600	0.59	103.2533	0.008853	0.025317	0.000107	0.001021	0.000939	0.005738	19.60637

On-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Equipment	Equipment Category	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Distance for fugitive PM	Number of Vehicles	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Rate	VMT	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
1	2020	Demolition - Concrete	Dump Truck	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	1	--	129	352	110	--	--	--	--	--	2390	0.004727	0.005442	2.33E-05	0.000197	0.000191	0.000123	3.017258	0.000468	0.000166
1	2020	Demolition - Concrete	Passenger Car	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	--	3	3	129	--	--	--	--	--	--	--	11610	0.037886	0.002356	2.97E-05	8.71E-05	8.02E-05	0.002288	4.219295	0.000651	4.55E-05

Fugitive Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Scenario ID	Year	Project	Fugitive Source Type	Number of Months	CO	NOx	SO2	PM10	VOC
1	2020	Demolition - Concrete	Material Movement (Paved Roads)	6	0	0	0	0.002994	0
1	2020	Demolition - Concrete	Material Movement (Unpaved Roads)	6	0	0	0	0.0097	0
1	2020	Demolition - Concrete	Soil Handling	6	0	0	0	0.01095	0
1	2020	Demolition - Concrete	Unstabilized Land and Wind Erosion	6	0	0	0	7.81E-09	0

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INPUT DATA AND SPECIFICATIONS

State/County

California Santa Clara County

Scenarios

Scenario ID	Year	Number of Months	Season	Average Daily Temp (degF)	Max Daily Temp Change (degF)	Min Daily Temp Change (degF)
1	2020	6	Winter	50 < T <= 80	10 <= Change in T < 20	10 <= Change in T < 20
2						

Project Final Selections

Scenario ID	Project	Construction Activity	Equipment	Fuel Type
1	Demolition - Concrete	Concrete Demolition	Excavator with Bucket	Diesel
1	Demolition - Concrete	Concrete Demolition	Excavator with Hoe Ram	Diesel
1	Demolition - Concrete	Concrete Demolition	Pickup Truck	Diesel

Overall Size

Scenario ID	Project	Project Size Questions	User Input	Unit
1	Demolition - Concrete	What is the estimated cost of the project?	0.25	$ Million(s)
1	Demolition - Concrete	What is the maximum length of demolition area (L) in feet?	352	Feet
1	Demolition - Concrete	What is the maximum width of demolition area (W) in feet?	110	Feet

Size Detail (Estimated based on engineering experience)

ScenarioID	Project	Construction Activity	Default Activity Size	Unit	User Activity Size
1	Project Demolition - Concrete	Concrete Demolition	38720	Square Feet	

Activity: Non-Road (Estimated based on engineering experience)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Activity Size	Activity Rate	Default Activity	Activity Unit	User Activity Data
1	Demolition - Concrete	Concrete Demolition	Excavator with Bucket	Diesel	38720.00 SF	8 Hours per 6000.00 SF	51.63	hours	
1	Demolition - Concrete	Concrete Demolition	Excavator with Hoe Ram	Diesel	38720.00 SF	8 Hours per 6000.00 SF	51.63	hours	
1	Demolition - Concrete	Concrete Demolition	Pickup Truck	Diesel	38720.00 SF	8 Hours per 3000.00 SF	103.25	hours	

Activity: On-Road (Estimated based on engineering experience)

Scenario ID	Project	Equipment	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Size	Activity Rate	Default VMT	User VMT
1	Demolition - Concrete	Dump Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	352	110	--	--	--	--	--	--	2390	
1	Demolition - Concrete	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	3	129	--	--	--	--	--	--	--	--	11610	

Emission Factor: Non-Road (from NONROAD)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Avg Rated HP	Load Factor	CO (g/hp-hr)	NOx (g/hp-hr)	CO2 (g/hp-hr)	SO2 (g/hp-hr)	PM10 (g/hp-hr)	PM2.5 (g/hp-hr)	VOC Exhaust (g/hp-hr)	VOC Evaporative (g/equipment-day)
1	Demolition - Concrete	Demolition	Excavator with Bucket	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Demolition - Concrete	Demolition	Excavator with Hoe Ram	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Demolition - Concrete	Demolition	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

Emission Factors: On-Road (from MOVES)

Scenario ID	Project Type	Equipment	Fuel Type	Roadway Type	CO(g/mi)	NOx(g/mi)	CO2(g/mi)	SO2(g/mi)	PM10(g/mi)	PM2.5(g/mi)	CH4(g/mi)	N2O(g/mi)	VOC(g/mi)	RV CO(g/veh-day)	RV NOx(g/veh-day)	RV CO2(g/veh-day)	RV SO2(g/veh-day)	RV PM10(g/veh-day)	RV PM2.5(g/veh-day)	RV VOC(g/veh-day)	RP VOC(g/veh-day)
1	Demolition - Concrete	Dump Truck	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Demolition - Concrete	Passenger Car	Gasoline	Urban Unrestricted Access	1.689671	0.102635	348.7876	0.002224	0.005214	0.004801	0.056039	0.003919	0.001767	38.12089	2.442831	438.9424	0.002799	0.047668	0.043893	5.310081	0

Fugitive Emissions (Emission Factors from Various Sources including AP-42)

Scenario ID	Project	Fugitive Type	Variable	Default Values	Units	User Value
1	Demolition - Concrete	Soil Handling	u = Wind speed	5	mph	
1	Demolition - Concrete	Soil Handling	m = Moisture content	0.25	fraction	
1	Demolition - Concrete	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	1064.8	tons	
1	Demolition - Concrete	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	21.9	lbs	
1	Demolition - Concrete	Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	0.889	acres	
1	Demolition - Concrete	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction	
1	Demolition - Concrete	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction	
1	Demolition - Concrete	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.5	years	
1	Demolition - Concrete	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0	lbs	
1	Demolition - Concrete	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction	

1	Demolition - Concrete	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
1	Demolition - Concrete	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	709.5	miles
1	Demolition - Concrete	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	19.4	lbs
1	Demolition - Concrete	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m3
1	Demolition - Concrete	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
1	Demolition - Concrete	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	645	miles
1	Demolition - Concrete	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	5.987	lbs

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ASSUMPTIONS

Emission factors were developed from the following models:

On-Road Vehicles: MOVES 2010b, revised January 2013

Non-Road Equipment: NONROAD2008a, July 2009

In addition to the overall project size dimensions (e.g., Length and width) provided by the user, an additional 10 ft length and 10 ft width is added to account for disturbance areas.

The number of employees is based on the higher of two methods: (1) number of equipment, and (2) multiply the project cost in million by 11.

The average employee travels 30 miles round-trip from home to construction site each day.

The average on-road material delivery round-trip distance per truck is 40 miles per day.

For calculating fugitive, re-entrained PM emissions from on-road and non-road material delivery and handling equipment, a nominal VMT of 5 miles is used for each vehicle per day.

In deriving emission factors from NONROAD, the horsepower for each equipment represents the most popular in each equipment category.

The total length of each modeled scenario is used to define the number of days associated with vehicle/equipment evaporative emissions.

The choice of location and season are assumed to adequately represent differences in fuel characteristics affecting emissions.

Only two seasons (Summer and Winter) are used to represent all seasons.

14 U.S. Counties are used to represent all other counties in the U.S. (all other counties are mapped to the 14).

The default methods assume that all construction equipment use diesel as well as heavy-duty on-road vehicles, while passenger vehicles (including motorcycles) use gasoline.

Fugitive emissions are only modeled for:

- Asphalt drying
- Asphalt storage and batching
- Concrete mixing/batching
- Soil handling
- Unstabilized land and wind erosion
- Material movement (unpaved roads)
- Material movement (paved roads)

On-Road vehicle speeds are not explicitly modeled. The associated emission factors for each modeled vehicle from MOVES represent averages over the driving cycles, the roadway type, and daily temperature variations.

The default equipment hours-of-use data are developed based on the overall size of the project provided by the user and activity rates based on expert engineering judgment.

Under the Construction Activity Type list (Activity Tab), when a choice between asphalt and concrete materials occurs, asphalt is always selected as default. To choose concrete, de-select the aphalt item and select the corresponding concrete item.

Two trips per day were assumed for each on-road material handling trucks.

Only CO2, CH4, and N2O are used to represent greenhouse gas emissions. Other potential greenhouse gases including air conditioning refrigerants were not included.

The following equipment are always modeled using diesel emission factors since gasoline-based emission factors are not available:

- Asphalt Deliveries/Ten Wheelers
- Bulldozer
- Concrete Ready Mix Trucks
- Concrete Ready Trucks Mix for Cores
- Concrete Truck
- Crack Filler (Trailer Mounted)
- Delivery of Tanks (3)
- Distributing Tanker
- Dozer
- Dump Truck
- Dump Truck (12 cy)
- Excavator
- Excavator for U/G Services/Tanks
- Flat Bed or Dump Trucks
- Flatbed Truck
- Grader
- Grout Wheel Truck
- Hoist Equipment with 40 Ton Rig
- Hydralic Hammer
- Hydroseeder
- Line Painting Truck and Sprayer
- Material Deliveries
- Off-Road Truck
- Pickup Truck
- Scraper
- Seed Truck Spreader
- Small Dozer
- Survey Crew Trucks
- Ten Wheelers
- Ten Wheelers- Material Delivery
- Tool Truck
- Tractor Trailer- Equipment Delivery
- Tractor Trailer- Material Delivery
- Tractor Trailer- Steel Deliveries
- Tractor Trailer- Stone Delivery
- Tractor Trailer- Topsoil & Seed
- Tractor Trailer- Truck Delivery

Tractor Trailer with Boom Hoist- Curbs Del & Place
Tractor Trailer with Boom Hoist- Delivery
Tractor Trailers- Rebar Deliveries
Tractor Trailers Temp Fac.
Truck for Topsoil & Seed Del&Spread
Water Truck
Excavator with Bucket
Excavator with Hoe Ram

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Airport Construction Emissions Inventory Tool (ACEIT)
Version 1.0
Run Date & Time: 4/9/2019 5:03:58 PM

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STUDY

Study Name

A-42

Study Description

Relocate Runway 12R-30L aircraft hold positions on all cross taxiways to current ADG-V aircraft standard.

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EMISSION
S
INVENTOR
Y -
SUMMAR
Y

Total
Emissions
by Year

Units for
Non-
Greenhou
se Gases
Emission:
Short Ton

Units for
Greenhou
se Gases
(CO2,
CH4, and
N2O)
Emission:
Metric
Ton

Year	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	1.160515	0.786525	0.00355	0.128703	0.035352	0.214191	609.7946	0.017438	0.002111

Total
Emissions
by Source
Categories

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases Emission: Metric Ton

Year	Emission Source	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	NonRoad	0.305142	0.699314	0.002743	0.035131	0.03232	0.163457	496.943	--	--
2020	OnRoad	0.855373	0.087211	0.000807	0.003222	0.003031	0.050735	112.8517	0.017438	0.002111
2020	Fugitive	0	0	0	0.09035	--	0	--	--	--
2020	TOTAL	1.160515	0.786525	0.00355	0.128703	0.035352	0.214191	609.7946	0.017438	0.002111

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EMISSIONS INVENTORY - DETAILS:

Non-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Construction Activity	Equipment	Fuel	HP Average	Load Factor	Hours of Activity	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	
1	2020	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	16.8	0.041857	0.000189	2.00E-05	0.00139	0.001279	0.012648	0.08874	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	2020	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	16.8	0.001352	0.0024	2.76E-06	0.000234	0.000215	0.000308	0.425717	
1	2020	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	22.4	0.001921	0.005492	2.31E-05	0.000221	0.000204	0.001268	4.253448	
1	2020	Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	16.6504	0.000872	0.001416	2.56E-06	0.000125	0.000115	0.000193	0.422231	
1	2020	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	16.6504	0.000226	0.001435	1.33E-06	3.10E-05	2.85E-05	7.30E-05	0.23406	
1	2020	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	69.37667	0.005948	0.01701	7.17E-05	0.000686	0.000631	0.003865	13.17366	
1	2020	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	33.3008	0.00106	0.00387	7.98E-06	0.000255	0.000235	0.000517	1.329398	
1	2020	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	49.9512	0.004283	0.012247	5.16E-05	0.000494	0.000454	0.002791	9.485036	
1	2020	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	16.6504	0.000906	0.002116	5.39E-06	0.0002	0.000184	0.000337	0.922036	
1	2020	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	16.6504	0.000828	0.001902	5.33E-06	0.000179	0.000164	0.000326	0.92206	
1	2020	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	16.6504	0.000644	0.001207	1.09E-06	9.56E-05	8.80E-05	0.000128	0.146061	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	48.32	0.002039	0.004704	1.52E-05	0.000419	0.000386	0.000866	2.675943	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	48.32	0.004143	0.011848	4.99E-05	0.000478	0.00044	0.002701	9.175294	
1	2020	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	48.32	0.001607	0.003856	1.49E-05	0.000298	0.000274	0.000828	2.676033	
1	2020	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	48.32	0.00263	0.00614	1.56E-05	0.00058	0.000533	0.000931	2.675779	
1	2020	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	175	0.43	48.32	0.001538	0.005615	1.16E-05	0.00037	0.000341	0.000736	1.928978	

1	2020	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	600	0.59	48.32	0.004143	0.011848	4.99E-05	0.000478	0.00044	0.002701	9.175294
1	2020	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	100	0.59	48.32	0.004097	0.004106	9.93E-06	0.000492	0.000453	0.000573	1.698047
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	26.84444	0.002302	0.006582	2.77E-05	0.000265	0.000244	0.001514	5.097385
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	26.84444	0.001461	0.003411	8.69E-06	0.000322	0.000296	0.000529	1.486544
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	26.84444	0.000854	0.003119	6.43E-06	0.000206	0.000189	0.000423	1.071655
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	26.84444	0.002302	0.006582	2.77E-05	0.000265	0.000244	0.001514	5.097385
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	26.84444	0.002467	0.00191	2.51E-06	0.000341	0.000313	0.000464	0.391299
1	2020	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	1440	0.123467	0.353072	0.001488	0.014237	0.013098	0.079639	273.4359
1	2020	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	27.75067	0.001171	0.002702	8.72E-06	0.000241	0.000222	0.000506	1.536821
1	2020	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	27.75067	0.002379	0.006804	2.87E-05	0.000274	0.000252	0.001564	5.269464
1	2020	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	27.75067	0.002379	0.006804	2.87E-05	0.000274	0.000252	0.001564	5.269464
1	2020	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	12.808	0.001086	0.001088	2.63E-06	0.00013	0.00012	0.000166	0.450095
1	2020	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	20.813	0.000878	0.002026	6.54E-06	0.000181	0.000166	0.000384	1.152616
1	2020	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	55.50133	0.004759	0.013608	5.74E-05	0.000549	0.000505	0.003098	10.53893
1	2020	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	16.6504	0.000554	0.001329	5.12E-06	0.000103	9.44E-05	0.000295	0.922124
1	2020	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	16.6504	0.001428	0.004082	1.72E-05	0.000165	0.000151	0.00095	3.161679

1	2020	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	16.6504	0.001412	0.001415	3.42E-06	0.00017	0.000156	0.00021	0.585123
1	2020	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	20.813	0.004427	0.010998	2.34E-05	0.000654	0.000601	0.00134	3.951816
1	2020	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	7.835294	0.000331	0.000763	2.46E-06	6.80E-05	6.26E-05	0.000157	0.433915
1	2020	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	16.66667	0.001429	0.004086	1.72E-05	0.000165	0.000152	0.000951	3.164767
1	2020	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	66.66667	0.005716	0.016346	6.89E-05	0.000659	0.000606	0.003715	12.65907
1	2020	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	66.66667	0.002122	0.007747	1.60E-05	0.000511	0.00047	0.001003	2.661394
1	2020	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	66.66667	0.005716	0.016346	6.89E-05	0.000659	0.000606	0.003715	12.65907
1	2020	Taxiways	Fencing	Skid Steer Loader	Diesel	75	0.21	66.66667	0.004982	0.00541	4.86E-06	0.000728	0.00067	0.00102	0.728135
1	2020	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	66.66667	0.006127	0.004743	6.23E-06	0.000846	0.000778	0.001035	0.97177
1	2020	Taxiways	Grading	Dozer	Diesel	175	0.59	6.7044	0.000283	0.000653	2.11E-06	5.82E-05	5.35E-05	0.000137	0.371287
1	2020	Taxiways	Grading	Grader	Diesel	300	0.59	6.7044	0.000318	0.000987	3.53E-06	4.92E-05	4.52E-05	0.000214	0.636514
1	2020	Taxiways	Grading	Roller	Diesel	100	0.59	6.7044	0.000568	0.00057	1.38E-06	6.83E-05	6.28E-05	9.58E-05	0.235604
1	2020	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	6.04	0.000518	0.001481	6.24E-06	5.97E-05	5.49E-05	0.000364	1.146912
1	2020	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	6.04	0.000518	0.001481	6.24E-06	5.97E-05	5.49E-05	0.000364	1.146912
1	2020	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	20.4	0.001749	0.005002	2.11E-05	0.000202	0.000186	0.001158	3.873675
1	2020	Taxiways	Lighting	Loader	Diesel	175	0.59	20.4	0.00111	0.002592	6.60E-06	0.000245	0.000225	0.000408	1.129675
1	2020	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	20.4	0.000649	0.00237	4.89E-06	0.000156	0.000144	0.000329	0.814387
1	2020	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	20.4	0.001749	0.005002	2.11E-05	0.000202	0.000186	0.001158	3.873675
1	2020	Taxiways	Lighting	Skid Steer Loader	Diesel	75	0.21	20.4	0.001524	0.001655	1.49E-06	0.000223	0.000205	0.000347	0.222809
1	2020	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	20.4	0.001875	0.001452	1.91E-06	0.000259	0.000238	0.000371	0.297362
1	2020	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	102.8571	0.008819	0.025219	0.000106	0.001017	0.000936	0.005716	19.53114
1	2020	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	102.8571	0.003274	0.011952	2.46E-05	0.000788	0.000725	0.001531	4.106151
1	2020	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	102.8571	0.008819	0.025219	0.000106	0.001017	0.000936	0.005716	19.53114
1	2020	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	5.6	0.000178	0.000651	1.34E-06	4.29E-05	3.95E-05	0.000113	0.223557

1	2020	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel		600	0.59	11.2	0.00096	0.002746	1.16E-05	0.000111	0.000102	0.000649	2.126724											
1	2020	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel		11	0.43	5.6	0.00013	0.000134	1.16E-07	1.22E-05	1.12E-05	2.06E-05	0.015586											
1	2020	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel		100	0.21	5.6	0.000515	0.000398	5.24E-07	7.10E-05	6.54E-05	0.000159	0.081629											
1	2020	Taxiways	Subbase Placement	Dozer	Diesel		175	0.59	10.51579	0.000444	0.001024	3.30E-06	9.13E-05	8.40E-05	0.000204	0.58236											
1	2020	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel		600	0.59	74	0.006345	0.018144	7.65E-05	0.000732	0.000673	0.004121	14.05157											
1	2020	Taxiways	Subbase Placement	Pickup Truck	Diesel		600	0.59	10.51579	0.000902	0.002578	1.09E-05	0.000104	9.56E-05	0.000611	1.996802											
1	2020	Taxiways	Subbase Placement	Roller	Diesel		100	0.59	10.24615	0.000869	0.000871	2.10E-06	0.000104	9.60E-05	0.000136	0.360067											
1	2020	Taxiways	Topsoil Placement	Dozer	Diesel		175	0.59	14.89867	0.000629	0.00145	4.68E-06	0.000129	0.000119	0.000281	0.825082											
1	2020	Taxiways	Topsoil Placement	Dump Truck	Diesel		600	0.59	14.89867	0.001277	0.003653	1.54E-05	0.000147	0.000136	0.000853	2.829049											
1	2020	Taxiways	Topsoil Placement	Pickup Truck	Diesel		600	0.59	14.89867	0.001277	0.003653	1.54E-05	0.000147	0.000136	0.000853	2.829049											

On-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Equipment	Equipment Category	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Distance for fugitive PM	Number of Vehicles	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Rate	VMT	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O

1	2020	Taxiways	Cement Mixer	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	2	--		129	1500	30	--	--	--	--	--	10406	0.014378	0.02309	0.000101	0.000852	0.000827	0.000267	13.06249	0.002037	0.000724
1	2020	Taxiways	Dump Truck Subbase Material	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	1	--		129	1500	30	--	--	--	--	--	5550	0.007493	0.012298	5.37E-05	0.000454	0.000441	0.000135	6.964716	0.001087	0.000386
1	2020	Taxiways	Passenger Car	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	--		66	66	129	--	--	--	--	--	--	--	255420	0.833503	0.051823	0.000652	0.001915	0.001764	0.050333	92.82448	0.014314	0.001001

Fugitive Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Scenario ID	Year	Project	Fugitive Source Type	Number of Months	CO	NOx	SO2	PM10	VOC
1	2020	Taxiways	Concrete Mixing/Batching	6	0	0	0	0.0385	0
1	2020	Taxiways	Material Movement (Paved Roads)	6	0	0	0	0.009	0
1	2020	Taxiways	Material Movement (Unpaved Roads)	6	0	0	0	0.0301	0
1	2020	Taxiways	Soil Handling	6	0	0	0	0.01275	0
1	2020	Taxiways	Unstabilized Land and Wind Erosion	6	0	0	0	9.08E-09	0

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Scenarios

Scenario ID	Year	Number of Months	Season	Average Daily Temp (degF)	Max Daily Temp Change (degF)	Min Daily Temp Change (degF)
1	2020	6	Winter	50 < T <= 80	10 <= Change in T < 20	10 <= Change in T < 20
2						

Project
Final
Selections

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	
1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	

1	Taxiways	Concrete Placement	Air Compressor	Diesel
1	Taxiways	Concrete Placement	Concrete Saws	Diesel
1	Taxiways	Concrete Placement	Concrete Truck	Diesel
1	Taxiways	Concrete Placement	Other General Equipment	Diesel
1	Taxiways	Concrete Placement	Pickup Truck	Diesel
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Dozer	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Dump Truck	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Excavator	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Loader	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Other General Equipment	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Pickup Truck	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Roller	Diesel
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Loader	Diesel

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Dust Control	Water Truck	Diesel
1	Taxiways	Excavation (Borrow)	Dozer	Diesel
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel
1	Taxiways	Excavation (Borrow)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel
1	Taxiways	Fencing	Concrete Truck	Diesel
1	Taxiways	Fencing	Dump Truck	Diesel
1	Taxiways	Fencing	Other General Equipment	Diesel

1	Taxiways	Fencing	Pickup Truck	Diesel
1	Taxiways	Fencing	Skid Steer Loader	Diesel
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Grading	Dozer	Diesel
1	Taxiways	Grading	Grader	Diesel
1	Taxiways	Grading	Roller	Diesel
1	Taxiways	Hydroseeding	Hydroseeder	Diesel
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel
1	Taxiways	Lighting	Dump Truck	Diesel
1	Taxiways	Lighting	Loader	Diesel
1	Taxiways	Lighting	Other General Equipment	Diesel
1	Taxiways	Lighting	Pickup Truck	Diesel
1	Taxiways	Lighting	Skid Steer Loader	Diesel
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Markings	Flatbed Truck	Diesel
1	Taxiways	Markings	Other General Equipment	Diesel
1	Taxiways	Markings	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Subbase Placement	Dozer	Diesel
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel
1	Taxiways	Subbase Placement	Pickup Truck	Diesel

1	Taxiways	Subbase Placement	Roller		Diesel
1	Taxiways	Topsoil Placement	Dozer		Diesel
1	Taxiways	Topsoil Placement	Dump Truck		Diesel
1	Taxiways	Topsoil Placement	Pickup Truck		Diesel

Overall Size

Scenario ID	Project	Project Size Questions	User Input	Unit
1	Taxiways	What is the estimated cost of the project?	1.56	$ Million(s)
1	Taxiways	What is the maximum length of the taxiway (L) in feet?	1500	Feet
1	Taxiways	What is the maximum width of the taxiway (W) in feet?	30	Feet

Size Detail (Estimated based on engineering experience)

ScenarioID	Project	Construction Activity	Default Activity Size	Unit	User Activity Size
1	Taxiways	Clearing and Grubbing	1.4	Acres	
1	Taxiways	Concrete Placement	2081.3	Cubic Yards	

1	Taxiways	Drainage - 24 inch SICPP			1510		Linear Feet		
1	Taxiways	Drainage - 6 inch Perforated Underdrain			3020		Linear Feet		
1	Taxiways	Dust Control			180		Days		
1	Taxiways	Excavation (Borrow)			2081.3		Cubic Yards		
1	Taxiways	Excavation (Cut to Fill)			2081.3		Cubic Yards		
1	Taxiways	Excavation (Topsoil Stripping)			4995		Square Yards		
1	Taxiways	Fencing			1500		Linear Feet		
1	Taxiways	Grading			6704.4		Square Yards		
1	Taxiways	Hydroseeding			60400		Square Feet		
1	Taxiways	Lighting			3060		Linear Feet		
1	Taxiways	Markings			45000		Square Feet		
1	Taxiways	Soil Erosion/Sediment Control			1.4		Acres		
1	Taxiways	Subbase Placement			4995		Square Yards		
1	Taxiways	Subbase Placement			1665		Cubic Yards		
1	Taxiways	Topsoil Placement			1117.4		Cubic Yards		

Activity: Non-Road (Estimated based on engineering experience)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Activity Size	Activity Rate	Default Activity	Activity Unit	User Activity Data

1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	1.40 Acre	12 Hours per 1.00 Acre	16.8	hours
1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	1.40 Acre	12 Hours per 1.00 Acre	16.8	hours
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	1.40 Acre	16 Hours per 1.00 Acre	22.4	hours
1	Taxiways	Concrete Placement	Air Compressor	Diesel	2081.30 CY	8 Hours per 1000.00 CY	16.65	hours
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	2081.30 CY	8 Hours per 1000.00 CY	16.65	hours
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	2081.30 CY	8 Hours per 240.00 CY	69.38	hours
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	2081.30 CY	16 Hours per 1000.00 CY	33.3	hours
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	2081.30 CY	24 Hours per 1000.00 CY	49.95	hours
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	2081.30 CY	8 Hours per 1000.00 CY	16.65	hours
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	2081.30 CY	8 Hours per 1000.00 CY	16.65	hours
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	2081.30 CY	8 Hours per 1000.00 CY	16.65	hours
1	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	1510.00 LF	8 Hours per 250.00 LF	48.32	hours
1	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	1510.00 LF	8 Hours per 250.00 LF	48.32	hours
1	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	1510.00 LF	8 Hours per 250.00 LF	48.32	hours
1	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	1510.00 LF	8 Hours per 250.00 LF	48.32	hours
1	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	1510.00 LF	8 Hours per 250.00 LF	48.32	hours

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1	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	1510.00 LF	8 Hours per 250.00 LF	48.32	hours
1	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	1510.00 LF	8 Hours per 250.00 LF	48.32	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	3020.00 LF	8 Hours per 900.00 LF	26.84	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	3020.00 LF	8 Hours per 900.00 LF	26.84	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	3020.00 LF	8 Hours per 900.00 LF	26.84	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	3020.00 LF	8 Hours per 900.00 LF	26.84	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	3020.00 LF	8 Hours per 900.00 LF	26.84	hours
1	Taxiways	Dust Control	Water Truck	Diesel	180.00 Day	8 Hours per 1.00 Day	1440	hours
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	2081.30 CY	8 Hours per 600.00 CY	27.75	hours
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	2081.30 CY	8 Hours per 600.00 CY	27.75	hours
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	2081.30 CY	8 Hours per 600.00 CY	27.75	hours
1	Taxiways	Excavation (Borrow)	Roller	Diesel	2081.30 CY	8 Hours per 1300.00 CY	12.81	hours
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	2081.30 CY	8 Hours per 800.00 CY	20.81	hours
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	2081.30 CY	8 Hours per 300.00 CY	55.5	hours
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	2081.30 CY	8 Hours per 1000.00 CY	16.65	hours

1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	2081.30 CY	8 Hours per 1000.00 CY	16.65	hours
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	2081.30 CY	8 Hours per 1000.00 CY	16.65	hours
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	2081.30 CY	8 Hours per 800.00 CY	20.81	hours
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	4995.00 SY	8 Hours per 5100.00 SY	7.84	hours
1	Taxiways	Fencing	Concrete Truck	Diesel	1500.00 LF	2 Hours per 180.00 LF	16.67	hours
1	Taxiways	Fencing	Dump Truck	Diesel	1500.00 LF	8 Hours per 180.00 LF	66.67	hours
1	Taxiways	Fencing	Other General Equipment	Diesel	1500.00 LF	8 Hours per 180.00 LF	66.67	hours
1	Taxiways	Fencing	Pickup Truck	Diesel	1500.00 LF	8 Hours per 180.00 LF	66.67	hours
1	Taxiways	Fencing	Skid Steer Loader Tractors/Loader/Backhoe	Diesel	1500.00 LF	8 Hours per 180.00 LF	66.67	hours
1	Taxiways	Grading	Dozer	Diesel	6704.40 SY	8 Hours per 8000.00 SY	6.7	hours
1	Taxiways	Grading	Grader	Diesel	6704.40 SY	8 Hours per 8000.00 SY	6.7	hours
1	Taxiways	Grading	Roller	Diesel	6704.40 SY	8 Hours per 8000.00 SY	6.7	hours
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	60400.00 SF	8 Hours per 80000.00 SF	6.04	hours
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	60400.00 SF	8 Hours per 80000.00 SF	6.04	hours
1	Taxiways	Lighting	Dump Truck	Diesel	3060.00 LF	8 Hours per 1200.00 LF	20.4	hours
1	Taxiways	Lighting	Loader	Diesel	3060.00 LF	8 Hours per 1200.00 LF	20.4	hours

1	Taxiways	Lighting	Other General Equipment	Diesel	3060.00 LF	8 Hours per 1200.00 LF	20.4	hours
1	Taxiways	Lighting	Pickup Truck	Diesel	3060.00 LF	8 Hours per 1200.00 LF	20.4	hours
1	Taxiways	Lighting	Skid Steer Loader	Diesel	3060.00 LF	8 Hours per 1200.00 LF	20.4	hours
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	3060.00 LF	8 Hours per 1200.00 LF	20.4	hours
1	Taxiways	Markings	Flatbed Truck	Diesel	45000.00 SF	8 Hours per 3500.00 SF	102.86	hours
1	Taxiways	Markings	Other General Equipment	Diesel	45000.00 SF	8 Hours per 3500.00 SF	102.86	hours
1	Taxiways	Markings	Pickup Truck	Diesel	45000.00 SF	8 Hours per 3500.00 SF	102.86	hours
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	1.40 Acre	4 Hours per 1.00 Acre	5.6	hours
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	1.40 Acre	8 Hours per 1.00 Acre	11.2	hours
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	1.40 Acre	4 Hours per 1.00 Acre	5.6	hours
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	1.40 Acre	4 Hours per 1.00 Acre	5.6	hours
1	Taxiways	Subbase Placement	Dozer	Diesel	4995.00 SY	8 Hours per 3800.00 SY	10.52	hours
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	1665.00 CY	8 Hours per 180.00 CY	74	hours
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	4995.00 SY	8 Hours per 3800.00 SY	10.52	hours
1	Taxiways	Subbase Placement	Roller	Diesel	1665.00 CY	8 Hours per 1300.00 CY	10.25	hours
1	Taxiways	Topsoil Placement	Dozer	Diesel	1117.40 CY	8 Hours per 600.00 CY	14.9	hours

1	Taxiways	Topsoil Placement	Dump Truck	Diesel	1117.40 CY	8 Hours per 600.00 CY	14.9	hours	
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	1117.40 CY	8 Hours per 600.00 CY	14.9	hours	

Activity: On-Road (Estimated based on engineering experience)

Scenario ID	Project	Equipment	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Size	Activity Rate	Default VMT	User VMT
1	Taxiways	Cement Mixer	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	1500	30	--	--	--	--	--	--	10406	
1	Taxiways	Dump Truck Subbase Material	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	1500	30	--	--	--	--	--	--	5550	
1	Taxiways	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	66	129	--	--	--	--	--	--	--	--	255420	

Emission Factor: Non-Road (from NONROAD)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Avg Rated HP	Load Factor	CO (g/hp-hr)	NOx (g/hp-hr)	CO2 (g/hp-hr)	SO2 (g/hp-hr)	PM10 (g/hp-hr)	PM2.5 (g/hp-hr)	VOC Exhaust (g/hp-hr)	VOC Evaporative (g/equipment-day)	
1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	293.535	1.322993	685.9963	0.140192	9.748189	8.968334	61.88836	26.88131	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***

1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	1.6976	3.014009	589.3092	0.003468	0.294053	0.270529	0.349775	0.206615
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	1.104829	1.794373	589.7346	0.003245	0.158031	0.145388	0.20937	0.195896
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	0.522532	3.313194	595.6491	0.003072	0.071525	0.065803	0.167578	0.002633
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	0.436875	1.003913	536.3453	0.002812	0.094305	0.086761	0.16014	0.161771
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	2.379151	4.459281	594.7267	0.004009	0.353137	0.324886	0.472055	0.003483
1	Taxiways	SICPP Drainage - 24 inch	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	SICPP Drainage - 24 inch	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	SICPP Drainage - 24 inch	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	SICPP Drainage - 24 inch	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	SICPP Drainage - 24 inch	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	SICPP Drainage - 24 inch	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	SICPP Drainage - 24 inch	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	0.545055	1.354215	536.363	0.002882	0.080485	0.074046	0.154332	0.607685
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

1	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Grading	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Grading	Grader	Diesel	300	0.59	0.24308	0.754295	536.3826	0.002696	0.037599	0.034591	0.147818	0.147813
1	Taxiways	Grading	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	4.4591	4.594026	588.4291	0.003967	0.417534	0.384131	0.640288	0.013554
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Subbase Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385

1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Subbase Placement	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296								
1	Taxiways	Topsoil Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385								
1	Taxiways	Topsoil Placement	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								

Emission Factors: On-Road (from MOVES)

Scenario ID	Project Type	Equipment	Fuel Type	Roadway Type	CO(g/mi)	NOx(g/mi)	CO2(g/mi)	SO2(g/mi)	PM10(g/mi)	PM2.5(g/mi)	CH4(g/mi)	N2O(g/mi)	VOC(g/mi)	RV CO(g/veh-day)	RV NOx(g/veh-day)	RV CO2(g/veh-day)	RV SO2(g/veh-day)	RV PM10(g/veh-day)	RV PM2.5(g/veh-day)	RV VOC(g/veh-day)	RP VOC(g/veh-day)
1	Taxiways	Cement Mixer	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Dump Truck Subbase Material	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Passenger Car	Gasoline	Urban Unrestricted Access	1.689671	0.102635	348.7876	0.002224	0.005214	0.004801	0.056039	0.003919	0.001767	38.12089	2.442831	438.9424	0.002799	0.047668	0.043893	5.310081	0

Fugitive Emissions (Emission Factors from Various Sources including AP-42)

Scenario ID	Project	Fugitive Type	Variable	Default Values	Units	User Value
1	Taxiways	Concrete Mixing/Batching	V = Volume of asphalt = 0.111 x L x W x 1.25 / 3	2081.3	yd3	

1	Taxiways	Concrete Mixing/Batching	PM10 = 0.037 x V	77	lbs
1	Taxiways	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
1	Taxiways	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
1	Taxiways	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	2197.3	miles
1	Taxiways	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	60.2	lbs
1	Taxiways	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m3
1	Taxiways	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
1	Taxiways	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	1935	miles
1	Taxiways	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	18	lbs
1	Taxiways	Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	1.033	acres
1	Taxiways	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
1	Taxiways	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction

1	Taxiways	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.5 years
1	Taxiways	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0 lbs
1	Taxiways	Soil Handling	u = Wind speed	5 mph
1	Taxiways	Soil Handling	m = Moisture content	0.25 fraction
1	Taxiways	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	1237.5 tons
1	Taxiways	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	25.5 lbs

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ASSUMPTIONS

Emission factors were developed from the following models:

On-Road Vehicles: MOVES 2010b, revised January 2013

Non-Road Equipment: NONROAD2008a, July 2009

In addition to the overall project size dimensions (e.g., Length and width) provided by the user, an additional 10 ft length and 10 ft width is added to account for disturbance areas.

The number of employees is based on the higher of two methods: (1) number of equipment, and (2) multiply the project cost in million by 11.

The average employee travels 30 miles round-trip from home to construction site each day.

The average on-road material delivery round-trip distance per truck is 40 miles per day.

For calculating fugitive, re-entrained PM emissions from on-road and non-road material delivery and handling equipment, a nominal VMT of 5 miles is used for each vehicle per day.

In deriving emission factors from NONROAD, the horsepower for each equipment represents the most popular in each equipment category.

The total length of each modeled scenario is used to define the number of days associated with vehicle/equipment evaporative emissions.

The choice of location and season are assumed to adequately represent differences in fuel characteristics affecting emissions.

Only two seasons (Summer and Winter) are used to represent all seasons.

14 U.S. Counties are used to represent all other counties in the U.S. (all other counties are mapped to the 14).

The default methods assume that all construction equipment use diesel as well as heavy-duty on-road vehicles, while passenger vehicles (including motorcycles) use gasoline.

Fugitive emissions are only modeled for:

Asphalt drying
Asphalt storage and batching
Concrete mixing/batching
Soil handling
Unstabilized land and wind erosion
Material movement (unpaved roads)
Material movement (paved roads)

On-Road vehicle speeds are not explicitly modeled. The associated emission factors for each modeled vehicle from MOVES represent averages over the driving cycles, the roadway type, and daily temperature variations.

The default equipment hours-of-use data are developed based on the overall size of the project provided by the user and activity rates based on expert engineering judgment.

Under the Construction Activity Type list (Activity Tab), when a choice between asphalt and concrete materials occurs, asphalt is always selected as default. To choose concrete, de-select the aphalt item and select the corresponding concrete item.

Two trips per day were assumed for each on-road material handling trucks.

Only CO2, CH4, and N2O are used to represent greenhouse gas emissions. Other potential greenhouse gases including air conditioning refrigerants were not included.

The following equipment are always modeled using diesel emission factors since gasoline-based emission factors are not available:
Asphalt Deliveries/Ten Wheelers
Bulldozer
Concrete Ready Mix Trucks
Concrete Ready Trucks Mix for Cores
Concrete Truck
Crack Filler (Trailer Mounted)
Delivery of Tanks (3)
Distributing Tanker
Dozer
Dump Truck
Dump Truck (12 cy)
Excavator
Excavator for U/G Services/Tanks
Flat Bed or Dump Trucks
Flatbed Truck
Grader
Grout Wheel Truck
Hoist Equipment with 40 Ton Rig
Hydralic Hammer
Hydroseeder
Line Painting Truck and Sprayer
Material Deliveries
Off-Road Truck
Pickup Truck
Scraper
Seed Truck Spreader
Small Dozer
Survey Crew Trucks
Ten Wheelers
Ten Wheelers- Material Delivery
Tool Truck
Tractor Trailer- Equipment Delivery
Tractor Trailer- Material Delivery
Tractor Trailer- Steel Deliveries
Tractor Trailer- Stone Delivery
Tractor Trailer- Topsoil & Seed
Tractor Trailer- Truck Delivery
Tractor Trailer with Boom Hoist- Curbs Del & Place
Tractor Trailer with Boom Hoist- Delivery
Tractor Trailers- Rebar Deliveries
Tractor Trailers Temp Fac.
Truck for Topsoil & Seed Del&Spread
Water Truck
Excavator with Bucket
Excavator with Hoe Ram

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Airport Construction Emissions Inventory Tool (ACEIT)
Version 1.0
Run Date & Time: 4/9/2019 5:29:31 PM

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STUDY

Study Name

A-43-1

Study Description

Widen Run and length to current ADG-V aircraft standard.

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EMISSION
S
INVENTOR
Y -
SUMMAR
Y

Total
Emissions
by Year

Units for
Non-
Greenhou
se Gases
Emission:
Short Ton

Units for
Greenhou
se Gases
(CO2,
CH4, and
N2O)
Emission:
Metric
Ton

Year	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	0.997399	0.470944	0.002386	0.053801	0.018389	0.14968	408.3816	0.014897	0.001208

Total
Emissions
by Source
Categories

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases Emission: Metric Ton

Year	Emission Source	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	NonRoad	0.15602	0.412143	0.001704	0.01781	0.016385	0.099109	311.7724	--	--
2020	OnRoad	0.84138	0.058801	0.000682	0.002163	0.002004	0.050572	96.60919	0.014897	0.001208
2020	Fugitive	0	0	0	0.033828	--	0	--	--	--
2020	TOTAL	0.997399	0.470944	0.002386	0.053801	0.018389	0.14968	408.3816	0.014897	0.001208

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EMISSIONS INVENTORY - DETAILS:

Non-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Construction Activity	Equipment	Fuel	HP Average	Load Factor	Hours of Activity	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	
1	2020	Runway Extension	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	3.6	0.008969	4.04E-05	4.28E-06	0.000298	0.000274	0.005714	0.019016	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	2020	Runway Extension	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	3.6	0.00029	0.000514	5.92E-07	5.02E-05	4.62E-05	8.91E-05	0.091225	
1	2020	Runway Extension	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	4.8	0.000412	0.001177	4.96E-06	4.75E-05	4.37E-05	0.000295	0.911453	
1	2020	Runway Extension	Concrete Placement	Air Compressor	Diesel	100	0.43	3.108	0.000163	0.000264	4.78E-07	2.33E-05	2.14E-05	5.87E-05	0.078814	
1	2020	Runway Extension	Concrete Placement	Concrete Saws	Diesel	40	0.59	3.108	4.22E-05	0.000268	2.48E-07	5.78E-06	5.32E-06	1.39E-05	0.04369	
1	2020	Runway Extension	Concrete Placement	Concrete Truck	Diesel	600	0.59	12.95	0.00111	0.003175	1.34E-05	0.000128	0.000118	0.000746	2.459024	
1	2020	Runway Extension	Concrete Placement	Other General Equipment	Diesel	175	0.43	6.216	0.000198	0.000722	1.49E-06	4.76E-05	4.38E-05	0.000122	0.248148	
1	2020	Runway Extension	Concrete Placement	Pickup Truck	Diesel	600	0.59	9.324	0.000799	0.002286	9.64E-06	9.22E-05	8.48E-05	0.000545	1.770498	
1	2020	Runway Extension	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	3.108	0.000169	0.000395	1.01E-06	3.73E-05	3.43E-05	8.36E-05	0.172109	
1	2020	Runway Extension	Concrete Placement	Slip Form Paver	Diesel	175	0.59	3.108	0.000155	0.000355	9.95E-07	3.34E-05	3.07E-05	7.97E-05	0.172114	
1	2020	Runway Extension	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	3.108	0.00012	0.000225	2.03E-07	1.78E-05	1.64E-05	2.43E-05	0.027264	
1	2020	Runway Extension	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	7.04	0.000297	0.000685	2.21E-06	6.11E-05	5.62E-05	0.000143	0.389872	
1	2020	Runway Extension	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	7.04	0.000604	0.001726	7.28E-06	6.96E-05	6.40E-05	0.000419	1.336798	
1	2020	Runway Extension	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	7.04	0.000234	0.000562	2.16E-06	4.34E-05	3.99E-05	0.000133	0.389886	
1	2020	Runway Extension	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	7.04	0.000383	0.000895	2.28E-06	8.45E-05	7.77E-05	0.000157	0.389849	
1	2020	Runway Extension	Drainage - 24 inch SICPP	Other General Equipment	Diesel	175	0.43	7.04	0.000224	0.000818	1.69E-06	5.39E-05	4.96E-05	0.000134	0.281043	

1	2020	Runway Extension	Drainage - 24 inch SICPP	Pickup Truck	Diesel	600	0.59	7.04	0.000604	0.001726	7.28E-06	6.96E-05	6.40E-05	0.000419	1.336798
1	2020	Runway Extension	Drainage - 24 inch SICPP	Roller	Diesel	100	0.59	7.04	0.000597	0.000598	1.45E-06	7.17E-05	6.60E-05	9.96E-05	0.247398
1	2020	Runway Extension	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	3.911111	0.000335	0.000959	4.04E-06	3.87E-05	3.56E-05	0.000246	0.742665
1	2020	Runway Extension	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	3.911111	0.000213	0.000497	1.27E-06	4.69E-05	4.32E-05	9.87E-05	0.216583
1	2020	Runway Extension	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	3.911111	0.000124	0.000454	9.37E-07	3.00E-05	2.76E-05	8.89E-05	0.156135
1	2020	Runway Extension	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	3.911111	0.000335	0.000959	4.04E-06	3.87E-05	3.56E-05	0.000246	0.742665
1	2020	Runway Extension	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	3.911111	0.000359	0.000278	3.66E-07	4.96E-05	4.56E-05	0.000135	0.057011
1	2020	Runway Extension	Dust Control	Water Truck	Diesel	600	0.59	1440	0.123467	0.353072	0.001488	0.014237	0.013098	0.079639	273.4359
1	2020	Runway Extension	Excavation (Borrow)	Dozer	Diesel	175	0.59	5.18	0.000219	0.000504	1.63E-06	4.50E-05	4.14E-05	0.00011	0.286866
1	2020	Runway Extension	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	5.18	0.000444	0.00127	5.35E-06	5.12E-05	4.71E-05	0.000316	0.98361
1	2020	Runway Extension	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	5.18	0.000444	0.00127	5.35E-06	5.12E-05	4.71E-05	0.000316	0.98361
1	2020	Runway Extension	Excavation (Borrow)	Roller	Diesel	100	0.59	2.390769	0.000203	0.000203	4.91E-07	2.43E-05	2.24E-05	4.63E-05	0.084016
1	2020	Runway Extension	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	3.885	0.000164	0.000378	1.22E-06	3.37E-05	3.10E-05	8.77E-05	0.21515
1	2020	Runway Extension	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	10.36	0.000888	0.00254	1.07E-05	0.000102	9.42E-05	0.000602	1.967219
1	2020	Runway Extension	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	3.108	0.000103	0.000248	9.55E-07	1.91E-05	1.76E-05	6.70E-05	0.172126
1	2020	Runway Extension	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	3.108	0.000266	0.000762	3.21E-06	3.07E-05	2.83E-05	0.000202	0.590166

1	2020	Runway Extension	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	3.108	0.000264	0.000264	6.38E-07	3.16E-05	2.91E-05	5.45E-05	0.10922
1	2020	Runway Extension	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	3.885	0.000826	0.002053	4.37E-06	0.000122	0.000112	0.00032	0.737655
1	2020	Runway Extension	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	1.462588	6.17E-05	0.000142	4.60E-07	1.27E-05	1.17E-05	4.53E-05	0.080998
1	2020	Runway Extension	Fencing	Concrete Truck	Diesel	600	0.59	2.333333	0.0002	0.000572	2.41E-06	2.31E-05	2.12E-05	0.000159	0.443067
1	2020	Runway Extension	Fencing	Dump Truck	Diesel	600	0.59	9.333333	0.0008	0.002288	9.65E-06	9.23E-05	8.49E-05	0.000546	1.77227
1	2020	Runway Extension	Fencing	Other General Equipment	Diesel	175	0.43	9.333333	0.000297	0.001085	2.24E-06	7.15E-05	6.58E-05	0.000168	0.372595
1	2020	Runway Extension	Fencing	Pickup Truck	Diesel	600	0.59	9.333333	0.0008	0.002288	9.65E-06	9.23E-05	8.49E-05	0.000546	1.77227
1	2020	Runway Extension	Fencing	Skid Steer Loader	Diesel	75	0.21	9.333333	0.000697	0.000757	6.80E-07	0.000102	9.37E-05	0.000187	0.101939
1	2020	Runway Extension	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	9.333333	0.000858	0.000664	8.73E-07	0.000118	0.000109	0.000212	0.136048
1	2020	Runway Extension	Grading	Dozer	Diesel	175	0.59	1.221	5.15E-05	0.000119	3.84E-07	1.06E-05	9.75E-06	4.11E-05	0.067618
1	2020	Runway Extension	Grading	Grader	Diesel	300	0.59	1.221	5.79E-05	0.00018	6.42E-07	8.96E-06	8.24E-06	5.62E-05	0.115921
1	2020	Runway Extension	Grading	Roller	Diesel	100	0.59	1.221	0.000104	0.000104	2.51E-07	1.24E-05	1.14E-05	3.28E-05	0.042908
1	2020	Runway Extension	Hydroseeding	Hydroseeder	Diesel	600	0.59	1.1	9.43E-05	0.00027	1.14E-06	1.09E-05	1.00E-05	9.06E-05	0.208875
1	2020	Runway Extension	Hydroseeding	Off-Road Truck	Diesel	600	0.59	1.1	9.43E-05	0.00027	1.14E-06	1.09E-05	1.00E-05	9.06E-05	0.208875
1	2020	Runway Extension	Lighting	Dump Truck	Diesel	600	0.59	3.333333	0.000286	0.000817	3.44E-06	3.30E-05	3.03E-05	0.000214	0.632953
1	2020	Runway Extension	Lighting	Loader	Diesel	175	0.59	3.333333	0.000181	0.000424	1.08E-06	4.00E-05	3.68E-05	8.78E-05	0.184587
1	2020	Runway Extension	Lighting	Other General Equipment	Diesel	175	0.43	3.333333	0.000106	0.000387	7.99E-07	2.55E-05	2.35E-05	8.04E-05	0.13307
1	2020	Runway Extension	Lighting	Pickup Truck	Diesel	600	0.59	3.333333	0.000286	0.000817	3.44E-06	3.30E-05	3.03E-05	0.000214	0.632953
1	2020	Runway Extension	Lighting	Skid Steer Loader	Diesel	75	0.21	3.333333	0.000249	0.00027	2.43E-07	3.64E-05	3.35E-05	9.94E-05	0.036407
1	2020	Runway Extension	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	3.333333	0.000306	0.000237	3.12E-07	4.23E-05	3.89E-05	0.000126	0.048589

1	2020	Runway Extension	Markings	Flatbed Truck	Diesel	600	0.59	19.2	0.001646	0.004708	1.98E-05	0.00019	0.000175	0.001091	3.645812
1	2020	Runway Extension	Markings	Other General Equipment	Diesel	175	0.43	19.2	0.000611	0.002231	4.60E-06	0.000147	0.000135	0.000312	0.766481
1	2020	Runway Extension	Markings	Pickup Truck	Diesel	600	0.59	19.2	0.001646	0.004708	1.98E-05	0.00019	0.000175	0.001091	3.645812
1	2020	Runway Extension	Soil Erosion/Control	Other General Equipment	Diesel	175	0.43	1.2	3.82E-05	0.000139	2.87E-07	9.19E-06	8.46E-06	4.94E-05	0.047905
1	2020	Runway Extension	Soil Erosion/Control	Pickup Truck	Diesel	600	0.59	2.4	0.000206	0.000588	2.48E-06	2.37E-05	2.18E-05	0.000162	0.455727
1	2020	Runway Extension	Soil Erosion/Control	Pumps	Diesel	11	0.43	1.2	2.79E-05	2.87E-05	2.48E-08	2.61E-06	2.40E-06	5.93E-06	0.00334
1	2020	Runway Extension	Soil Erosion/Control	Tractors/Loader/Backhoe	Diesel	100	0.21	1.2	0.00011	8.54E-05	1.12E-07	1.52E-05	1.40E-05	9.58E-05	0.017492
1	2020	Runway Extension	Subbase Placement	Dozer	Diesel	175	0.59	1.962947	8.28E-05	0.000191	6.17E-07	1.70E-05	1.57E-05	5.41E-05	0.108707
1	2020	Runway Extension	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	13.81333	0.001184	0.003387	1.43E-05	0.000137	0.000126	0.000793	2.622959
1	2020	Runway Extension	Subbase Placement	Pickup Truck	Diesel	600	0.59	1.962947	0.000168	0.000481	2.03E-06	1.94E-05	1.79E-05	0.000138	0.372736
1	2020	Runway Extension	Subbase Placement	Roller	Diesel	100	0.59	1.912615	0.000162	0.000163	3.93E-07	1.95E-05	1.79E-05	4.08E-05	0.067213
1	2020	Runway Extension	Topsoil Placement	Dozer	Diesel	175	0.59	2.713333	0.000115	0.000264	8.52E-07	2.36E-05	2.17E-05	6.72E-05	0.150263
1	2020	Runway Extension	Topsoil Placement	Dump Truck	Diesel	600	0.59	2.713333	0.000233	0.000665	2.80E-06	2.68E-05	2.47E-05	0.00018	0.515224
1	2020	Runway Extension	Topsoil Placement	Pickup Truck	Diesel	600	0.59	2.713333	0.000233	0.000665	2.80E-06	2.68E-05	2.47E-05	0.00018	0.515224

On-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Equipment	Equipment Category	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Distance for fugitive PM	Number of Vehicles	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Rate	VMT	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
1	2020	Runway Extension	Cement Mixer	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	1	--	129	210	40	--	--	--	--	--	1943	0.004335	0.004472	1.90E-05	0.000161	0.000156	0.000121	2.458867	0.00038	0.000135
1	2020	Runway Extension	Dump Truck Subbase Material	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	1	--	129	210	40	--	--	--	--	--	1036	0.003541	0.002505	1.02E-05	8.70E-05	8.44E-05	0.000117	1.325847	0.000203	7.21E-05
1	2020	Runway Extension	Passenger Car	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	--	66	66	129	--	--	--	--	--	--	--	255420	0.833503	0.051823	0.000652	0.001915	0.001764	0.050333	92.82448	0.014314	0.001001

Fugitive Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Scenario ID	Year	Project	Fugitive Source Type	Number of Months	CO	NOx	SO2	PM10	VOC
1	2020	Runway Extension	Concrete Mixing/Batching	6	0	0	0	0.0072	0
1	2020	Runway Extension	Material Movement (Paved Roads)	6	0	0	0	0.006	0
1	2020	Runway Extension	Material Movement (Unpaved Roads)	6	0	0	0	0.01825	0

1	2020	Runway Extension	Soil Handling	6	0	0	0	0.002378	0
1	2020	Runway Extension	Unstabilized Land and Wind Erosion	6	0	0	0	1.69E-09	0

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INPUT DATA AND SPECIFICATIONS

State/County

California
Santa Clara County

Scenarios

Scenario ID	Year	Number of Months	Season	Average Daily Temp (degF)	Max Daily Temp Change (degF)	Min Daily Temp Change (degF)
1	2020	6	Winter	50 < T <= 80	10 <= Change in T < 20	10 <= Change in T < 20
2						

Project Final Selections

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	
					*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	Runway Extension	Clearing and Grubbing	Chain Saw	Diesel	
1	Runway Extension	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	
1	Runway Extension	Clearing and Grubbing	Pickup Truck	Diesel	
1	Runway Extension	Concrete Placement	Air Compressor	Diesel	
1	Runway Extension	Concrete Placement	Concrete Saws	Diesel	
1	Runway Extension	Concrete Placement	Concrete Truck	Diesel	
1	Runway Extension	Concrete Placement	Other General Equipment	Diesel	
1	Runway Extension	Concrete Placement	Pickup Truck	Diesel	
1	Runway Extension	Concrete Placement	Rubber Tired Loader	Diesel	
1	Runway Extension	Concrete Placement	Slip Form Paver	Diesel	
1	Runway Extension	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	
1	Runway Extension	Drainage - 24 inch SICPP	Dozer	Diesel	
1	Runway Extension	Drainage - 24 inch SICPP	Dump Truck	Diesel	
1	Runway Extension	Drainage - 24 inch SICPP	Excavator	Diesel	
1	Runway Extension	Drainage - 24 inch SICPP	Loader	Diesel	
1	Runway Extension	Drainage - 24 inch SICPP	Other General Equipment	Diesel	

1	Runway Extension	Drainage - 24 inch SICPP	Pickup Truck	Diesel	
1	Runway Extension	Drainage - 24 inch SICPP	Roller	Diesel	
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	
1	Runway Extension	Dust Control	Water Truck	Diesel	
1	Runway Extension	Excavation (Borrow)	Dozer	Diesel	
1	Runway Extension	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	
1	Runway Extension	Excavation (Borrow)	Pickup Truck	Diesel	
1	Runway Extension	Excavation (Borrow)	Roller	Diesel	
1	Runway Extension	Excavation (Cut to Fill)	Dozer	Diesel	
1	Runway Extension	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	
1	Runway Extension	Excavation (Cut to Fill)	Excavator	Diesel	
1	Runway Extension	Excavation (Cut to Fill)	Pickup Truck	Diesel	

1	Runway Extension	Excavation (Cut to Fill)	Roller	Diesel	
1	Runway Extension	Excavation (Cut to Fill)	Scraper	Diesel	
1	Runway Extension	Excavation (Topsoil Stripping)	Dozer	Diesel	
1	Runway Extension	Fencing	Concrete Truck	Diesel	
1	Runway Extension	Fencing	Dump Truck	Diesel	
1	Runway Extension	Fencing	Other General Equipment	Diesel	
1	Runway Extension	Fencing	Pickup Truck	Diesel	
1	Runway Extension	Fencing	Skid Steer Loader	Diesel	
1	Runway Extension	Fencing	Tractors/Loader/Backhoe	Diesel	
1	Runway Extension	Grading	Dozer	Diesel	
1	Runway Extension	Grading	Grader	Diesel	
1	Runway Extension	Grading	Roller	Diesel	
1	Runway Extension	Hydroseeding	Hydroseeder	Diesel	
1	Runway Extension	Hydroseeding	Off-Road Truck	Diesel	
1	Runway Extension	Lighting	Dump Truck	Diesel	
1	Runway Extension	Lighting	Loader	Diesel	
1	Runway Extension	Lighting	Other General Equipment	Diesel	
1	Runway Extension	Lighting	Pickup Truck	Diesel	
1	Runway Extension	Lighting	Skid Steer Loader	Diesel	
1	Runway Extension	Lighting	Tractors/Loader/Backhoe	Diesel	

1	Runway Extension	Markings	Flatbed Truck	Diesel
1	Runway Extension	Markings	Other General Equipment	Diesel
1	Runway Extension	Markings	Pickup Truck	Diesel
1	Runway Extension	Soil Erosion/Control	Other General Equipment	Diesel
1	Runway Extension	Soil Erosion/Control	Pickup Truck	Diesel
1	Runway Extension	Soil Erosion/Control	Pumps	Diesel
1	Runway Extension	Soil Erosion/Control	Tractors/Loader/Backhoe	Diesel
1	Runway Extension	Subbase Placement	Dozer	Diesel
1	Runway Extension	Subbase Placement	Dump Truck (12 cy)	Diesel
1	Runway Extension	Subbase Placement	Pickup Truck	Diesel
1	Runway Extension	Subbase Placement	Roller	Diesel
1	Runway Extension	Topsoil Placement	Dozer	Diesel
1	Runway Extension	Topsoil Placement	Dump Truck	Diesel
1	Runway Extension	Topsoil Placement	Pickup Truck	Diesel

Overall Size

Scenario ID	Project	Project Size Questions	User Input	Unit
1	Runway Extension	What is the estimated cost of the project?	0.29	$ Million(s)

1	Runway Extension	What is the maximum length of the runway extension (L) in feet?	210	Feet
1	Runway Extension	What is the maximum width of the runway extension (W) in feet?	40	Feet

Size Detail (Estimated based on engineering experience)

ScenarioID	Construction Project	Default Activity	Activity Size	User Activity Unit	User Activity Size
1	Runway Extension	Clearing and Grubbing	0.3	Acres	
1	Runway Extension	Concrete Placement	388.5	Cubic Yards	
1	Runway Extension	Drainage - 24 inch SICPP	220	Linear Feet	
1	Runway Extension	Drainage - 6 inch Perforated	440	Linear Feet	
1	Runway Extension	Underdrain	180	Days	
1	Runway Extension	Dust Control	388.5	Cubic Yards	
1	Runway Extension	Excavation (Borrow)	388.5	Cubic Yards	
1	Runway Extension	Excavation (Cut to Fill)	932.4	Square Yards	
1	Runway Extension	Excavation (Topsoil Stripping)			

1	Runway Extension	Fencing			210			Linear Feet	
1	Runway Extension	Grading			1221			Square Yards	
1	Runway Extension	Hydroseeding			11000			Square Feet	
1	Runway Extension	Lighting			500			Linear Feet	
1	Runway Extension	Markings			8400			Square Feet	
1	Runway Extension	Soil Erosion/Control			0.3			Acres	
1	Runway Extension	Subbase Placement			932.4			Square Yards	
1	Runway Extension	Subbase Placement			310.8			Cubic Yards	
1	Runway Extension	Topsoil Placement			203.5			Cubic Yards	

Activity:
Non-Road
(Estimated based on engineering experience)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Activity Size	Activity Rate	Default Activity	Activity Unit	User Activity Data	
										*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	Runway Extension	Clearing and Grubbing	Chain Saw	Diesel	0.30 Acre	12 Hours per 1.00 Acre	3.6	hours		
1	Runway Extension	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	0.30 Acre	12 Hours per 1.00 Acre	3.6	hours		
1	Runway Extension	Clearing and Grubbing	Pickup Truck	Diesel	0.30 Acre	16 Hours per 1.00 Acre	4.8	hours		
1	Runway Extension	Concrete Placement	Air Compressor	Diesel	388.50 CY	8 Hours per 1000.00 CY	3.11	hours		

1	Runway Extension	Concrete Placement	Concrete Saws	Diesel	388.50 CY	8 Hours per 1000.00 CY	3.11	hours
1	Runway Extension	Concrete Placement	Concrete Truck	Diesel	388.50 CY	8 Hours per 240.00 CY	12.95	hours
1	Runway Extension	Concrete Placement	Other General Equipment	Diesel	388.50 CY	16 Hours per 1000.00 CY	6.22	hours
1	Runway Extension	Concrete Placement	Pickup Truck	Diesel	388.50 CY	24 Hours per 1000.00 CY	9.32	hours
1	Runway Extension	Concrete Placement	Rubber Tired Loader	Diesel	388.50 CY	8 Hours per 1000.00 CY	3.11	hours
1	Runway Extension	Concrete Placement	Slip Form Paver	Diesel	388.50 CY	8 Hours per 1000.00 CY	3.11	hours
1	Runway Extension	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	388.50 CY	8 Hours per 1000.00 CY	3.11	hours
1	Runway Extension	Drainage - 24 inch SICPP	Dozer	Diesel	220.00 LF	8 Hours per 250.00 LF	7.04	hours
1	Runway Extension	Drainage - 24 inch SICPP	Dump Truck	Diesel	220.00 LF	8 Hours per 250.00 LF	7.04	hours
1	Runway Extension	Drainage - 24 inch SICPP	Excavator	Diesel	220.00 LF	8 Hours per 250.00 LF	7.04	hours
1	Runway Extension	Drainage - 24 inch SICPP	Loader	Diesel	220.00 LF	8 Hours per 250.00 LF	7.04	hours
1	Runway Extension	Drainage - 24 inch SICPP	Other General Equipment	Diesel	220.00 LF	8 Hours per 250.00 LF	7.04	hours
1	Runway Extension	Drainage - 24 inch SICPP	Pickup Truck	Diesel	220.00 LF	8 Hours per 250.00 LF	7.04	hours
1	Runway Extension	Drainage - 24 inch SICPP	Roller	Diesel	220.00 LF	8 Hours per 250.00 LF	7.04	hours
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	440.00 LF	8 Hours per 900.00 LF	3.91	hours
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	440.00 LF	8 Hours per 900.00 LF	3.91	hours

1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	440.00 LF	8 Hours per 900.00 LF	3.91	hours
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	440.00 LF	8 Hours per 900.00 LF	3.91	hours
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	440.00 LF	8 Hours per 900.00 LF	3.91	hours
1	Runway Extension	Dust Control	Water Truck	Diesel	180.00 Day	8 Hours per 1.00 Day	1440	hours
1	Runway Extension	Excavation (Borrow)	Dozer	Diesel	388.50 CY	8 Hours per 600.00 CY	5.18	hours
1	Runway Extension	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	388.50 CY	8 Hours per 600.00 CY	5.18	hours
1	Runway Extension	Excavation (Borrow)	Pickup Truck	Diesel	388.50 CY	8 Hours per 600.00 CY	5.18	hours
1	Runway Extension	Excavation (Borrow)	Roller	Diesel	388.50 CY	8 Hours per 1300.00 CY	2.39	hours
1	Runway Extension	Excavation (Cut to Fill)	Dozer	Diesel	388.50 CY	8 Hours per 800.00 CY	3.89	hours
1	Runway Extension	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	388.50 CY	8 Hours per 300.00 CY	10.36	hours
1	Runway Extension	Excavation (Cut to Fill)	Excavator	Diesel	388.50 CY	8 Hours per 1000.00 CY	3.11	hours
1	Runway Extension	Excavation (Cut to Fill)	Pickup Truck	Diesel	388.50 CY	8 Hours per 1000.00 CY	3.11	hours
1	Runway Extension	Excavation (Cut to Fill)	Roller	Diesel	388.50 CY	8 Hours per 1000.00 CY	3.11	hours
1	Runway Extension	Excavation (Cut to Fill)	Scraper	Diesel	388.50 CY	8 Hours per 800.00 CY	3.89	hours
1	Runway Extension	Excavation (Topsoil Stripping)	Dozer	Diesel	932.40 SY	8 Hours per 5100.00 SY	1.46	hours
1	Runway Extension	Fencing	Concrete Truck	Diesel	210.00 LF	2 Hours per 180.00 LF	2.33	hours

1	Runway Extension	Fencing	Dump Truck	Diesel	210.00 LF	8 Hours per 180.00 LF	9.33	hours
1	Runway Extension	Fencing	Other General Equipment	Diesel	210.00 LF	8 Hours per 180.00 LF	9.33	hours
1	Runway Extension	Fencing	Pickup Truck	Diesel	210.00 LF	8 Hours per 180.00 LF	9.33	hours
1	Runway Extension	Fencing	Skid Steer Loader	Diesel	210.00 LF	8 Hours per 180.00 LF	9.33	hours
1	Runway Extension	Fencing	Tractors/Loader/Backhoe	Diesel	210.00 LF	8 Hours per 180.00 LF	9.33	hours

1	Runway Extension	Grading	Dozer	Diesel	1221.00 SY	8 Hours per 8000.00 SY	1.22	hours
1	Runway Extension	Grading	Grader	Diesel	1221.00 SY	8 Hours per 8000.00 SY	1.22	hours
1	Runway Extension	Grading	Roller	Diesel	1221.00 SY	8 Hours per 8000.00 SY	1.22	hours
1	Runway Extension	Hydroseeding	Hydroseeder	Diesel	11000.00 SF	8 Hours per 80000.00 SF	1.1	hours
1	Runway Extension	Hydroseeding	Off-Road Truck	Diesel	11000.00 SF	8 Hours per 80000.00 SF	1.1	hours
1	Runway Extension	Lighting	Dump Truck	Diesel	500.00 LF	8 Hours per 1200.00 LF	3.33	hours
1	Runway Extension	Lighting	Loader	Diesel	500.00 LF	8 Hours per 1200.00 LF	3.33	hours
1	Runway Extension	Lighting	Other General Equipment	Diesel	500.00 LF	8 Hours per 1200.00 LF	3.33	hours
1	Runway Extension	Lighting	Pickup Truck	Diesel	500.00 LF	8 Hours per 1200.00 LF	3.33	hours
1	Runway Extension	Lighting	Skid Steer Loader	Diesel	500.00 LF	8 Hours per 1200.00 LF	3.33	hours
1	Runway Extension	Lighting	Tractors/Loader/Backhoe	Diesel	500.00 LF	8 Hours per 1200.00 LF	3.33	hours
1	Runway Extension	Markings	Flatbed Truck	Diesel	8400.00 SF	8 Hours per 3500.00 SF	19.2	hours
1	Runway Extension	Markings	Other General Equipment	Diesel	8400.00 SF	8 Hours per 3500.00 SF	19.2	hours
1	Runway Extension	Markings	Pickup Truck	Diesel	8400.00 SF	8 Hours per 3500.00 SF	19.2	hours
1	Runway Extension	Soil Erosion/Control	Other General Equipment	Diesel	0.30 Acre	4 Hours per 1.00 Acre	1.2	hours
1	Runway Extension	Soil Erosion/Control	Pickup Truck	Diesel	0.30 Acre	8 Hours per 1.00 Acre	2.4	hours

1	Runway Extension	Soil Erosion/Control	Pumps	Diesel	0.30 Acre	4 Hours per 1.00 Acre	1.2	hours
1	Runway Extension	Soil Erosion/Control	Tractors/Loader/Backhoe	Diesel	0.30 Acre	4 Hours per 1.00 Acre	1.2	hours
1	Runway Extension	Subbase Placement	Dozer	Diesel	932.40 SY	8 Hours per 3800.00 SY	1.96	hours
1	Runway Extension	Subbase Placement	Dump Truck (12 cy)	Diesel	310.80 CY	8 Hours per 180.00 CY	13.81	hours
1	Runway Extension	Subbase Placement	Pickup Truck	Diesel	932.40 SY	8 Hours per 3800.00 SY	1.96	hours
1	Runway Extension	Subbase Placement	Roller	Diesel	310.80 CY	8 Hours per 1300.00 CY	1.91	hours
1	Runway Extension	Topsoil Placement	Dozer	Diesel	203.50 CY	8 Hours per 600.00 CY	2.71	hours
1	Runway Extension	Topsoil Placement	Dump Truck	Diesel	203.50 CY	8 Hours per 600.00 CY	2.71	hours
1	Runway Extension	Topsoil Placement	Pickup Truck	Diesel	203.50 CY	8 Hours per 600.00 CY	2.71	hours

Activity: On-Road (Estimated based on engineering experience)

Scenario ID	Project	Equipment	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Size	Activity Rate	Default VMT	User VMT
1	Runway Extension	Cement Mixer	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	210	40	--	--	--	--	--	--	1943	
1	Runway Extension	Dump Truck Subbase Material	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	210	40	--	--	--	--	--	--	1036	
1	Runway Extension	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	66	129	--	--	--	--	--	--	--	--	255420	

Emission Factor: Non-Road (from NONROAD)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Avg Rated HP	Load Factor	CO (g/hp-hr)	NOx (g/hp-hr)	CO2 (g/hp-hr)	SO2 (g/hp-hr)	PM10 (g/hp-hr)	PM2.5 (g/hp-hr)	VOC Exhaust (g/hp-hr)	VOC Evaporative (g/equipment-day)	
1	Runway Extension	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	293.535	1.322993	685.9963	0.140192	9.748189	8.968334	61.88836	26.88131	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	Runway Extension	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	1.6976	3.014009	589.3092	0.003468	0.294053	0.270529	0.349775	0.206615	
1	Runway Extension	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234	
1	Runway Extension	Concrete Placement	Air Compressor	Diesel	100	0.43	1.104829	1.794373	589.7346	0.003245	0.158031	0.145388	0.20937	0.195896	
1	Runway Extension	Concrete Placement	Concrete Saws	Diesel	40	0.59	0.522532	3.313194	595.6491	0.003072	0.071525	0.065803	0.167578	0.002633	
1	Runway Extension	Concrete Placement	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234	
1	Runway Extension	Concrete Placement	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128	
1	Runway Extension	Concrete Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234	
1	Runway Extension	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261	
1	Runway Extension	Concrete Placement	Slip Form Paver	Diesel	175	0.59	0.436875	1.003913	536.3453	0.002812	0.094305	0.086761	0.16014	0.161771	
1	Runway Extension	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	2.379151	4.459281	594.7267	0.004009	0.353137	0.324886	0.472055	0.003483	
1	Runway Extension	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385	
1	Runway Extension	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234	
1	Runway Extension	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906	
1	Runway Extension	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261	

1	Runway Extension	Drainage - 24 inch SlCPP	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Runway Extension	Drainage - 24 inch SlCPP	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Drainage - 24 inch SlCPP	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Runway Extension	Dust Control	Water Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Excavation (Borrow)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Runway Extension	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Excavation (Borrow)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Runway Extension	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Runway Extension	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906

1	Runway Extension	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Runway Extension	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	0.545055	1.354215	536.363	0.002882	0.080485	0.074046	0.154332	0.607685
1	Runway Extension	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Runway Extension	Fencing	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Fencing	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Fencing	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Runway Extension	Fencing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Fencing	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Runway Extension	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Runway Extension	Grading	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Runway Extension	Grading	Grader	Diesel	300	0.59	0.24308	0.754295	536.3826	0.002696	0.037599	0.034591	0.147818	0.147813
1	Runway Extension	Grading	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Runway Extension	Hydroseeding	Hydroseeder	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Hydroseeding	Off-Road Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Lighting	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Lighting	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Runway Extension	Lighting	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Runway Extension	Lighting	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Lighting	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012

1	Runway Extension	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Runway Extension	Markings	Flatbed Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Markings	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Runway Extension	Markings	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Soil Erosion/Control	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Runway Extension	Soil Erosion/Control	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Soil Erosion/Control	Pumps	Diesel	11	0.43	4.4591	4.594026	588.4291	0.003967	0.417534	0.384131	0.640288	0.013554
1	Runway Extension	Soil Erosion/Control	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Runway Extension	Subbase Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Runway Extension	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Subbase Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Subbase Placement	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Runway Extension	Topsoil Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Runway Extension	Topsoil Placement	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Topsoil Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

Emission Factors: On-Road (from MOVES)

Scenario ID	Project Type	Equipment	Fuel Type	Roadway Type	CO(g/mi)	NOx(g/mi)	CO2(g/mi)	SO2(g/mi)	PM10(g/mi)	PM2.5(g/mi)	CH4(g/mi)	N2O(g/mi)	VOC(g/mi)	RV CO(g/veh-day)	RV NOx(g/veh-day)	RV CO2(g/veh-day)	RV SO2(g/veh-day)	RV PM10(g/veh-day)	RV PM2.5(g/veh-day)	RV VOC(g/veh-day)	RP VOC(g/veh-day)
1	Runway Extension	Cement Mixer	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0

1	Runway Extension	Dump Truck Subbase Material	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Runway Extension	Passenger Car	Gasoline	Urban Unrestricted Access	1.689671	0.102635	348.7876	0.002224	0.005214	0.004801	0.056039	0.003919	0.001767	38.12089	2.442831	438.9424	0.002799	0.047668	0.043893	5.310081	0

Fugitive Emissions (Emission Factors from Various Sources including AP-42)

Scenario ID	Project	Fugitive Type	Variable	Default Values	Units	User Value
1	Runway Extension	Concrete Mixing/Batching	V = Volume of asphalt = 0.111 x L x W x 1.25 / 3	388.5	yd3	
1	Runway Extension	Material Movement (Unpaved Roads)	PM10 = 0.037 x V x s = Surface material silt content	14.4	lbs	
1	Runway Extension	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	0.043	fraction	
1	Runway Extension	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	32	tons	
1	Runway Extension	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	1332.9	miles	
1	Runway Extension	Material Movement (Paved Roads)	sL = Road surface silt loading	36.5	lbs	
1	Runway Extension	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	0.1	g/m3	
				32	tons	

1	Runway Extension	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	1290	miles
1	Runway Extension	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	12	lbs
1	Runway Extension	Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	0.193	acres
1	Runway Extension	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
1	Runway Extension	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction
1	Runway Extension	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.5	years
1	Runway Extension	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0	lbs
1	Runway Extension	Soil Handling	u = Wind speed	5	mph
1	Runway Extension	Soil Handling	m = Moisture content	0.25	fraction
1	Runway Extension	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	231	tons
1	Runway Extension	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	4.755	lbs

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ASSUMPTIONS

Emission factors were developed from the following models:

On-Road Vehicles: MOVES 2010b, revised January 2013

Non-Road Equipment: NONROAD2008a, July 2009

In addition to the overall project size dimensions (e.g., Length and width) provided by the user, an additional 10 ft length and 10 ft width is added to account for disturbance areas.

The number of employees is based on the higher of two methods: (1) number of equipment, and (2) multiply the project cost in million by 11.

The average employee travels 30 miles round-trip from home to construction site each day.

The average on-road material delivery round-trip distance per truck is 40 miles per day.

For calculating fugitive, re-entrained PM emissions from on-road and non-road material delivery and handling equipment, a nominal VMT of 5 miles is used for each vehicle per day.

In deriving emission factors from NONROAD, the horsepower for each equipment represents the most popular in each equipment category.

The total length of each modeled scenario is used to define the number of days associated with vehicle/equipment evaporative emissions.

The choice of location and season are assumed to adequately represent differences in fuel characteristics affecting emissions.

Only two seasons (Summer and Winter) are used to represent all seasons.

14 U.S. Counties are used to represent all other counties in the U.S. (all other counties are mapped to the 14).

The default methods assume that all construction equipment use diesel as well as heavy-duty on-road vehicles, while passenger vehicles (including motorcycles) use gasoline.

Fugitive emissions are only modeled for:

- Asphalt drying
- Asphalt storage and batching
- Concrete mixing/batching
- Soil handling
- Unstabilized land and wind erosion
- Material movement (unpaved roads)
- Material movement (paved roads)

On-Road vehicle speeds are not explicitly modeled. The associated emission factors for each modeled vehicle from MOVES represent averages over the driving cycles, the roadway type, and daily temperature variations.

The default equipment hours-of-use data are developed based on the overall size of the project provided by the user and activity rates based on expert engineering judgment.

Under the Construction Activity Type list (Activity Tab), when a choice between asphalt and concrete materials occurs, asphalt is always selected as default. To choose concrete, de-select the aphalt item and select the corresponding concrete item.

Two trips per day were assumed for each on-road material handling trucks.

Only CO2, CH4, and N2O are used to represent greenhouse gas emissions. Other potential greenhouse gases including air conditioning refrigerants were not included.

The following equipment are always modeled using diesel emission factors since gasoline-based emission factors are not available:

- Asphalt Deliveries/Ten Wheelers
- Bulldozer
- Concrete Ready Mix Trucks
- Concrete Ready Trucks Mix for Cores
- Concrete Truck
- Crack Filler (Trailer Mounted)
- Delivery of Tanks (3)
- Distributing Tanker
- Dozer
- Dump Truck
- Dump Truck (12 cy)
- Excavator
- Excavator for U/G Services/Tanks
- Flat Bed or Dump Trucks
- Flatbed Truck
- Grader
- Grout Wheel Truck
- Hoist Equipment with 40 Ton Rig

Hydralic Hammer
Hydroseeder
Line Painting Truck and Sprayer
Material Deliveries
Off-Road Truck
Pickup Truck
Scraper
Seed Truck Spreader
Small Dozer
Survey Crew Trucks
Ten Wheelers
Ten Wheelers- Material Delivery
Tool Truck
Tractor Trailer- Equipment Delivery
Tractor Trailer- Material Delivery
Tractor Trailer- Steel Deliveries
Tractor Trailer- Stone Delivery
Tractor Trailer- Topsoil & Seed
Tractor Trailer- Truck Delivery
Tractor Trailer with Boom Hoist- Curbs Del & Place
Tractor Trailer with Boom Hoist- Delivery
Tractor Trailers- Rebar Deliveries
Tractor Trailers Temp Fac.
Truck for Topsoil & Seed Del&Spread
Water Truck
Excavator with Bucket
Excavator with Hoe Ram

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Airport Construction Emissions Inventory Tool (ACEIT)
Version 1.0
Run Date & Time: 4/9/2019 5:34:29 PM

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STUDY

Study Name

A-43-2

Study Description

Widen Run and length to current ADG-V aircraft standard.

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EMISSION
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Y -
SUMMAR
Y

Total
Emissions
by Year

Units for
Non-
Greenhou
se Gases
Emission:
Short Ton

Units for
Greenhou
se Gases
(CO2,
CH4, and
N2O)
Emission:
Metric
Ton

Year	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	0.988534	0.456231	0.00233	0.050681	0.01757	0.146394	398.9422	0.014766	0.001162

Total
Emissions
by Source
Categories

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases Emission: Metric Ton

Year	Emission Source	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	NonRoad	0.147738	0.398877	0.001655	0.016977	0.015619	0.095825	303.1662	--	--
2020	OnRoad	0.840796	0.057354	0.000675	0.002109	0.001952	0.050569	95.77598	0.014766	0.001162
2020	Fugitive	0	0	0	0.031596	--	0	--	--	--
2020	TOTAL	0.988534	0.456231	0.00233	0.050681	0.01757	0.146394	398.9422	0.014766	0.001162

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EMISSIONS INVENTORY - DETAILS:

Non-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Construction Activity	Equipment	Fuel	HP Average	Load Factor	Hours of Activity	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	
1	2020	Runway Extension	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	2.4	0.00598	2.70E-05	2.86E-06	0.000199	0.000183	0.005083	0.012677	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	2020	Runway Extension	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	2.4	0.000193	0.000343	3.94E-07	3.35E-05	3.08E-05	6.92E-05	0.060817	
1	2020	Runway Extension	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	3.2	0.000274	0.000785	3.31E-06	3.16E-05	2.91E-05	0.000207	0.607635	
1	2020	Runway Extension	Concrete Placement	Air Compressor	Diesel	100	0.43	2.4128	0.000126	0.000205	3.71E-07	1.81E-05	1.66E-05	5.18E-05	0.061185	
1	2020	Runway Extension	Concrete Placement	Concrete Saws	Diesel	40	0.59	2.4128	3.28E-05	0.000208	1.93E-07	4.49E-06	4.13E-06	1.09E-05	0.033918	
1	2020	Runway Extension	Concrete Placement	Concrete Truck	Diesel	600	0.59	10.05333	0.000862	0.002465	1.04E-05	9.94E-05	9.14E-05	0.000586	1.908988	
1	2020	Runway Extension	Concrete Placement	Other General Equipment	Diesel	175	0.43	4.8256	0.000154	0.000561	1.16E-06	3.70E-05	3.40E-05	0.000102	0.192642	
1	2020	Runway Extension	Concrete Placement	Pickup Truck	Diesel	600	0.59	7.2384	0.000621	0.001775	7.48E-06	7.16E-05	6.58E-05	0.00043	1.374471	
1	2020	Runway Extension	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	2.4128	0.000131	0.000307	7.81E-07	2.89E-05	2.66E-05	7.06E-05	0.133612	
1	2020	Runway Extension	Concrete Placement	Slip Form Paver	Diesel	175	0.59	2.4128	0.00012	0.000276	7.72E-07	2.59E-05	2.38E-05	6.70E-05	0.133615	
1	2020	Runway Extension	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	2.4128	9.33E-05	0.000175	1.57E-07	1.39E-05	1.27E-05	1.90E-05	0.021166	
1	2020	Runway Extension	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	5.536	0.000234	0.000539	1.74E-06	4.81E-05	4.42E-05	0.000117	0.306581	
1	2020	Runway Extension	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	5.536	0.000475	0.001357	5.72E-06	5.47E-05	5.04E-05	0.000336	1.051209	
1	2020	Runway Extension	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	5.536	0.000184	0.000442	1.70E-06	3.41E-05	3.14E-05	0.000108	0.306592	
1	2020	Runway Extension	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	5.536	0.000301	0.000703	1.79E-06	6.64E-05	6.11E-05	0.000129	0.306563	
1	2020	Runway Extension	Drainage - 24 inch SICPP	Other General Equipment	Diesel	175	0.43	5.536	0.000176	0.000643	1.33E-06	4.24E-05	3.90E-05	0.000113	0.221002	

1	2020	Runway Extension	Drainage - 24 inch SICPP	Pickup Truck	Diesel	600	0.59	5.536	0.000475	0.001357	5.72E-06	5.47E-05	5.04E-05	0.000336	1.051209
1	2020	Runway Extension	Drainage - 24 inch SICPP	Roller	Diesel	100	0.59	5.536	0.000469	0.00047	1.14E-06	5.64E-05	5.19E-05	8.24E-05	0.194544
1	2020	Runway Extension	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	3.075556	0.000264	0.000754	3.18E-06	3.04E-05	2.80E-05	0.0002	0.584005
1	2020	Runway Extension	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	3.075556	0.000167	0.000391	9.95E-07	3.69E-05	3.39E-05	8.30E-05	0.170313
1	2020	Runway Extension	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	3.075556	9.79E-05	0.000357	7.37E-07	2.36E-05	2.17E-05	7.67E-05	0.122779
1	2020	Runway Extension	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	3.075556	0.000264	0.000754	3.18E-06	3.04E-05	2.80E-05	0.0002	0.584005
1	2020	Runway Extension	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	3.075556	0.000283	0.000219	2.88E-07	3.90E-05	3.59E-05	0.000123	0.044831
1	2020	Runway Extension	Dust Control	Water Truck	Diesel	600	0.59	1440	0.123467	0.353072	0.001488	0.014237	0.013098	0.079639	273.4359
1	2020	Runway Extension	Excavation (Borrow)	Dozer	Diesel	175	0.59	4.021333	0.00017	0.000391	1.26E-06	3.49E-05	3.21E-05	9.01E-05	0.2227
1	2020	Runway Extension	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	4.021333	0.000345	0.000986	4.16E-06	3.98E-05	3.66E-05	0.000252	0.763595
1	2020	Runway Extension	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	4.021333	0.000345	0.000986	4.16E-06	3.98E-05	3.66E-05	0.000252	0.763595
1	2020	Runway Extension	Excavation (Borrow)	Roller	Diesel	100	0.59	1.856	0.000157	0.000158	3.81E-07	1.89E-05	1.74E-05	4.01E-05	0.065223
1	2020	Runway Extension	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	3.016	0.000127	0.000294	9.48E-07	2.62E-05	2.41E-05	7.25E-05	0.167025
1	2020	Runway Extension	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	8.042667	0.00069	0.001972	8.31E-06	7.95E-05	7.32E-05	0.000474	1.52719
1	2020	Runway Extension	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	2.4128	8.03E-05	0.000193	7.42E-07	1.49E-05	1.37E-05	5.53E-05	0.133624
1	2020	Runway Extension	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	2.4128	0.000207	0.000592	2.49E-06	2.39E-05	2.19E-05	0.000163	0.458157

1	2020	Runway Extension	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	2.4128	0.000205	0.000205	4.96E-07	2.46E-05	2.26E-05	4.65E-05	0.08479
1	2020	Runway Extension	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	3.016	0.000641	0.001594	3.39E-06	9.47E-05	8.71E-05	0.000268	0.572655
1	2020	Runway Extension	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	1.135216	4.79E-05	0.000111	3.57E-07	9.86E-06	9.07E-06	3.96E-05	0.062868
1	2020	Runway Extension	Fencing	Concrete Truck	Diesel	600	0.59	1.811111	0.000155	0.000444	1.87E-06	1.79E-05	1.65E-05	0.00013	0.343905
1	2020	Runway Extension	Fencing	Dump Truck	Diesel	600	0.59	7.244444	0.000621	0.001776	7.49E-06	7.16E-05	6.59E-05	0.00043	1.375619
1	2020	Runway Extension	Fencing	Other General Equipment	Diesel	175	0.43	7.244444	0.000231	0.000842	1.74E-06	5.55E-05	5.11E-05	0.000137	0.289205
1	2020	Runway Extension	Fencing	Pickup Truck	Diesel	600	0.59	7.244444	0.000621	0.001776	7.49E-06	7.16E-05	6.59E-05	0.00043	1.375619
1	2020	Runway Extension	Fencing	Skid Steer Loader	Diesel	75	0.21	7.244444	0.000541	0.000588	5.28E-07	7.91E-05	7.28E-05	0.000156	0.079124
1	2020	Runway Extension	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	7.244444	0.000666	0.000515	6.77E-07	9.19E-05	8.45E-05	0.000182	0.105599
1	2020	Runway Extension	Grading	Dozer	Diesel	175	0.59	0.9602	4.05E-05	9.35E-05	3.02E-07	8.34E-06	7.67E-06	3.65E-05	0.053175
1	2020	Runway Extension	Grading	Grader	Diesel	300	0.59	0.9602	4.55E-05	0.000141	5.05E-07	7.04E-06	6.48E-06	4.87E-05	0.091161
1	2020	Runway Extension	Grading	Roller	Diesel	100	0.59	0.9602	8.14E-05	8.16E-05	1.97E-07	9.78E-06	9.00E-06	2.98E-05	0.033743
1	2020	Runway Extension	Hydroseeding	Hydroseeder	Diesel	600	0.59	0.865	7.42E-05	0.000212	8.94E-07	8.55E-06	7.87E-06	7.76E-05	0.164251
1	2020	Runway Extension	Hydroseeding	Off-Road Truck	Diesel	600	0.59	0.865	7.42E-05	0.000212	8.94E-07	8.55E-06	7.87E-06	7.76E-05	0.164251
1	2020	Runway Extension	Lighting	Dump Truck	Diesel	600	0.59	2.706667	0.000232	0.000664	2.80E-06	2.68E-05	2.46E-05	0.000179	0.513958
1	2020	Runway Extension	Lighting	Loader	Diesel	175	0.59	2.706667	0.000147	0.000344	8.76E-07	3.25E-05	2.99E-05	7.61E-05	0.149885
1	2020	Runway Extension	Lighting	Other General Equipment	Diesel	175	0.43	2.706667	8.61E-05	0.000315	6.48E-07	2.07E-05	1.91E-05	7.13E-05	0.108053
1	2020	Runway Extension	Lighting	Pickup Truck	Diesel	600	0.59	2.706667	0.000232	0.000664	2.80E-06	2.68E-05	2.46E-05	0.000179	0.513958
1	2020	Runway Extension	Lighting	Skid Steer Loader	Diesel	75	0.21	2.706667	0.000202	0.00022	1.97E-07	2.95E-05	2.72E-05	9.03E-05	0.029562
1	2020	Runway Extension	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	2.706667	0.000249	0.000193	2.53E-07	3.43E-05	3.16E-05	0.000117	0.039454

1	2020	Runway Extension	Markings	Flatbed Truck	Diesel	600	0.59	14.90286	0.001278	0.003654	1.54E-05	0.000147	0.000136	0.000854	2.829845
1	2020	Runway Extension	Markings	Other General Equipment	Diesel	175	0.43	14.90286	0.000474	0.001732	3.57E-06	0.000114	0.000105	0.000249	0.594936
1	2020	Runway Extension	Markings	Pickup Truck	Diesel	600	0.59	14.90286	0.001278	0.003654	1.54E-05	0.000147	0.000136	0.000854	2.829845
1	2020	Runway Extension	Soil Erosion/Control	Other General Equipment	Diesel	175	0.43	0.8	2.55E-05	9.30E-05	1.92E-07	6.13E-06	5.64E-06	4.35E-05	0.031937
1	2020	Runway Extension	Soil Erosion/Control	Pickup Truck	Diesel	600	0.59	1.6	0.000137	0.000392	1.65E-06	1.58E-05	1.46E-05	0.000118	0.303818
1	2020	Runway Extension	Soil Erosion/Control	Pumps	Diesel	11	0.43	0.8	1.86E-05	1.92E-05	1.65E-08	1.74E-06	1.60E-06	4.60E-06	0.002227
1	2020	Runway Extension	Soil Erosion/Control	Tractors/Loader/Backhoe	Diesel	100	0.21	0.8	7.35E-05	5.69E-05	7.48E-08	1.01E-05	9.34E-06	9.00E-05	0.011661
1	2020	Runway Extension	Subbase Placement	Dozer	Diesel	175	0.59	1.523579	6.43E-05	0.000148	4.79E-07	1.32E-05	1.22E-05	4.64E-05	0.084375
1	2020	Runway Extension	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	10.72	0.000919	0.002628	1.11E-05	0.000106	9.75E-05	0.000622	2.035578
1	2020	Runway Extension	Subbase Placement	Pickup Truck	Diesel	600	0.59	1.523579	0.000131	0.000374	1.57E-06	1.51E-05	1.39E-05	0.000114	0.289306
1	2020	Runway Extension	Subbase Placement	Roller	Diesel	100	0.59	1.484308	0.000126	0.000126	3.05E-07	1.51E-05	1.39E-05	3.58E-05	0.052161
1	2020	Runway Extension	Topsoil Placement	Dozer	Diesel	175	0.59	2.133333	9.00E-05	0.000208	6.70E-07	1.85E-05	1.70E-05	5.71E-05	0.118143
1	2020	Runway Extension	Topsoil Placement	Dump Truck	Diesel	600	0.59	2.133333	0.000183	0.000523	2.20E-06	2.11E-05	1.94E-05	0.000148	0.40509
1	2020	Runway Extension	Topsoil Placement	Pickup Truck	Diesel	600	0.59	2.133333	0.000183	0.000523	2.20E-06	2.11E-05	1.94E-05	0.000148	0.40509

On-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Equipment	Equipment Category	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Distance for fugitive PM	Number of Vehicles	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Rate	VMT	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
1	2020	Runway Extension	Cement Mixer	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	1	--	129	163	40	--	--	--	--	--	1508	0.003955	0.003529	1.48E-05	0.000125	0.000122	0.000119	1.915467	0.000295	0.000105
1	2020	Runway Extension	Dump Truck Subbase Material	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	1	--	129	163	40	--	--	--	--	--	804	0.003338	0.002001	7.99E-06	6.81E-05	6.61E-05	0.000117	1.036034	0.000157	5.60E-05
1	2020	Runway Extension	Passenger Car	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	--	66	66	129	--	--	--	--	--	--	--	255420	0.833503	0.051823	0.000652	0.001915	0.001764	0.050333	92.82448	0.014314	0.001001

Fugitive Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Scenario ID	Year	Project	Fugitive Source Type	Number of Months	CO	NOx	SO2	PM10	VOC
1	2020	Runway Extension	Concrete Mixing/Batching	6	0	0	0	0.0056	0
1	2020	Runway Extension	Material Movement (Paved Roads)	6	0	0	0	0.006	0
1	2020	Runway Extension	Material Movement (Unpaved Roads)	6	0	0	0	0.01815	0

1	2020	Runway Extension	Soil Handling	6	0	0	0	0.001846	0
1	2020	Runway Extension	Unstabilized Land and Wind Erosion	6	0	0	0	1.32E-09	0

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INPUT DATA AND SPECIFICATIONS

State/County

California
Santa Clara County

Scenarios

Scenario ID	Year	Number of Months	Season	Average Daily Temp (degF)	Max Daily Temp Change (degF)	Min Daily Temp Change (degF)
1 2	2020	6	Winter	50 < T <= 80	10 <= Change in T < 20	10 <= Change in T < 20

Project Final Selections

Scenario ID	Project	Construction Activity	Equipment	Fuel Type

1	Runway Extension	Clearing and Grubbing	Chain Saw	Diesel	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	Runway Extension	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	
1	Runway Extension	Clearing and Grubbing	Pickup Truck	Diesel	
1	Runway Extension	Concrete Placement	Air Compressor	Diesel	
1	Runway Extension	Concrete Placement	Concrete Saws	Diesel	
1	Runway Extension	Concrete Placement	Concrete Truck	Diesel	
1	Runway Extension	Concrete Placement	Other General Equipment	Diesel	
1	Runway Extension	Concrete Placement	Pickup Truck	Diesel	
1	Runway Extension	Concrete Placement	Rubber Tired Loader	Diesel	
1	Runway Extension	Concrete Placement	Slip Form Paver	Diesel	
1	Runway Extension	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	
1	Runway Extension	Drainage - 24 inch SICPP	Dozer	Diesel	
1	Runway Extension	Drainage - 24 inch SICPP	Dump Truck	Diesel	
1	Runway Extension	Drainage - 24 inch SICPP	Excavator	Diesel	
1	Runway Extension	Drainage - 24 inch SICPP	Loader	Diesel	
1	Runway Extension	Drainage - 24 inch SICPP	Other General Equipment	Diesel	
1	Runway Extension	Drainage - 24 inch SICPP	Pickup Truck	Diesel	
1	Runway Extension	Drainage - 24 inch SICPP	Roller	Diesel	

		Drainage - 6 inch Perforated			
1	Runway Extension	Underdrain	Dump Truck	Diesel	
		Drainage - 6 inch Perforated			
1	Runway Extension	Underdrain	Loader	Diesel	
		Drainage - 6 inch Perforated	Other General		
1	Runway Extension	Underdrain	Equipment	Diesel	
		Drainage - 6 inch Perforated			
1	Runway Extension	Underdrain	Pickup Truck	Diesel	
		Drainage - 6 inch Perforated	Tractors/Loader/Backhoe		
1	Runway Extension	Underdrain		Diesel	
1	Runway Extension	Dust Control	Water Truck	Diesel	
1	Runway Extension	Excavation (Borrow)	Dozer	Diesel	
1	Runway Extension	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	
1	Runway Extension	Excavation (Borrow)	Pickup Truck	Diesel	
1	Runway Extension	Excavation (Borrow)	Roller	Diesel	
1	Runway Extension	Excavation (Cut to Fill)	Dozer	Diesel	
1	Runway Extension	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	
1	Runway Extension	Excavation (Cut to Fill)	Excavator	Diesel	
1	Runway Extension	Excavation (Cut to Fill)	Pickup Truck	Diesel	
1	Runway Extension	Excavation (Cut to Fill)	Roller	Diesel	
1	Runway Extension	Excavation (Cut to Fill)	Scraper	Diesel	

1	Runway Extension	Excavation (Topsoil Stripping)	Dozer	Diesel	
1	Runway Extension	Fencing	Concrete Truck	Diesel	
1	Runway Extension	Fencing	Dump Truck	Diesel	
1	Runway Extension	Fencing	Other General Equipment	Diesel	
1	Runway Extension	Fencing	Pickup Truck	Diesel	
1	Runway Extension	Fencing	Skid Steer Loader	Diesel	
1	Runway Extension	Fencing	Tractors/Loader/Backhoe	Diesel	
1	Runway Extension	Grading	Dozer	Diesel	
1	Runway Extension	Grading	Grader	Diesel	
1	Runway Extension	Grading	Roller	Diesel	
1	Runway Extension	Hydroseeding	Hydroseeder	Diesel	
1	Runway Extension	Hydroseeding	Off-Road Truck	Diesel	
1	Runway Extension	Lighting	Dump Truck	Diesel	
1	Runway Extension	Lighting	Loader	Diesel	
1	Runway Extension	Lighting	Other General Equipment	Diesel	
1	Runway Extension	Lighting	Pickup Truck	Diesel	
1	Runway Extension	Lighting	Skid Steer Loader	Diesel	
1	Runway Extension	Lighting	Tractors/Loader/Backhoe	Diesel	
1	Runway Extension	Markings	Flatbed Truck	Diesel	

1	Runway Extension	Markings	Other General Equipment	Diesel	
1	Runway Extension	Markings	Pickup Truck	Diesel	
1	Runway Extension	Soil Erosion/Control	Other General Equipment	Diesel	
1	Runway Extension	Soil Erosion/Control	Pickup Truck	Diesel	
1	Runway Extension	Soil Erosion/Control	Pumps	Diesel	
1	Runway Extension	Soil Erosion/Control	Tractors/Loader/Backhoe	Diesel	
1	Runway Extension	Subbase Placement	Dozer	Diesel	
1	Runway Extension	Subbase Placement	Dump Truck (12 cy)	Diesel	
1	Runway Extension	Subbase Placement	Pickup Truck	Diesel	
1	Runway Extension	Subbase Placement	Roller	Diesel	
1	Runway Extension	Topsoil Placement	Dozer	Diesel	
1	Runway Extension	Topsoil Placement	Dump Truck	Diesel	
1	Runway Extension	Topsoil Placement	Pickup Truck	Diesel	

Overall Size

Scenario ID	Project	Project Size Questions	User Input	Unit
1	Runway Extension	What is the estimated cost of the project?	0.23	$ Million(s)

1	Runway Extension	What is the maximum length of the runway extension (L) in feet?	163	Feet
1	Runway Extension	What is the maximum width of the runway extension (W) in feet?	40	Feet

Size Detail (Estimated based on engineering experience)

ScenarioID	Construction Project	Default Activity	Activity Size	Unit	User Activity Size
1	Runway Extension	Clearing and Grubbing	0.2	Acres	
1	Runway Extension	Concrete Placement	301.6	Cubic Yards	
1	Runway Extension	Drainage - 24 inch SICPP	173	Linear Feet	
1	Runway Extension	Drainage - 6 inch Perforated			
1	Runway Extension	Underdrain	346	Linear Feet	
1	Runway Extension	Dust Control	180	Days	
1	Runway Extension	Excavation (Borrow)	301.6	Cubic Yards	
1	Runway Extension	Excavation (Cut to Fill)	301.6	Cubic Yards	
1	Runway Extension	Excavation (Topsoil Stripping)	723.7	Square Yards	

1	Runway Extension	Fencing			163			Linear Feet	
1	Runway Extension	Grading			960.2			Square Yards	
1	Runway Extension	Hydroseeding			8650			Square Feet	
1	Runway Extension	Lighting			406			Linear Feet	
1	Runway Extension	Markings			6520			Square Feet	
1	Runway Extension	Soil Erosion/Control			0.2			Acres	
1	Runway Extension	Subbase Placement			723.7			Square Yards	
1	Runway Extension	Subbase Placement			241.2			Cubic Yards	
1	Runway Extension	Topsoil Placement			160			Cubic Yards	

Activity:
Non-Road
(Estimated based on engineering experience)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Activity Size	Activity Rate	Default Activity	Activity Unit	User Activity Data
									*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	Runway Extension	Clearing and Grubbing	Chain Saw	Diesel	0.20 Acre	12 Hours per 1.00 Acre	2.4	hours	
1	Runway Extension	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	0.20 Acre	12 Hours per 1.00 Acre	2.4	hours	
1	Runway Extension	Clearing and Grubbing	Pickup Truck	Diesel	0.20 Acre	16 Hours per 1.00 Acre	3.2	hours	
1	Runway Extension	Concrete Placement	Air Compressor	Diesel	301.60 CY	8 Hours per 1000.00 CY	2.41	hours	

1	Runway Extension	Concrete Placement	Concrete Saws	Diesel	301.60 CY	8 Hours per 1000.00 CY	2.41	hours
1	Runway Extension	Concrete Placement	Concrete Truck	Diesel	301.60 CY	8 Hours per 240.00 CY	10.05	hours
1	Runway Extension	Concrete Placement	Other General Equipment	Diesel	301.60 CY	16 Hours per 1000.00 CY	4.83	hours
1	Runway Extension	Concrete Placement	Pickup Truck	Diesel	301.60 CY	24 Hours per 1000.00 CY	7.24	hours
1	Runway Extension	Concrete Placement	Rubber Tired Loader	Diesel	301.60 CY	8 Hours per 1000.00 CY	2.41	hours
1	Runway Extension	Concrete Placement	Slip Form Paver	Diesel	301.60 CY	8 Hours per 1000.00 CY	2.41	hours
1	Runway Extension	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	301.60 CY	8 Hours per 1000.00 CY	2.41	hours
1	Runway Extension	Drainage - 24 inch SICPP	Dozer	Diesel	173.00 LF	8 Hours per 250.00 LF	5.54	hours
1	Runway Extension	Drainage - 24 inch SICPP	Dump Truck	Diesel	173.00 LF	8 Hours per 250.00 LF	5.54	hours
1	Runway Extension	Drainage - 24 inch SICPP	Excavator	Diesel	173.00 LF	8 Hours per 250.00 LF	5.54	hours
1	Runway Extension	Drainage - 24 inch SICPP	Loader	Diesel	173.00 LF	8 Hours per 250.00 LF	5.54	hours
1	Runway Extension	Drainage - 24 inch SICPP	Other General Equipment	Diesel	173.00 LF	8 Hours per 250.00 LF	5.54	hours
1	Runway Extension	Drainage - 24 inch SICPP	Pickup Truck	Diesel	173.00 LF	8 Hours per 250.00 LF	5.54	hours
1	Runway Extension	Drainage - 24 inch SICPP	Roller	Diesel	173.00 LF	8 Hours per 250.00 LF	5.54	hours
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	346.00 LF	8 Hours per 900.00 LF	3.08	hours
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	346.00 LF	8 Hours per 900.00 LF	3.08	hours

1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	346.00 LF	8 Hours per 900.00 LF	3.08	hours
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	346.00 LF	8 Hours per 900.00 LF	3.08	hours
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	346.00 LF	8 Hours per 900.00 LF	3.08	hours
1	Runway Extension	Dust Control	Water Truck	Diesel	180.00 Day	8 Hours per 1.00 Day	1440	hours
1	Runway Extension	Excavation (Borrow)	Dozer	Diesel	301.60 CY	8 Hours per 600.00 CY	4.02	hours
1	Runway Extension	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	301.60 CY	8 Hours per 600.00 CY	4.02	hours
1	Runway Extension	Excavation (Borrow)	Pickup Truck	Diesel	301.60 CY	8 Hours per 600.00 CY	4.02	hours
1	Runway Extension	Excavation (Borrow)	Roller	Diesel	301.60 CY	8 Hours per 1300.00 CY	1.86	hours
1	Runway Extension	Excavation (Cut to Fill)	Dozer	Diesel	301.60 CY	8 Hours per 800.00 CY	3.02	hours
1	Runway Extension	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	301.60 CY	8 Hours per 300.00 CY	8.04	hours
1	Runway Extension	Excavation (Cut to Fill)	Excavator	Diesel	301.60 CY	8 Hours per 1000.00 CY	2.41	hours
1	Runway Extension	Excavation (Cut to Fill)	Pickup Truck	Diesel	301.60 CY	8 Hours per 1000.00 CY	2.41	hours
1	Runway Extension	Excavation (Cut to Fill)	Roller	Diesel	301.60 CY	8 Hours per 1000.00 CY	2.41	hours
1	Runway Extension	Excavation (Cut to Fill)	Scraper	Diesel	301.60 CY	8 Hours per 800.00 CY	3.02	hours
1	Runway Extension	Excavation (Topsoil Stripping)	Dozer	Diesel	723.70 SY	8 Hours per 5100.00 SY	1.14	hours
1	Runway Extension	Fencing	Concrete Truck	Diesel	163.00 LF	2 Hours per 180.00 LF	1.81	hours

1	Runway Extension	Fencing	Dump Truck	Diesel	163.00	LF	8 Hours per 180.00 LF	7.24 hours
1	Runway Extension	Fencing	Other General Equipment	Diesel	163.00	LF	8 Hours per 180.00 LF	7.24 hours
1	Runway Extension	Fencing	Pickup Truck	Diesel	163.00	LF	8 Hours per 180.00 LF	7.24 hours
1	Runway Extension	Fencing	Skid Steer Loader	Diesel	163.00	LF	8 Hours per 180.00 LF	7.24 hours
1	Runway Extension	Fencing	Tractors/Loader/Backhoe	Diesel	163.00	LF	8 Hours per 180.00 LF	7.24 hours
1	Runway Extension	Grading	Dozer	Diesel	960.20	SY	8 Hours per 8000.00 SY	0.96 hours
1	Runway Extension	Grading	Grader	Diesel	960.20	SY	8 Hours per 8000.00 SY	0.96 hours
1	Runway Extension	Grading	Roller	Diesel	960.20	SY	8 Hours per 8000.00 SY	0.96 hours
1	Runway Extension	Hydroseeding	Hydroseeder	Diesel	8650.00	SF	8 Hours per 80000.00 SF	0.87 hours
1	Runway Extension	Hydroseeding	Off-Road Truck	Diesel	8650.00	SF	8 Hours per 80000.00 SF	0.87 hours
1	Runway Extension	Lighting	Dump Truck	Diesel	406.00	LF	8 Hours per 1200.00 LF	2.71 hours
1	Runway Extension	Lighting	Loader	Diesel	406.00	LF	8 Hours per 1200.00 LF	2.71 hours
1	Runway Extension	Lighting	Other General Equipment	Diesel	406.00	LF	8 Hours per 1200.00 LF	2.71 hours
1	Runway Extension	Lighting	Pickup Truck	Diesel	406.00	LF	8 Hours per 1200.00 LF	2.71 hours
1	Runway Extension	Lighting	Skid Steer Loader	Diesel	406.00	LF	8 Hours per 1200.00 LF	2.71 hours
1	Runway Extension	Lighting	Tractors/Loader/Backhoe	Diesel	406.00	LF	8 Hours per 1200.00 LF	2.71 hours
1	Runway Extension	Markings	Flatbed Truck	Diesel	6520.00	SF	3500.00 SF	14.9 hours

1	Runway Extension	Markings	Other General Equipment	Diesel	6520.00 SF	8 Hours per 3500.00 SF	14.9	hours
1	Runway Extension	Markings	Pickup Truck	Diesel	6520.00 SF	8 Hours per 3500.00 SF	14.9	hours
1	Runway Extension	Soil Erosion/Control	Other General Equipment	Diesel	0.20 Acre	4 Hours per 1.00 Acre	0.8	hours
1	Runway Extension	Soil Erosion/Control	Pickup Truck	Diesel	0.20 Acre	8 Hours per 1.00 Acre	1.6	hours
1	Runway Extension	Soil Erosion/Control	Pumps	Diesel	0.20 Acre	4 Hours per 1.00 Acre	0.8	hours
1	Runway Extension	Soil Erosion/Control	Tractors/Loader/Backhoe	Diesel	0.20 Acre	4 Hours per 1.00 Acre	0.8	hours
1	Runway Extension	Subbase Placement	Dozer	Diesel	723.70 SY	8 Hours per 3800.00 SY	1.52	hours
1	Runway Extension	Subbase Placement	Dump Truck (12 cy)	Diesel	241.20 CY	8 Hours per 180.00 CY	10.72	hours
1	Runway Extension	Subbase Placement	Pickup Truck	Diesel	723.70 SY	8 Hours per 3800.00 SY	1.52	hours
1	Runway Extension	Subbase Placement	Roller	Diesel	241.20 CY	8 Hours per 1300.00 CY	1.48	hours
1	Runway Extension	Topsoil Placement	Dozer	Diesel	160.00 CY	8 Hours per 600.00 CY	2.13	hours
1	Runway Extension	Topsoil Placement	Dump Truck	Diesel	160.00 CY	8 Hours per 600.00 CY	2.13	hours
1	Runway Extension	Topsoil Placement	Pickup Truck	Diesel	160.00 CY	8 Hours per 600.00 CY	2.13	hours

Activity: On-Road (Estimated based on engineering experience)

Scenario ID	Project	Equipment	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Size	Activity Rate	Default VMT	User VMT
1	Runway Extension	Cement Mixer	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	163	40	--	--	--	--	--	--	1508	
1	Runway Extension	Dump Truck Subbase Material	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	163	40	--	--	--	--	--	--	804	
1	Runway Extension	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	66	129	--	--	--	--	--	--	--	--	255420	

Emission Factor: Non-Road (from NONROAD)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Avg Rated HP	Load Factor	CO (g/hp-hr)	NOx (g/hp-hr)	CO2 (g/hp-hr)	SO2 (g/hp-hr)	PM10 (g/hp-hr)	PM2.5 (g/hp-hr)	VOC Exhaust (g/hp-hr)	VOC Evaporative (g/equipment-day)	
1	Runway Extension	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	293.535	1.322993	685.9963	0.140192	9.748189	8.968334	61.88836	26.88131	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	Runway Extension	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	1.6976	3.014009	589.3092	0.003468	0.294053	0.270529	0.349775	0.206615	
1	Runway Extension	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234	
1	Runway Extension	Concrete Placement	Air Compressor	Diesel	100	0.43	1.104829	1.794373	589.7346	0.003245	0.158031	0.145388	0.20937	0.195896	
1	Runway Extension	Concrete Placement	Concrete Saws	Diesel	40	0.59	0.522532	3.313194	595.6491	0.003072	0.071525	0.065803	0.167578	0.002633	
1	Runway Extension	Concrete Placement	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234	
1	Runway Extension	Concrete Placement	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128	

1	Runway Extension	Concrete Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Runway Extension	Concrete Placement	Slip Form Paver	Diesel	175	0.59	0.436875	1.003913	536.3453	0.002812	0.094305	0.086761	0.16014	0.161771
1	Runway Extension	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	2.379151	4.459281	594.7267	0.004009	0.353137	0.324886	0.472055	0.003483
1	Runway Extension	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Runway Extension	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Runway Extension	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Runway Extension	Drainage - 24 inch SICPP	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Runway Extension	Drainage - 24 inch SICPP	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Drainage - 24 inch SICPP	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

1	Runway Extension	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Runway Extension	Dust Control	Water Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Excavation (Borrow)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Runway Extension	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Excavation (Borrow)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Runway Extension	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Runway Extension	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Runway Extension	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Runway Extension	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	0.545055	1.354215	536.363	0.002882	0.080485	0.074046	0.154332	0.607685
1	Runway Extension	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Runway Extension	Fencing	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Fencing	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Fencing	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Runway Extension	Fencing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Fencing	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Runway Extension	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424

1	Runway Extension	Grading	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Runway Extension	Grading	Grader	Diesel	300	0.59	0.24308	0.754295	536.3826	0.002696	0.037599	0.034591	0.147818	0.147813
1	Runway Extension	Grading	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Runway Extension	Hydroseeding	Hydroseeder	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Hydroseeding	Off-Road Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Lighting	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Lighting	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Runway Extension	Lighting	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Runway Extension	Lighting	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Lighting	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Runway Extension	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Runway Extension	Markings	Flatbed Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Markings	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Runway Extension	Markings	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Soil Erosion/Control	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Runway Extension	Soil Erosion/Control	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Soil Erosion/Control	Pumps	Diesel	11	0.43	4.4591	4.594026	588.4291	0.003967	0.417534	0.384131	0.640288	0.013554
1	Runway Extension	Soil Erosion/Control	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Runway Extension	Subbase Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Runway Extension	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

1	Runway Extension	Subbase Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Subbase Placement	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Runway Extension	Topsoil Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Runway Extension	Topsoil Placement	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Runway Extension	Topsoil Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

Emission Factors: On-Road (from MOVES)

Scenario ID	Project Type	Equipment	Fuel Type	Roadway Type	CO(g/mi)	NOx(g/mi)	CO2(g/mi)	SO2(g/mi)	PM10(g/mi)	PM2.5(g/mi)	CH4(g/mi)	N2O(g/mi)	VOC(g/mi)	RV CO(g/veh-day)	RV NOx(g/veh-day)	RV CO2(g/veh-day)	RV SO2(g/veh-day)	RV PM10(g/veh-day)	RV PM2.5(g/veh-day)	RV VOC(g/veh-day)	RP VOC(g/veh-day)
1	Runway Extension	Cement Mixer Dump Truck	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Runway Extension	Subbase Material	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Runway Extension	Passenger Car	Gasoline	Urban Unrestricted Access	1.689671	0.102635	348.7876	0.002224	0.005214	0.004801	0.056039	0.003919	0.001767	38.12089	2.442831	438.9424	0.002799	0.047668	0.043893	5.310081	0

Fugitive Emissions (Emission Factors from Various Sources including AP-42)

Scenario ID	Project	Fugitive Type	Variable	Default Values	Units	User Value
1	Runway Extension	Concrete Mixing/Batching	V = Volume of asphalt = 0.111 x L x W x 1.25 / 3	301.6	yd3	
1	Runway Extension	Concrete Mixing/Batching	PM10 = 0.037 x V	11.2	lbs	

		Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
		Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
		Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	1323.6	miles
		Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	36.3	lbs
		Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m3
		Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
		Material Movement (Paved Roads)	VMT = Vehicle miles traveled	1290	miles
		Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	12	lbs
		Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	0.15	acres
		Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
		Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction
		Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.5	years

1	Runway Extension	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0	lbs
1	Runway Extension	Soil Handling	u = Wind speed	5	mph
1	Runway Extension	Soil Handling	m = Moisture content	0.25	fraction
1	Runway Extension	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	179.3	tons
1	Runway Extension	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	3.691	lbs

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ASSUMPTIONS

Emission factors were developed from the following models:

On-Road Vehicles: MOVES 2010b, revised January 2013

Non-Road Equipment: NONROAD2008a, July 2009

In addition to the overall project size dimensions (e.g., Length and width) provided by the user, an additional 10 ft length and 10 ft width is added to account for disturbance areas.

The number of employees is based on the higher of two methods: (1) number of equipment, and (2) multiply the project cost in million by 11.

The average employee travels 30 miles round-trip from home to construction site each day.

The average on-road material delivery round-trip distance per truck is 40 miles per day.

For calculating fugitive, re-entrained PM emissions from on-road and non-road material delivery and handling equipment, a nominal VMT of 5 miles is used for each vehicle per day.

In deriving emission factors from NONROAD, the horsepower for each equipment represents the most popular in each equipment category.

The total length of each modeled scenario is used to define the number of days associated with vehicle/equipment evaporative emissions.

The choice of location and season are assumed to adequately represent differences in fuel characteristics affecting emissions.

Only two seasons (Summer and Winter) are used to represent all seasons.

14 U.S. Counties are used to represent all other counties in the U.S. (all other counties are mapped to the 14).

The default methods assume that all construction equipment use diesel as well as heavy-duty on-road vehicles, while passenger vehicles (including motorcycles) use gasoline.

Fugitive emissions are only modeled for:

- Asphalt drying
- Asphalt storage and batching
- Concrete mixing/batching
- Soil handling

Unstabilized land and wind erosion
Material movement (unpaved roads)
Material movement (paved roads)

On-Road vehicle speeds are not explicitly modeled. The associated emission factors for each modeled vehicle from MOVES represent averages over the driving cycles, the roadway type, and daily temperature variations.

The default equipment hours-of-use data are developed based on the overall size of the project provided by the user and activity rates based on expert engineering judgment.

Under the Construction Activity Type list (Activity Tab), when a choice between asphalt and concrete materials occurs, asphalt is always selected as default. To choose concrete, de-select the aphalt item and select the corresponding concrete item.

Two trips per day were assumed for each on-road material handling trucks.

Only CO2, CH4, and N2O are used to represent greenhouse gas emissions. Other potential greenhouse gases including air conditioning refrigerants were not included.

The following equipment are always modeled using diesel emission factors since gasoline-based emission factors are not available:
Asphalt Deliveries/Ten Wheelers
Bulldozer
Concrete Ready Mix Trucks
Concrete Ready Trucks Mix for Cores
Concrete Truck
Crack Filler (Trailer Mounted)
Delivery of Tanks (3)
Distributing Tanker
Dozer
Dump Truck
Dump Truck (12 cy)
Excavator
Excavator for U/G Services/Tanks
Flat Bed or Dump Trucks
Flatbed Truck
Grader
Grout Wheel Truck
Hoist Equipment with 40 Ton Rig
Hydralic Hammer
Hydroseeder
Line Painting Truck and Sprayer
Material Deliveries
Off-Road Truck
Pickup Truck
Scraper
Seed Truck Spreader
Small Dozer
Survey Crew Trucks
Ten Wheelers
Ten Wheelers- Material Delivery
Tool Truck
Tractor Trailer- Equipment Delivery
Tractor Trailer- Material Delivery
Tractor Trailer- Steel Deliveries
Tractor Trailer- Stone Delivery
Tractor Trailer- Topsoil & Seed
Tractor Trailer- Truck Delivery
Tractor Trailer with Boom Hoist- Curbs Del & Place
Tractor Trailer with Boom Hoist- Delivery
Tractor Trailers- Rebar Deliveries
Tractor Trailers Temp Fac.
Truck for Topsoil & Seed Del&Spread
Water Truck
Excavator with Bucket
Excavator with Hoe Ram

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Airport Construction Emissions Inventory Tool (ACEIT)
Version 1.0
Run Date & Time: 4/9/2019 5:10:33 PM

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STUDY

Study Name

A-44

Study Description

Realign exi: H J & L betwe and rename realigned segments as taxiways Z1-Z8 & Z10.

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EMISSIONS INVENTORY - SUMMARY

Total Emissions by Year

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Year	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	1.547698	1.457615	0.006183	0.380051	0.067377	0.35032	1055.388	0.027382	0.005483

Total Emissions by Source Categories

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases Emission: Metric Ton

Year	Emission Source	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	NonRoad	0.603911	1.263196	0.004889	0.065743	0.060484	0.296822	878.8666	--	--
2020	OnRoad	0.943787	0.194419	0.001295	0.007208	0.006894	0.053499	176.5209	0.027382	0.005483
2020	Fugitive	0	0	0	0.3071	--	0	--	--	--
2020	TOTAL	1.547698	1.457615	0.006183	0.380051	0.067377	0.35032	1055.388	0.027382	0.005483

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EMISSIONS INVENTORY - DETAILS:

Non-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Construction Activity	Equipment	Fuel	HP Average	Load Factor	Hours of Activity	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	
1	2020	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	54	0.13454	0.000606	6.43E-05	0.004468	0.004111	0.032189	0.285237	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	2020	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	54	0.004345	0.007715	8.88E-06	0.000753	0.000692	0.000925	1.368376	
1	2020	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	72	0.006173	0.017654	7.44E-05	0.000712	0.000655	0.00401	13.6718	
1	2020	Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	66.6	0.003488	0.005665	1.02E-05	0.000499	0.000459	0.000689	1.688882	
1	2020	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	66.6	0.000905	0.00574	5.32E-06	0.000124	0.000114	0.000291	0.936217	
1	2020	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	277.5	0.023793	0.06804	0.000287	0.002744	0.002524	0.015371	52.69338	
1	2020	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	133.2	0.004239	0.015478	3.19E-05	0.001021	0.000939	0.001973	5.317465	
1	2020	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	199.8	0.017131	0.048989	0.000206	0.001975	0.001817	0.011075	37.93923	
1	2020	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	66.6	0.003624	0.008463	2.16E-05	0.000799	0.000735	0.001274	3.688057	
1	2020	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	66.6	0.003312	0.00761	2.13E-05	0.000715	0.000658	0.001237	3.688152	
1	2020	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	66.6	0.002576	0.004829	4.34E-06	0.000382	0.000352	0.000512	0.58423	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	175	0.59	38.72	0.001634	0.00377	1.22E-05	0.000336	0.000309	0.000698	2.144298	
1	2020	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	600	0.59	38.72	0.00332	0.009494	4.00E-05	0.000383	0.000352	0.00217	7.352388	
1	2020	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	175	0.59	38.72	0.001288	0.00309	1.19E-05	0.000239	0.000219	0.000666	2.144371	
1	2020	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	175	0.59	38.72	0.002107	0.00492	1.25E-05	0.000465	0.000427	0.000751	2.144168	
1	2020	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	175	0.43	38.72	0.001232	0.004499	9.28E-06	0.000297	0.000273	0.000596	1.545738	

1	2020	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	600	0.59	38.72	0.00332	0.009494	4.00E-05	0.000383	0.000352	0.00217	7.352388
1	2020	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	100	0.59	38.72	0.003283	0.00329	7.95E-06	0.000394	0.000363	0.000463	1.360687
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	21.51111	0.001844	0.005274	2.22E-05	0.000213	0.000196	0.001219	4.08466
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	21.51111	0.001171	0.002734	6.96E-06	0.000258	0.000237	0.000429	1.191204
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	21.51111	0.000685	0.0025	5.15E-06	0.000165	0.000152	0.000345	0.858743
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	21.51111	0.001844	0.005274	2.22E-05	0.000213	0.000196	0.001219	4.08466
1	2020	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	21.51111	0.001977	0.001531	2.01E-06	0.000273	0.000251	0.000387	0.313558
1	2020	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	1440	0.123467	0.353072	0.001488	0.014237	0.013098	0.079639	273.4359
1	2020	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	111	0.004684	0.010806	3.49E-05	0.000964	0.000887	0.001964	6.147136
1	2020	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	111	0.009517	0.027216	0.000115	0.001097	0.00101	0.006166	21.07735
1	2020	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	111	0.009517	0.027216	0.000115	0.001097	0.00101	0.006166	21.07735
1	2020	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	51.23077	0.004344	0.004353	1.05E-05	0.000522	0.00048	0.000607	1.800336
1	2020	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	83.25	0.003513	0.008105	2.62E-05	0.000723	0.000665	0.001478	4.610352
1	2020	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	222	0.019035	0.054432	0.000229	0.002195	0.002019	0.012303	42.1547
1	2020	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	66.6	0.002215	0.005315	2.05E-05	0.00041	0.000377	0.001136	3.688407
1	2020	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	66.6	0.00571	0.01633	6.88E-05	0.000658	0.000606	0.003712	12.64641

1	2020	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	66.6	0.005647	0.005659	1.37E-05	0.000678	0.000624	0.000783	2.340437
1	2020	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	83.25	0.017707	0.043993	9.36E-05	0.002615	0.002405	0.0051	15.80688
1	2020	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	31.34118	0.001323	0.003051	9.85E-06	0.000272	0.00025	0.000569	1.735662
1	2020	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	13.33333	0.001143	0.003269	1.38E-05	0.000132	0.000121	0.000767	2.531814
1	2020	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	53.33333	0.004573	0.013077	5.51E-05	0.000527	0.000485	0.002978	10.12726
1	2020	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	53.33333	0.001697	0.006197	1.28E-05	0.000409	0.000376	0.000809	2.129115
1	2020	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	53.33333	0.004573	0.013077	5.51E-05	0.000527	0.000485	0.002978	10.12726
1	2020	Taxiways	Fencing	Skid Steer Loader	Diesel	75	0.21	53.33333	0.003985	0.004328	3.88E-06	0.000582	0.000536	0.000826	0.582508
1	2020	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	53.33333	0.004902	0.003795	4.99E-06	0.000677	0.000622	0.000844	0.777416
1	2020	Taxiways	Grading	Dozer	Diesel	175	0.59	21.4896	0.000907	0.002092	6.75E-06	0.000187	0.000172	0.000396	1.190086
1	2020	Taxiways	Grading	Grader	Diesel	300	0.59	21.4896	0.001019	0.003163	1.13E-05	0.000158	0.000145	0.000641	2.040217
1	2020	Taxiways	Grading	Roller	Diesel	100	0.59	21.4896	0.001822	0.001826	4.41E-06	0.000219	0.000201	0.000265	0.755181
1	2020	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	19.36	0.00166	0.004747	2.00E-05	0.000191	0.000176	0.0011	3.676194
1	2020	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	19.36	0.00166	0.004747	2.00E-05	0.000191	0.000176	0.0011	3.676194
1	2020	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	18	0.001543	0.004413	1.86E-05	0.000178	0.000164	0.001025	3.417949
1	2020	Taxiways	Lighting	Loader	Diesel	175	0.59	18	0.00098	0.002287	5.83E-06	0.000216	0.000199	0.000363	0.996772
1	2020	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	18	0.000573	0.002092	4.31E-06	0.000138	0.000127	0.000294	0.718576
1	2020	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	18	0.001543	0.004413	1.86E-05	0.000178	0.000164	0.001025	3.417949
1	2020	Taxiways	Lighting	Skid Steer Loader	Diesel	75	0.21	18	0.001345	0.001461	1.31E-06	0.000196	0.000181	0.000313	0.196596
1	2020	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	18	0.001654	0.001281	1.68E-06	0.000228	0.00021	0.000337	0.262378
1	2020	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	411.4286	0.035276	0.100878	0.000425	0.004068	0.003742	0.022775	78.12455
1	2020	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	411.4286	0.013095	0.047808	9.86E-05	0.003152	0.0029	0.006027	16.4246
1	2020	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	411.4286	0.035276	0.100878	0.000425	0.004068	0.003742	0.022775	78.12455
1	2020	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	18	0.000573	0.002092	4.31E-06	0.000138	0.000127	0.000294	0.718576

1	2020	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	36	0.003087	0.008827	3.72E-05	0.000356	0.000327	0.00202	6.835898
1	2020	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	18	0.000418	0.000431	3.72E-07	3.92E-05	3.61E-05	6.20E-05	0.050099
1	2020	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	18	0.001654	0.001281	1.68E-06	0.000228	0.00021	0.000337	0.262378
1	2020	Taxiways	Subbase Placement	Dozer	Diesel	175	0.59	42.06316	0.001775	0.004095	1.32E-05	0.000365	0.000336	0.000756	2.329441
1	2020	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	296	0.025379	0.072576	0.000306	0.002926	0.002692	0.016394	56.20627
1	2020	Taxiways	Subbase Placement	Pickup Truck	Diesel	600	0.59	42.06316	0.003607	0.010313	4.35E-05	0.000416	0.000383	0.002355	7.987207
1	2020	Taxiways	Subbase Placement	Roller	Diesel	100	0.59	40.98462	0.003475	0.003482	8.42E-06	0.000417	0.000384	0.000489	1.440269
1	2020	Taxiways	Topsoil Placement	Dozer	Diesel	175	0.59	47.75467	0.002015	0.004649	1.50E-05	0.000415	0.000381	0.000856	2.644635
1	2020	Taxiways	Topsoil Placement	Dump Truck	Diesel	600	0.59	47.75467	0.004095	0.011709	4.94E-05	0.000472	0.000434	0.00267	9.067945
1	2020	Taxiways	Topsoil Placement	Pickup Truck	Diesel	600	0.59	47.75467	0.004095	0.011709	4.94E-05	0.000472	0.000434	0.00267	9.067945

On-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Equipment	Equipment Category	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Distance for fugitive PM	Number of Vehicles	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Rate	VMT	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O

1	2020	Taxiways	Cement Mixer	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	5	--		129	1200	150	--	--	--	--	--	41625	0.049608	0.091589	0.000402	0.003401	0.003299	0.000727	52.15617	0.00815	0.002897
1	2020	Taxiways	Dump Truck Subbase Material	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	3	--		129	1200	150	--	--	--	--	--	22200	0.027336	0.048933	0.000214	0.001815	0.00176	0.000425	27.82718	0.004347	0.001545
1	2020	Taxiways	Passenger Car	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	--		68.64	68.64	129	--	--	--	--	--	--	--	265637	0.866843	0.053896	0.000679	0.001992	0.001834	0.052347	96.53753	0.014886	0.001041

Fugitive Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Scenario ID	Year	Project	Fugitive Source Type	Number of Months	CO	NOx	SO2	PM10	VOC
1	2020	Taxiways	Concrete Mixing/Batching	6	0	0	0	0.154	0
1	2020	Taxiways	Material Movement (Paved Roads)	6	0	0	0	0.02395	0
1	2020	Taxiways	Material Movement (Unpaved Roads)	6	0	0	0	0.0782	0
1	2020	Taxiways	Soil Handling	6	0	0	0	0.05095	0
1	2020	Taxiways	Unstabilized Land and Wind Erosion	6	0	0	0	3.63E-08	0

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Scenarios

Scenario ID	Year	Number of Months	Season	Average Daily Temp (degF)	Max Daily Temp Change (degF)	Min Daily Temp Change (degF)
1	2020	6	Winter	50 < T <= 80	10 <= Change in T < 20	10 <= Change in T < 20
2						

Project
Final
Selections

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	
1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***
1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	

1	Taxiways	Concrete Placement	Air Compressor	Diesel
1	Taxiways	Concrete Placement	Concrete Saws	Diesel
1	Taxiways	Concrete Placement	Concrete Truck	Diesel
1	Taxiways	Concrete Placement	Other General Equipment	Diesel
1	Taxiways	Concrete Placement	Pickup Truck	Diesel
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Dozer	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Dump Truck	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Excavator	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Loader	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Other General Equipment	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Pickup Truck	Diesel
1	Taxiways	SICPP Drainage - 24 inch	Roller	Diesel
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Loader	Diesel

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Dust Control	Water Truck	Diesel
1	Taxiways	Excavation (Borrow)	Dozer	Diesel
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel
1	Taxiways	Excavation (Borrow)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel
1	Taxiways	Fencing	Concrete Truck	Diesel
1	Taxiways	Fencing	Dump Truck	Diesel
1	Taxiways	Fencing	Other General Equipment	Diesel

1	Taxiways	Fencing	Pickup Truck	Diesel
1	Taxiways	Fencing	Skid Steer Loader	Diesel
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Grading	Dozer	Diesel
1	Taxiways	Grading	Grader	Diesel
1	Taxiways	Grading	Roller	Diesel
1	Taxiways	Hydroseeding	Hydroseeder	Diesel
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel
1	Taxiways	Lighting	Dump Truck	Diesel
1	Taxiways	Lighting	Loader	Diesel
1	Taxiways	Lighting	Other General Equipment	Diesel
1	Taxiways	Lighting	Pickup Truck	Diesel
1	Taxiways	Lighting	Skid Steer Loader	Diesel
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Markings	Flatbed Truck	Diesel
1	Taxiways	Markings	Other General Equipment	Diesel
1	Taxiways	Markings	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel
1	Taxiways	Subbase Placement	Dozer	Diesel
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel
1	Taxiways	Subbase Placement	Pickup Truck	Diesel

1	Taxiways	Subbase Placement	Roller		Diesel
1	Taxiways	Topsoil Placement	Dozer		Diesel
1	Taxiways	Topsoil Placement	Dump Truck		Diesel
1	Taxiways	Topsoil Placement	Pickup Truck		Diesel

Overall Size

Scenario ID	Project	Project Size Questions	User Input	Unit
1	Taxiways	What is the estimated cost of the project?	6.24	$ Million(s)
1	Taxiways	What is the maximum length of the taxiway (L) in feet?	1200	Feet
1	Taxiways	What is the maximum width of the taxiway (W) in feet?	150	Feet

Size Detail (Estimated based on engineering experience)

ScenarioID	Project	Construction Activity	Default Activity Size	Unit	User Activity Size
1	Taxiways	Clearing and Grubbing	4.5	Acres	
1	Taxiways	Concrete Placement	8325	Cubic Yards	

1	Taxiways	Drainage - 24 inch SICPP			1210		Linear Feet		
1	Taxiways	Drainage - 6 inch Perforated Underdrain			2420		Linear Feet		
1	Taxiways	Dust Control			180		Days		
1	Taxiways	Excavation (Borrow)			8325		Cubic Yards		
1	Taxiways	Excavation (Cut to Fill)			8325		Cubic Yards		
1	Taxiways	Excavation (Topsoil Stripping)			19980		Square Yards		
1	Taxiways	Fencing			1200		Linear Feet		
1	Taxiways	Grading			21489.6		Square Yards		
1	Taxiways	Hydroseeding			193600		Square Feet		
1	Taxiways	Lighting			2700		Linear Feet		
1	Taxiways	Markings			180000		Square Feet		
1	Taxiways	Soil Erosion/Sediment Control			4.5		Acres		
1	Taxiways	Subbase Placement			19980		Square Yards		
1	Taxiways	Subbase Placement			6660		Cubic Yards		
1	Taxiways	Topsoil Placement			3581.6		Cubic Yards		

Activity: Non-Road (Estimated based on engineering experience)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Activity Size	Activity Rate	Default Activity	Activity Unit	User Activity Data

1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	4.50 Acre	12 Hours per 1.00 Acre	54 hours
1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	4.50 Acre	12 Hours per 1.00 Acre	54 hours
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	4.50 Acre	16 Hours per 1.00 Acre	72 hours
1	Taxiways	Concrete Placement	Air Compressor	Diesel	8325.00 CY	8 Hours per 1000.00 CY	66.6 hours
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	8325.00 CY	8 Hours per 1000.00 CY	66.6 hours
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	8325.00 CY	8 Hours per 240.00 CY	277.5 hours
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	8325.00 CY	16 Hours per 1000.00 CY	133.2 hours
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	8325.00 CY	24 Hours per 1000.00 CY	199.8 hours
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	8325.00 CY	8 Hours per 1000.00 CY	66.6 hours
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	8325.00 CY	8 Hours per 1000.00 CY	66.6 hours
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	8325.00 CY	8 Hours per 1000.00 CY	66.6 hours
1	Taxiways	Drainage - 24 inch SICPP	Dozer	Diesel	1210.00 LF	8 Hours per 250.00 LF	38.72 hours
1	Taxiways	Drainage - 24 inch SICPP	Dump Truck	Diesel	1210.00 LF	8 Hours per 250.00 LF	38.72 hours
1	Taxiways	Drainage - 24 inch SICPP	Excavator	Diesel	1210.00 LF	8 Hours per 250.00 LF	38.72 hours
1	Taxiways	Drainage - 24 inch SICPP	Loader	Diesel	1210.00 LF	8 Hours per 250.00 LF	38.72 hours
1	Taxiways	Drainage - 24 inch SICPP	Other General Equipment	Diesel	1210.00 LF	8 Hours per 250.00 LF	38.72 hours

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1	Taxiways	Drainage - 24 inch SICPP	Pickup Truck	Diesel	1210.00 LF	8 Hours per 250.00 LF	38.72	hours
1	Taxiways	Drainage - 24 inch SICPP	Roller	Diesel	1210.00 LF	8 Hours per 250.00 LF	38.72	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	2420.00 LF	8 Hours per 900.00 LF	21.51	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	2420.00 LF	8 Hours per 900.00 LF	21.51	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	2420.00 LF	8 Hours per 900.00 LF	21.51	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	2420.00 LF	8 Hours per 900.00 LF	21.51	hours
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	2420.00 LF	8 Hours per 900.00 LF	21.51	hours
1	Taxiways	Dust Control	Water Truck	Diesel	180.00 Day	8 Hours per 1.00 Day	1440	hours
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	8325.00 CY	8 Hours per 600.00 CY	111	hours
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	8325.00 CY	8 Hours per 600.00 CY	111	hours
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	8325.00 CY	8 Hours per 600.00 CY	111	hours
1	Taxiways	Excavation (Borrow)	Roller	Diesel	8325.00 CY	8 Hours per 1300.00 CY	51.23	hours
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	8325.00 CY	8 Hours per 800.00 CY	83.25	hours
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	8325.00 CY	8 Hours per 300.00 CY	222	hours
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	8325.00 CY	8 Hours per 1000.00 CY	66.6	hours

1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	8325.00 CY	8 Hours per 1000.00 CY	66.6	hours
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	8325.00 CY	8 Hours per 1000.00 CY	66.6	hours
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	8325.00 CY	8 Hours per 800.00 CY	83.25	hours
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	19980.00 SY	8 Hours per 5100.00 SY	31.34	hours
1	Taxiways	Fencing	Concrete Truck	Diesel	1200.00 LF	2 Hours per 180.00 LF	13.33	hours
1	Taxiways	Fencing	Dump Truck	Diesel	1200.00 LF	8 Hours per 180.00 LF	53.33	hours
1	Taxiways	Fencing	Other General Equipment	Diesel	1200.00 LF	8 Hours per 180.00 LF	53.33	hours
1	Taxiways	Fencing	Pickup Truck	Diesel	1200.00 LF	8 Hours per 180.00 LF	53.33	hours
1	Taxiways	Fencing	Skid Steer Loader	Diesel	1200.00 LF	8 Hours per 180.00 LF	53.33	hours
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	1200.00 LF	8 Hours per 180.00 LF	53.33	hours
1	Taxiways	Grading	Dozer	Diesel	21489.60 SY	8 Hours per 8000.00 SY	21.49	hours
1	Taxiways	Grading	Grader	Diesel	21489.60 SY	8 Hours per 8000.00 SY	21.49	hours
1	Taxiways	Grading	Roller	Diesel	21489.60 SY	8 Hours per 8000.00 SY	21.49	hours
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	193600.00 SF	8 Hours per 80000.00 SF	19.36	hours
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	193600.00 SF	8 Hours per 80000.00 SF	19.36	hours
1	Taxiways	Lighting	Dump Truck	Diesel	2700.00 LF	8 Hours per 1200.00 LF	18	hours
1	Taxiways	Lighting	Loader	Diesel	2700.00 LF	8 Hours per 1200.00 LF	18	hours

1	Taxiways	Lighting	Other General Equipment	Diesel	2700.00 LF	8 Hours per 1200.00 LF	18	hours
1	Taxiways	Lighting	Pickup Truck	Diesel	2700.00 LF	8 Hours per 1200.00 LF	18	hours
1	Taxiways	Lighting	Skid Steer Loader	Diesel	2700.00 LF	8 Hours per 1200.00 LF	18	hours
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	2700.00 LF	8 Hours per 1200.00 LF	18	hours
1	Taxiways	Markings	Flatbed Truck	Diesel	180000.00 SF	8 Hours per 3500.00 SF	411.43	hours
1	Taxiways	Markings	Other General Equipment	Diesel	180000.00 SF	8 Hours per 3500.00 SF	411.43	hours
1	Taxiways	Markings	Pickup Truck	Diesel	180000.00 SF	8 Hours per 3500.00 SF	411.43	hours
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	4.50 Acre	4 Hours per 1.00 Acre	18	hours
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	4.50 Acre	8 Hours per 1.00 Acre	36	hours
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	4.50 Acre	4 Hours per 1.00 Acre	18	hours
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	4.50 Acre	4 Hours per 1.00 Acre	18	hours
1	Taxiways	Subbase Placement	Dozer	Diesel	19980.00 SY	8 Hours per 3800.00 SY	42.06	hours
1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	6660.00 CY	8 Hours per 180.00 CY	296	hours
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	19980.00 SY	8 Hours per 3800.00 SY	42.06	hours
1	Taxiways	Subbase Placement	Roller	Diesel	6660.00 CY	8 Hours per 1300.00 CY	40.98	hours
1	Taxiways	Topsoil Placement	Dozer	Diesel	3581.60 CY	8 Hours per 600.00 CY	47.75	hours

1	Taxiways	Topsoil Placement	Dump Truck	Diesel	3581.60 CY	8 Hours per 600.00 CY	47.75	hours
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	3581.60 CY	8 Hours per 600.00 CY	47.75	hours

Activity: On-Road (Estimated based on engineering experience)

Scenario ID	Project	Equipment	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Size	Activity Rate	Default VMT	User VMT
1	Taxiways	Cement Mixer	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	1200	150	--	--	--	--	--	--	41625	
1	Taxiways	Dump Truck Subbase Material	Material Delivery	Diesel	Urban Unrestricted Access	40	--	129	1200	150	--	--	--	--	--	--	22200	
1	Taxiways	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	68.64	129	--	--	--	--	--	--	--	--	265637	

Emission Factor: Non-Road (from NONROAD)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Avg Rated HP	Load Factor	CO (g/hp-hr)	NOx (g/hp-hr)	CO2 (g/hp-hr)	SO2 (g/hp-hr)	PM10 (g/hp-hr)	PM2.5 (g/hp-hr)	VOC Exhaust (g/hp-hr)	VOC Evaporative (g/equipment-day)	
1	Taxiways	Clearing and Grubbing	Chain Saw	Diesel	11	0.7	293.535	1.322993	685.9963	0.140192	9.748189	8.968334	61.88836	26.88131	*** GASOLINE DATA USED. DIESEL DATA NOT AVAILABLE ***

1	Taxiways	Clearing and Grubbing	Chipper/Stump Grinder	Diesel	100	0.43	1.6976	3.014009	589.3092	0.003468	0.294053	0.270529	0.349775	0.206615
1	Taxiways	Clearing and Grubbing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Air Compressor	Diesel	100	0.43	1.104829	1.794373	589.7346	0.003245	0.158031	0.145388	0.20937	0.195896
1	Taxiways	Concrete Placement	Concrete Saws	Diesel	40	0.59	0.522532	3.313194	595.6491	0.003072	0.071525	0.065803	0.167578	0.002633
1	Taxiways	Concrete Placement	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Concrete Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Concrete Placement	Rubber Tired Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Concrete Placement	Slip Form Paver	Diesel	175	0.59	0.436875	1.003913	536.3453	0.002812	0.094305	0.086761	0.16014	0.161771
1	Taxiways	Concrete Placement	Surfacing Equipment (Grooving)	Diesel	25	0.59	2.379151	4.459281	594.7267	0.004009	0.353137	0.324886	0.472055	0.003483
1	Taxiways	SICPP Drainage - 24 inch	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	SICPP Drainage - 24 inch	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	SICPP Drainage - 24 inch	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	SICPP Drainage - 24 inch	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	SICPP Drainage - 24 inch	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	SICPP Drainage - 24 inch	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	SICPP Drainage - 24 inch	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	SICPP Drainage - 6 inch Perforated Underdrain	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

1	Taxiways	Drainage - 6 inch Perforated Underdrain	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Drainage - 6 inch Perforated Underdrain	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Dust Control	Water Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Borrow)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Borrow)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Excavation (Cut to Fill)	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Excavator	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Taxiways	Excavation (Cut to Fill)	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Excavation (Cut to Fill)	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Excavation (Cut to Fill)	Scraper	Diesel	600	0.59	0.545055	1.354215	536.363	0.002882	0.080485	0.074046	0.154332	0.607685
1	Taxiways	Excavation (Topsoil Stripping)	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Fencing	Concrete Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

1	Taxiways	Fencing	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Fencing	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Fencing	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Taxiways	Fencing	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Grading	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385
1	Taxiways	Grading	Grader	Diesel	300	0.59	0.24308	0.754295	536.3826	0.002696	0.037599	0.034591	0.147818	0.147813
1	Taxiways	Grading	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296
1	Taxiways	Hydroseeding	Hydroseeder	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Hydroseeding	Off-Road Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Loader	Diesel	175	0.59	0.478147	1.116521	536.3315	0.002844	0.10542	0.096987	0.164705	0.178261
1	Taxiways	Lighting	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Lighting	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Lighting	Skid Steer Loader	Diesel	75	0.21	4.304131	4.67386	693.4618	0.004195	0.628737	0.578438	0.837397	0.358012
1	Taxiways	Lighting	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Markings	Flatbed Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Markings	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Markings	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Other General Equipment	Diesel	175	0.43	0.383693	1.400863	530.5104	0.002888	0.092368	0.084979	0.175662	0.224128
1	Taxiways	Soil Erosion/Sediment Control	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234
1	Taxiways	Soil Erosion/Sediment Control	Pumps	Diesel	11	0.43	4.4591	4.594026	588.4291	0.003967	0.417534	0.384131	0.640288	0.013554
1	Taxiways	Soil Erosion/Sediment Control	Tractors/Loader/Backhoe	Diesel	100	0.21	3.970305	3.073714	694.1216	0.004039	0.547955	0.504118	0.619598	0.552424
1	Taxiways	Subbase Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385

1	Taxiways	Subbase Placement	Dump Truck (12 cy)	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Subbase Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Subbase Placement	Roller	Diesel	100	0.59	1.30367	1.306501	595.6221	0.003159	0.15657	0.144044	0.176484	0.132296								
1	Taxiways	Topsoil Placement	Dozer	Diesel	175	0.59	0.370776	0.855376	536.3642	0.00276	0.076278	0.070176	0.15389	0.1385								
1	Taxiways	Topsoil Placement	Dump Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								
1	Taxiways	Topsoil Placement	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234								

Emission Factors: On-Road (from MOVES)

Scenario ID	Project Type	Equipment	Fuel Type	Roadway Type	CO(g/mi)	NOx(g/mi)	CO2(g/mi)	SO2(g/mi)	PM10(g/mi)	PM2.5(g/mi)	CH4(g/mi)	N2O(g/mi)	VOC(g/mi)	RV CO(g/veh-day)	RV NOx(g/veh-day)	RV CO2(g/veh-day)	RV SO2(g/veh-day)	RV PM10(g/veh-day)	RV PM2.5(g/veh-day)	RV VOC(g/veh-day)	RP VOC(g/veh-day)
1	Taxiways	Cement Mixer	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Dump Truck Subbase Material	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Taxiways	Passenger Car	Gasoline	Urban Unrestricted Access	1.689671	0.102635	348.7876	0.002224	0.005214	0.004801	0.056039	0.003919	0.001767	38.12089	2.442831	438.9424	0.002799	0.047668	0.043893	5.310081	0

Fugitive Emissions (Emission Factors from Various Sources including AP-42)

Scenario ID	Project	Fugitive Type	Variable	Default Values	Units	User Value
1	Taxiways	Concrete Mixing/Batching	V = Volume of asphalt = 0.111 x L x W x 1.25 / 3	8325	yd3	

1	Taxiways	Concrete Mixing/Batching	PM10 = 0.037 x V	308	lbs
1	Taxiways	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction
1	Taxiways	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons
1	Taxiways	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	5711.8	miles
1	Taxiways	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	156.4	lbs
1	Taxiways	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m3
1	Taxiways	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
1	Taxiways	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	5160	miles
1	Taxiways	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	47.9	lbs
1	Taxiways	Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	4.132	acres
1	Taxiways	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction
1	Taxiways	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction

1	Taxiways	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.5 years
1	Taxiways	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0 lbs
1	Taxiways	Soil Handling	u = Wind speed	5 mph
1	Taxiways	Soil Handling	m = Moisture content	0.25 fraction
1	Taxiways	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	4950 tons
1	Taxiways	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	101.9 lbs

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ASSUMPTIONS

Emission factors were developed from the following models:

On-Road Vehicles: MOVES 2010b, revised January 2013

Non-Road Equipment: NONROAD2008a, July 2009

In addition to the overall project size dimensions (e.g., Length and width) provided by the user, an additional 10 ft length and 10 ft width is added to account for disturbance areas.

The number of employees is based on the higher of two methods: (1) number of equipment, and (2) multiply the project cost in million by 11.

The average employee travels 30 miles round-trip from home to construction site each day.

The average on-road material delivery round-trip distance per truck is 40 miles per day.

For calculating fugitive, re-entrained PM emissions from on-road and non-road material delivery and handling equipment, a nominal VMT of 5 miles is used for each vehicle per day.

In deriving emission factors from NONROAD, the horsepower for each equipment represents the most popular in each equipment category.

The total length of each modeled scenario is used to define the number of days associated with vehicle/equipment evaporative emissions.

The choice of location and season are assumed to adequately represent differences in fuel characteristics affecting emissions.

Only two seasons (Summer and Winter) are used to represent all seasons.

14 U.S. Counties are used to represent all other counties in the U.S. (all other counties are mapped to the 14).

The default methods assume that all construction equipment use diesel as well as heavy-duty on-road vehicles, while passenger vehicles (including motorcycles) use gasoline.

Fugitive emissions are only modeled for:

Asphalt drying
Asphalt storage and batching
Concrete mixing/batching
Soil handling
Unstabilized land and wind erosion
Material movement (unpaved roads)
Material movement (paved roads)

On-Road vehicle speeds are not explicitly modeled. The associated emission factors for each modeled vehicle from MOVES represent averages over the driving cycles, the roadway type, and daily temperature variations.

The default equipment hours-of-use data are developed based on the overall size of the project provided by the user and activity rates based on expert engineering judgment.

Under the Construction Activity Type list (Activity Tab), when a choice between asphalt and concrete materials occurs, asphalt is always selected as default. To choose concrete, de-select the aphalt item and select the corresponding concrete item.

Two trips per day were assumed for each on-road material handling trucks.

Only CO2, CH4, and N2O are used to represent greenhouse gas emissions. Other potential greenhouse gases including air conditioning refrigerants were not included.

The following equipment are always modeled using diesel emission factors since gasoline-based emission factors are not available:
Asphalt Deliveries/Ten Wheelers
Bulldozer
Concrete Ready Mix Trucks
Concrete Ready Trucks Mix for Cores
Concrete Truck
Crack Filler (Trailer Mounted)
Delivery of Tanks (3)
Distributing Tanker
Dozer
Dump Truck
Dump Truck (12 cy)
Excavator
Excavator for U/G Services/Tanks
Flat Bed or Dump Trucks
Flatbed Truck
Grader
Grout Wheel Truck
Hoist Equipment with 40 Ton Rig
Hydralic Hammer
Hydroseeder
Line Painting Truck and Sprayer
Material Deliveries
Off-Road Truck
Pickup Truck
Scraper
Seed Truck Spreader
Small Dozer
Survey Crew Trucks
Ten Wheelers
Ten Wheelers- Material Delivery
Tool Truck
Tractor Trailer- Equipment Delivery
Tractor Trailer- Material Delivery
Tractor Trailer- Steel Deliveries
Tractor Trailer- Stone Delivery
Tractor Trailer- Topsoil & Seed
Tractor Trailer- Truck Delivery
Tractor Trailer with Boom Hoist- Curbs Del & Place
Tractor Trailer with Boom Hoist- Delivery
Tractor Trailers- Rebar Deliveries
Tractor Trailers Temp Fac.
Truck for Topsoil & Seed Del&Spread
Water Truck
Excavator with Bucket
Excavator with Hoe Ram

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Airport Construction Emissions Inventory Tool (ACEIT)
Version 1.0
Run Date & Time: 4/10/2019 2:00:18 PM

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STUDY

Study Name

A-45

Study Description

Close existi H J & L between taxiways Y and Z through pavement marking/painting or removal (upon completion of Project A-44). REMOVAL

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EMISSION
S
INVENTOR
Y -
SUMMAR
Y

Total
Emissions
by Year

Units for
Non-
Greenhou
se Gases
Emission:
Short Ton

Units for
Greenhou
se Gases
(CO2,
CH4, and
N2O)
Emission:
Metric
Ton

Year	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	0.110003	0.182973	0.000781	0.087399	0.008049	0.037233	135.8909	0.002826	0.000819

Total
Emissions
by Source
Categories

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases Emission: Metric Ton

Year	Emission Source	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
2020	NonRoad	0.057122	0.155998	0.000644	0.007702	0.007086	0.034676	117.7284	--	--
2020	OnRoad	0.052881	0.026975	0.000137	0.000997	0.000962	0.002557	18.16247	0.002826	0.000819
2020	Fugitive	0	0	0	0.0787	--	0	--	--	--
2020	TOTAL	0.110003	0.182973	0.000781	0.087399	0.008049	0.037233	135.8909	0.002826	0.000819

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EMISSIONS INVENTORY - DETAILS:

Non-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Construction Activity	Equipment	Fuel	HP Average	Load Factor	Hours of Activity	CO	NOx	SO2	PM10	PM2.5	VOC	CO2
1	2020	Demolition - Concrete Demolition - Concrete Demolition - Concrete	Concrete Demolition	Excavator with Bucket	Diesel	175	0.59	240	0.007983	0.019154	7.38E-05	0.001478	0.00136	0.004055	13.29156
1	2020		Concrete Demolition	Excavator with Hoe Ram	Diesel	175	0.59	240	0.007983	0.019154	7.38E-05	0.001478	0.00136	0.004055	13.29156
1	2020		Concrete Demolition	Pickup Truck	Diesel	600	0.59	480	0.041156	0.117691	0.000496	0.004746	0.004366	0.026566	91.1453

On-Road Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Units for Greenhouse Gases (CO2, CH4, and N2O) Emission: Metric Ton

Scenario ID	Year	Project	Equipment	Equipment Category	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Distance for fugitive PM	Number of Vehicles	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Rate	VMT	CO	NOx	SO2	PM10	PM2.5	VOC	CO2	CH4	N2O
1	2020	Demolition - Concrete	Dump Truck	Single Unit Short-haul Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	5	2	--	129	1200	150	--	--	--	--	--	11111	0.014995	0.024619	0.000107	0.00091	0.000882	0.000269	13.94317	0.002175	0.000773
1	2020	Demolition - Concrete	Passenger Car	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	--	3	3	129	--	--	--	--	--	--	--	11610	0.037886	0.002356	2.97E-05	8.71E-05	8.02E-05	0.002288	4.219295	0.000651	4.55E-05

Fugitive Sources

Units for Non-Greenhouse Gases Emission: Short Ton

Scenario ID	Year	Project	Fugitive Source Type	Number of Months	CO	NOx	SO2	PM10	VOC
1	2020	Demolition - Concrete	Material Movement (Paved Roads)	6	0	0	0	0.006	0
1	2020	Demolition - Concrete	Material Movement (Unpaved Roads)	6	0	0	0	0.02175	0
1	2020	Demolition - Concrete	Soil Handling	6	0	0	0	0.05095	0
1	2020	Demolition - Concrete	Unstabilized Land and Wind Erosion	6	0	0	0	3.63E-08	0

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INPUT DATA AND SPECIFICATIONS

State/County

California Santa Clara County

Scenarios

Scenario ID	Year	Number of Months	Season	Average Daily Temp (degF)	Max Daily Temp Change (degF)	Min Daily Temp Change (degF)
1 2	2020	6	Winter	50 < T <= 80	10 <= Change in T < 20	10 <= Change in T < 20

Project Final Selections

Scenario ID	Project	Construction Activity	Equipment	Fuel Type
1	Demolition - Concrete	Concrete Demolition	Excavator with Bucket	Diesel
1	Demolition - Concrete	Concrete Demolition	Excavator with Hoe Ram	Diesel
1	Demolition - Concrete	Concrete Demolition	Pickup Truck	Diesel

Overall Size

Scenario ID	Project	Project Size Questions	User Input	Unit
1	Demolition - Concrete	What is the estimated cost of the project?	0.25	$ Million(s)
1	Demolition - Concrete	What is the maximum length of demolition area (L) in feet?	1200	Feet
1	Demolition - Concrete	What is the maximum width of demolition area (W) in feet?	150	Feet

Size Detail (Estimated based on engineering experience)

ScenarioID	Project	Construction Activity	Default Activity Size	Unit	User Activity Size
1	Demolition - Concrete	Concrete Demolition	180000	Square Feet	

Activity: Non-Road (Estimated based on engineering experience)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Activity Size	Activity Rate	Default Activity	Activity Unit	User Activity Data
1	Demolition - Concrete	Concrete Demolition	Excavator with Bucket	Diesel	180000.00 SF	8 Hours per 6000.00 SF	240	hours	
1	Demolition - Concrete	Concrete Demolition	Excavator with Hoe Ram	Diesel	180000.00 SF	8 Hours per 6000.00 SF	240	hours	
1	Demolition - Concrete	Concrete Demolition	Pickup Truck	Diesel	180000.00 SF	8 Hours per 3000.00 SF	480	hours	

Activity: On-Road (Estimated based on engineering experience)

Scenario ID	Project	Equipment	On-road Activity	Fuel	Roadway Type	Round Trip Distance (miles)	Number of Employees Or $M*11 (Whichever larger)	Number of Project Days	Project Length	Project Width	Project Area	Building Height (Building Demolition Only)	Open Space Height (Building Demolition Only)	Number of Trees	Activity Size	Activity Rate	Default VMT	User VMT

1	Demolition - Concrete	Dump Truck	Material Delivery	Diesel	Urban Unrestricted Access	40	--		129	1200	150	--	--	--	--	--	--	11111
1	Demolition - Concrete	Passenger Car	Employee Commute	Gasoline	Urban Unrestricted Access	30	3	129	--	--	--	--	--	--	--	--	--	11610

Emission Factor: Non-Road (from NONROAD)

Scenario ID	Project	Construction Activity	Equipment	Fuel Type	Avg Rated HP	Load Factor	CO (g/hp-hr)	NOx (g/hp-hr)	CO2 (g/hp-hr)	SO2 (g/hp-hr)	PM10 (g/hp-hr)	PM2.5 (g/hp-hr)	VOC Exhaust (g/hp-hr)	VOC Evaporative (g/equipment-day)
1	Demolition - Concrete	Demolition	Excavator with Bucket	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Demolition - Concrete	Demolition	Excavator with Hoe Ram	Diesel	175	0.59	0.292252	0.701204	536.3824	0.002701	0.054125	0.049795	0.147908	0.102906
1	Demolition - Concrete	Demolition	Pickup Truck	Diesel	600	0.59	0.219725	0.628334	536.4013	0.002648	0.025336	0.023309	0.141674	0.209234

Emission Factors: On-Road (from MOVES)

Scenario ID	Project Type	Equipment	Fuel Type	Roadway Type	CO(g/mi)	NOx(g/mi)	CO2(g/mi)	SO2(g/mi)	PM10(g/mi)	PM2.5(g/mi)	CH4(g/mi)	N2O(g/mi)	VOC(g/mi)	RV CO(g/veh-day)	RV NOx(g/veh-day)	RV CO2(g/veh-day)	RV SO2(g/veh-day)	RV PM10(g/veh-day)	RV PM2.5(g/veh-day)	RV VOC(g/veh-day)	RP VOC(g/veh-day)
1	Demolition - Concrete	Dump Truck	Diesel	Urban Unrestricted Access	0.794071	1.96807	1249.196	0.008731	0.073826	0.071613	0.195789	0.069606	0.003463	18.52761	1.808956	245.583	0.001774	0.018829	0.018264	0.798407	0
1	Demolition - Concrete	Passenger Car	Gasoline	Urban Unrestricted Access	1.689671	0.102635	348.7876	0.002224	0.005214	0.004801	0.056039	0.003919	0.001767	38.12089	2.442831	438.9424	0.002799	0.047668	0.043893	5.310081	0

Fugitive Emissions (Emission Factors from Various Sources including AP-42)

Scenario ID	Project	Fugitive Type	Variable	Default Values	Units	User Value
1	Demolition - Concrete	Soil Handling	u = Wind speed	5	mph	
1	Demolition - Concrete	Soil Handling	m = Moisture content	0.25	fraction	
1	Demolition - Concrete	Soil Handling	T = Mass of aggregate storage pile = L x W x 0.5 x 110 / 2000	4950	tons	
1	Demolition - Concrete	Soil Handling	PM10 = T x 0.35 x 0.0032 x [(u/5)^1.3] / [(m/2)^1.4]	101.9	lbs	
1	Demolition - Concrete	Unstabilized Land and Wind Erosion	A = Area affected = L x W / 43560.0	4.132	acres	
1	Demolition - Concrete	Unstabilized Land and Wind Erosion	TPConv = TSP/PM10 conversion	0.5	fraction	
1	Demolition - Concrete	Unstabilized Land and Wind Erosion	CE = Control efficiency	0.63	fraction	
1	Demolition - Concrete	Unstabilized Land and Wind Erosion	t = year (e.g. 0.65 year)	0.5	years	
1	Demolition - Concrete	Unstabilized Land and Wind Erosion	PM10 = 0.38 x A x TPConv x (1-CE) x t / 2000	0	lbs	
1	Demolition - Concrete	Material Movement (Unpaved Roads)	s = Surface material silt content	0.043	fraction	
1	Demolition - Concrete	Material Movement (Unpaved Roads)	Wt. = Mean vehicle weight	32	tons	
1	Demolition - Concrete	Material Movement (Unpaved Roads)	VMT = Vehicle miles traveled	1590	miles	

1	Demolition - Concrete	Material Movement (Unpaved Roads)	PM10 = 1.5 x [(s/12)^0.9] x [(Wt./3)^0.45] x VMT	43.5	lbs
1	Demolition - Concrete	Material Movement (Paved Roads)	sL = Road surface silt loading	0.1	g/m3
1	Demolition - Concrete	Material Movement (Paved Roads)	Wt. = Mean vehicle weight	32	tons
1	Demolition - Concrete	Material Movement (Paved Roads)	VMT = Vehicle miles traveled	1290	miles
1	Demolition - Concrete	Material Movement (Paved Roads)	PM10 = 0.0022 x (sL^0.91) x (Wt^1.02) x VMT	12	lbs

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ASSUMPTIONS

Emission factors were developed from the following models:

On-Road Vehicles: MOVES 2010b, revised January 2013

Non-Road Equipment: NONROAD2008a, July 2009

In addition to the overall project size dimensions (e.g., Length and width) provided by the user, an additional 10 ft length and 10 ft width is added to account for disturbance areas.

The number of employees is based on the higher of two methods: (1) number of equipment, and (2) multiply the project cost in million by 11.

The average employee travels 30 miles round-trip from home to construction site each day.

The average on-road material delivery round-trip distance per truck is 40 miles per day.

For calculating fugitive, re-entrained PM emissions from on-road and non-road material delivery and handling equipment, a nominal VMT of 5 miles is used for each vehicle per day.

In deriving emission factors from NONROAD, the horsepower for each equipment represents the most popular in each equipment category.

The total length of each modeled scenario is used to define the number of days associated with vehicle/equipment evaporative emissions.

The choice of location and season are assumed to adequately represent differences in fuel characteristics affecting emissions.

Only two seasons (Summer and Winter) are used to represent all seasons.

14 U.S. Counties are used to represent all other counties in the U.S. (all other counties are mapped to the 14).

The default methods assume that all construction equipment use diesel as well as heavy-duty on-road vehicles, while passenger vehicles (including motorcycles) use gasoline.

Fugitive emissions are only modeled for:

Asphalt drying

Asphalt storage and batching

Concrete mixing/batching
Soil handling
Unstabilized land and wind erosion
Material movement (unpaved roads)
Material movement (paved roads)

On-Road vehicle speeds are not explicitly modeled. The associated emission factors for each modeled vehicle from MOVES represent averages over the driving cycles, the roadway type, and daily temperature variations.

The default equipment hours-of-use data are developed based on the overall size of the project provided by the user and activity rates based on expert engineering judgment.

Under the Construction Activity Type list (Activity Tab), when a choice between asphalt and concrete materials occurs, asphalt is always selected as default. To choose concrete, de-select the aphalt item and select the corresponding concrete item.

Two trips per day were assumed for each on-road material handling trucks.

Only CO2, CH4, and N2O are used to represent greenhouse gas emissions. Other potential greenhouse gases including air conditioning refrigerants were not included.

The following equipment are always modeled using diesel emission factors since gasoline-based emission factors are not available:
Asphalt Deliveries/Ten Wheelers
Bulldozer
Concrete Ready Mix Trucks
Concrete Ready Trucks Mix for Cores
Concrete Truck
Crack Filler (Trailer Mounted)
Delivery of Tanks (3)
Distributing Tanker
Dozer
Dump Truck
Dump Truck (12 cy)
Excavator
Excavator for U/G Services/Tanks
Flat Bed or Dump Trucks
Flatbed Truck
Grader
Grout Wheel Truck
Hoist Equipment with 40 Ton Rig
Hydralic Hammer
Hydroseeder
Line Painting Truck and Sprayer
Material Deliveries
Off-Road Truck
Pickup Truck
Scraper
Seed Truck Spreader
Small Dozer
Survey Crew Trucks
Ten Wheelers
Ten Wheelers- Material Delivery
Tool Truck
Tractor Trailer- Equipment Delivery
Tractor Trailer- Material Delivery
Tractor Trailer- Steel Deliveries
Tractor Trailer- Stone Delivery
Tractor Trailer- Topsoil & Seed
Tractor Trailer- Truck Delivery
Tractor Trailer with Boom Hoist- Curbs Del & Place
Tractor Trailer with Boom Hoist- Delivery
Tractor Trailers- Rebar Deliveries
Tractor Trailers Temp Fac.
Truck for Topsoil & Seed Del&Spread
Water Truck
Excavator with Bucket
Excavator with Hoe Ram

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APPENDIX B
AIRCRAFT CRITERIA AIR POLLUTANT EMISSIONS

Appendix B. Modeled CAP Emissions by Aircraft Types, 2018
Mineta San Jose International Airport
San Jose, California

Aircraft Name[1]	Type	Baseline/Existing Annual Emissions Below Mixing Height[2] (tpy)				
		VOC	NOx	PM_{10}	$PM_{2.5}$	Lead[3]
Bombardier Challenger 600 1TL001 NONE	Business	3.0	2.3	0.05	0.05	--
Bombardier Global 5000 Business 4BR009 NONE	Business	0.13	1.0	0.02	0.02	--
Bombardier Global Express 4BR009 NONE	Business	0.34	2.6	0.05	0.05	--
Bombardier Learjet 25 CJ6106 NONE	Business	0.13	0.01	0.00	0.00	--
Bombardier Learjet 35A/36A (C-21A) TFE731 NONE	Business	0.42	0.66	0.01	0.01	--
Cessna 500 Citation I 1PW036 NONE	Business	3.1	0.64	0.03	0.03	--
Cessna 525 CitationJet 10PW099 NONE	Business	0.11	0.31	0.00	0.00	--
Cessna 550 Citation II PW530 NONE	Business	6.4	0.72	0.05	0.05	--
Cessna 560 Citation V PW530 NONE	Business	2.4	0.21	0.02	0.02	--
Cessna 560 Citation XLS BIZMEDIUMJET_F NONE	Business	0.00	1.5	0.03	0.03	--
Cessna 650 Citation III 1AS002 NONE	Business	0.05	0.09	0.00	0.00	--
Cessna 680 Citation Sovereign BIZMEDIUMJET_F NONE	Business	0.00	1.4	0.02	0.02	--
Cessna 750 Citation X 6AL024 NONE	Business	2.5	7.8	0.05	0.05	--
CESSNA CITATION 510 PW615F NONE	Business	--	--	0.00	0.00	--
Dassault Falcon 20-D CF700D NONE	Business	0.02	0.01	0.00	0.00	--
Eclipse 500 / PW610F PW610F-A NONE	Business	--	--	0.00	0.00	--
Gulfstream G550 3BR001 NONE	Business	1.1	3.9	0.06	0.06	--
Gulfstream II MK511 NONE	Business	0.03	0.12	0.00	0.00	--
Gulfstream II-B 1RR016 NONE	Business	0.06	0.19	0.00	0.00	--
Gulfstream IV-SP 1RR019 NONE	Business	1.8	6.0	0.23	0.23	--
Israel IAI-1125 Astra 1AS002 NONE	Business	0.12	0.22	0.00	0.00	--
Mitsubishi MU-300 Diamond 1PW037 NONE	Business	1.8	0.07	0.01	0.01	--
Pre-Release of G650ER ANP	Business	0.50	1.4	0.02	0.02	--
Airbus A300F4-600 Series 1PW056 NONE	Commercial	0.79	4.8	0.02	0.02	--
Airbus A319-100 Series 3IA006 SOP	Commercial	1.0	25	0.33	0.33	--
Airbus A320-200 Series 1CM008 NONE	Commercial	3.9	42	0.33	0.33	--
Airbus A321-200 Series 1IA005 NONE	Commercial	0.13	5.2	0.05	0.05	--
Airbus A330-200 Series	Commercial	--	--	--	--	--
Airbus A330-300 Series 1GE033 NONE	Commercial	1.1	5.2	0.02	0.02	--
Airbus A340-200 Series 1CM010 NONE	Commercial	0.74	6.6	0.03	0.03	--
Airbus A340-600 Series 8RR045 NONE	Commercial	0.01	0.46	0.00	0.00	--
Airbus A350-900 series	Commercial	--	--	--	--	--
B787-8R 2GE048 NONE	Commercial	1.3	20	0.08	0.08	--
Boeing 717-200 Series 4BR007 NONE	Commercial	0.38	5.8	0.05	0.05	--
Boeing 727-200 Series 1PW011 NONE	Commercial	0.02	0.07	0.00	0.00	--
Boeing 737-400 Series 1CM006 TFAP	Commercial	0.04	0.18	0.00	0.00	--
Boeing 737-500 Series 1CM006 TFAP	Commercial	0.05	0.23	0.00	0.00	--
Boeing 737-700 Series 3CM032 NONE	Commercial	28	192	1.1	1.1	--
Boeing 737-800 MAX 17CM083 NONE	Commercial	0.12	6.2	0.02	0.02	--
Boeing 737-800 Series 4CM042 NONE	Commercial	44	111	1.5	1.5	--
Boeing 747-400 Series Freighter	Commercial	--	--	--	--	--
Boeing 757-200 Series 1PW039 NONE	Commercial	0.14	1.4	0.01	0.01	--
Boeing 757-300 Series 5RR039 B	Commercial	0.01	0.19	0.00	0.00	--
Boeing 767-200 Series 2GE039 NONE	Commercial	0.01	0.06	0.00	0.00	--
Boeing 767-300 Series 1PW043 NONE	Commercial	1.8	25	0.11	0.11	--
Boeing 767-400 ER 2GE055 NONE	Commercial	0.02	0.20	0.00	0.00	--
Boeing 777-200-ER 6GE090 NONE	Commercial	0.01	0.25	0.00	0.00	--
Boeing 777-300 ER	Commercial	--	--	--	--	--
Boeing DC-8 Series 70 1CM003 NONE	Commercial	0.02	0.14	0.00	0.00	--
Boeing MD-10-30 3GE074 NONE	Commercial	0.05	0.66	0.00	0.00	--
Boeing MD-83 4PW071 NONE	Commercial	0.00	0.09	0.00	0.00	--
Boeing MD-90 1IA004 NONE	Commercial	0.08	2.0	0.02	0.02	--
Bombardier CRJ-700-LR 8GE110 NONE	Commuter	0.25	3.2	0.02	0.02	--
Bombardier CRJ-900 8GE107 NONE	Commuter	0.30	3.9	0.02	0.02	--
Bombardier de Havilland Dash 8 Q400 PW123 NONE	Commuter	0.00	1.6	0.05	0.05	--

Appendix B. Modeled CAP Emissions by Aircraft Types, 2018
Mineta San Jose International Airport
San Jose, California

Aircraft Name[1]	Type	Baseline/Existing Annual Emissions Below Mixing Height[2] (tpy)				
		VOC	NOx	PM_{10}	$PM_{2.5}$	Lead[3]
Embraer ERJ145 6AL008 NONE	Commuter	2.0	10	0.06	0.06	--
Embraer ERJ175 8GE108 NONE	Commuter	4.2	44	0.27	0.27	--
Embraer ERJ190 10GE132 NONE	Commuter	0.02	0.05	0.00	0.00	--
1985 1-ENG COMP TIO540 NONE	General Aviation-Piston	1.2	0.02	0.06	0.06	0.04
Boeing DC-3 R1820 R1820-86	General Aviation-Piston	0.07	0.00	0.00	0.00	0.00
Boeing DC-6 R1820 R-2800-CB17	General Aviation-Piston	0.18	0.01	0.01	0.01	0.00
Cessna 172 Skyhawk TSIO36 IO-360-L2A	General Aviation-Piston	0.14	0.02	0.00	0.00	0.00
Cessna 182 IO360 NONE	General Aviation-Piston	0.03	0.01	0.00	0.00	0.00
Cessna 206 TIO540 IO-540-AC	General Aviation-Piston	0.05	0.00	0.00	0.00	0.00
Cessna 206 TIO540 TIO-540-AJ1A	General Aviation-Piston	0.09	0.00	0.00	0.00	0.00
EADS Socata TB-9 Tampico IO320 NONE	General Aviation-Piston	0.13	0.05	0.01	0.01	0.01
Piper PA-24 Comanche TIO540 NONE	General Aviation-Piston	0.65	0.01	0.01	0.01	0.01
Piper PA-28 Cherokee Series IO320 O-320-D3G	General Aviation-Piston	0.01	0.00	0.00	0.00	0.00
Piper PA-30 Twin Comanche IO320 NONE	General Aviation-Piston	0.01	0.00	0.00	0.00	0.00
Raytheon Beech Baron 58 TIO540 NONE	General Aviation-Piston	1.1	0.02	0.04	0.04	0.03
Cessna 208 Caravan PT6A14 NONE	General Aviation-Turbo	0.08	0.37	0.01	0.01	--
Cessna 441 Conquest II TPE8 NONE	General Aviation-Turbo	0.05	0.49	0.01	0.01	--
DeHavilland DHC-6-200 Twin Otter PT6A27 NONE	General Aviation-Turbo	0.11	1.0	0.04	0.04	--
Piper PA-42 Cheyenne Series PT6A41 NONE	General Aviation-Turbo	0.04	0.03	0.00	0.00	--
A109	Helicopter	0.00	0.02	--	--	0.00
B206L	Helicopter	0.00	0.01	--	--	0.00
Bell 206L-4T Long Ranger 250B17 NONE	Helicopter	0.00	0.00	--	--	0.00
Bell 407 / Rolls-Royce 250-C47B 250B17 NONE	Helicopter	0.00	0.00	--	--	0.00
Bell 430 250B17 NONE	Helicopter	0.00	0.00	--	--	0.00
EC130	Helicopter	0.00	0.35	--	--	0.02
R22	Helicopter	0.01	0.01	--	--	0.00
R44	Helicopter	0.02	0.00	--	--	0.00
SA350D	Helicopter	0.00	0.04	--	--	0.00
C-130E	Military	0.03	0.02	0.00	0.00	--
C130HP	Military	0.03	0.02	0.00	0.00	--
F15A	Military	0.03	0.05	0.00	0.00	--
F-18	Military	0.20	0.07	0.00	0.00	--
F5E	Military	0.03	0.01	0.00	0.00	--
S61	Military	0.00	0.01	--	--	--
SA341G	Military	--	0.02	--	--	--
Sikorsky S-76 Spirit T70070 NONE	Military	0.00	0.01	--	--	--

Notes:

[1] Aircraft name shown is consistent with the aircraft name provided in AEDT.

[2] AEDT calculates VOC, NOx, $PM_{2.5}$, and PM_{10} emissions from aircraft operations. Lead emissions were calculated based on consumption of aviation gasoline as calculated in AEDT. Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.

[3] Lead emissions from general aviation piston aircraft and helicopters were estimated using the lead emission factor, engine lead retention rate and the average density for aviation gasoline from USEPA (2013), "Calculating Piston-Engine Aircraft Airport Inventories for Lead for the 2011 National Emissions Inventory", available at https://nepis.epa.gov/Exe/ZyPDF.cgi/P100LFGL.PDF?Dockey=P100LFGL.PDF, accessed May 2019.

Abbreviations:

AEDT - Aviation Environmental Design Tool
lb/day - pounds per day
NOx - oxides of nitrogen
PM_{10} - particulate matter smaller than 10 µm in diameter
$PM_{2.5}$ - particulate matter smaller than 2.5 µm in diameter
USEPA - United States Environmental Protection Agency
VOC - volatile organic compounds
ton/yr - tons per year

Appendix B. Modeled CAP Emissions by Aircraft Types, 2037
Mineta San Jose International Airport
San Jose, California

Aircraft Name[1]	Type	Proposed Project Annual Emissions Below Mixing Height[2] (tpy)				
		VOC	NOx	PM_{10}	$PM_{2.5}$	Lead[3]
Bombardier Challenger 600 1TL001 NONE	Business	2.9	2.2	0.05	0.05	--
Bombardier Global 5000 Business 4BR009 NONE	Business	0.19	1.5	0.03	0.03	--
Bombardier Global Express 4BR009 NONE	Business	0.61	4.8	0.08	0.08	--
Bombardier Learjet 25 CJ6106 NONE	Business	--	--	--	--	--
Bombardier Learjet 35A/36A (C-21A) TFE731 NONE	Business	0.53	0.82	0.01	0.01	--
Cessna 500 Citation I 1PW036 NONE	Business	0.42	0.09	0.00	0.00	--
Cessna 525 CitationJet 10PW099 NONE	Business	0.40	1.1	0.01	0.01	--
Cessna 550 Citation II PW530 NONE	Business	7.5	0.84	0.06	0.06	--
Cessna 560 Citation V PW530 NONE	Business	1.8	0.15	0.01	0.01	--
Cessna 560 Citation XLS BIZMEDIUMJET_F NONE	Business	0.00	2.2	0.04	0.04	--
Cessna 650 Citation III 1AS002 NONE	Business	0.05	0.09	0.00	0.00	--
Cessna 680 Citation Sovereign BIZMEDIUMJET_F NONE	Business	0.00	1.8	0.02	0.02	--
Cessna 750 Citation X 6AL024 NONE	Business	4.5	14	0.08	0.08	--
CESSNA CITATION 510 PW615F NONE	Business	--	--	0.00	0.00	--
Dassault Falcon 20-D CF700D NONE	Business	--	--	--	--	--
Eclipse 500 / PW610F PW610F-A NONE	Business	--	--	0.00	0.00	--
Gulfstream G550 3BR001 NONE	Business	1.6	5.6	0.09	0.09	--
Gulfstream II MK511 NONE	Business	--	--	--	--	--
Gulfstream II-B 1RR016 NONE	Business	--	--	--	--	--
Gulfstream IV-SP 1RR019 NONE	Business	1.0	3.5	0.13	0.13	--
Israel IAI-1125 Astra 1AS002 NONE	Business	0.32	0.57	0.01	0.01	--
Mitsubishi MU-300 Diamond 1PW037 NONE	Business	2.1	0.08	0.01	0.01	--
Pre-Release of G650ER ANP	Business	0.57	1.6	0.02	0.02	--
Airbus A300F4-600 Series 1PW056 NONE	Commercial	--	--	--	--	--
Airbus A319-100 Series 3IA006 SOP	Commercial	3.6	90	1.2	1.2	--
Airbus A320-200 Series 1CM008 NONE	Commercial	2.2	23	0.18	0.18	--
Airbus A321-200 Series 1IA005 NONE	Commercial	2.5	98	0.88	0.88	--
Airbus A330-200 Series	Commercial	1.0	22	0.08	0.08	--
Airbus A330-300 Series 1GE033 NONE	Commercial	--	--	--	--	--
Airbus A340-200 Series 1CM010 NONE	Commercial	--	--	--	--	--
Airbus A340-600 Series 8RR045 NONE	Commercial	--	--	--	--	--
Airbus A350-900 series	Commercial	2.2	16	0.08	0.08	--
B787-8R 2GE048 NONE	Commercial	1.7	25	0.10	0.10	--
Boeing 717-200 Series 4BR007 NONE	Commercial	--	--	--	--	--
Boeing 727-200 Series 1PW011 NONE	Commercial	--	--	--	--	--
Boeing 737-400 Series 1CM006 TFAP	Commercial	--	--	--	--	--
Boeing 737-500 Series 1CM006 TFAP	Commercial	--	--	--	--	--
Boeing 737-700 Series 3CM032 NONE	Commercial	6.2	43	0.25	0.25	--
Boeing 737-800 MAX 17CM083 NONE	Commercial	21	1,019	2.5	2.5	--
Boeing 737-800 Series 4CM042 NONE	Commercial	46	118	1.6	1.6	--
Boeing 747-400 Series Freighter	Commercial	0.04	0.17	0.00	0.00	--
Boeing 757-200 Series 1PW039 NONE	Commercial	0.00	0.03	0.00	0.00	--
Boeing 757-300 Series 5RR039 B	Commercial	0.00	0.03	0.00	0.00	--
Boeing 767-200 Series 2GE039 NONE	Commercial	--	--	--	--	--
Boeing 767-300 Series 1PW043 NONE	Commercial	1.3	17	0.08	0.08	--
Boeing 767-400 ER 2GE055 NONE	Commercial	0.03	0.41	0.00	0.00	--
Boeing 777-200-ER 6GE090 NONE	Commercial	0.04	1.3	0.00	0.00	--
Boeing 777-300 ER	Commercial	2.3	25	0.07	0.07	--
Boeing DC-8 Series 70 1CM003 NONE	Commercial	--	--	--	--	--
Boeing MD-10-30 3GE074 NONE	Commercial	--	--	--	--	--
Boeing MD-83 4PW071 NONE	Commercial	--	--	--	--	--
Boeing MD-90 1IA004 NONE	Commercial	--	--	--	--	--
Bombardier CRJ-700-LR 8GE110 NONE	Commuter	--	--	--	--	--
Bombardier CRJ-900 8GE107 NONE	Commuter	0.00	0.06	0.00	0.00	--
Bombardier de Havilland Dash 8 Q400 PW123 NONE	Commuter	0.00	0.23	0.01	0.01	--
Embraer ERJ145 6AL008 NONE	Commuter	1.1	5.5	0.04	0.04	--

Appendix B. Modeled CAP Emissions by Aircraft Types, 2037
Mineta San Jose International Airport
San Jose, California

Aircraft Name[1]	Type	Proposed Project Annual Emissions Below Mixing Height[2] (tpy)				
		VOC	NOx	PM_{10}	$PM_{2.5}$	Lead[3]
Embraer ERJ175 8GE108 NONE	Commuter	2.8	29	0.18	0.18	--
Embraer ERJ190 10GE132 NONE	Commuter	0.03	0.08	0.00	0.00	--
1985 1-ENG COMP TIO540 NONE	General Aviation-Piston	0.32	0.01	0.02	0.02	0.01
Boeing DC-3 R1820 R1820-86	General Aviation-Piston	--	--	--	--	--
Boeing DC-6 R1820 R-2800-CB17	General Aviation-Piston	--	--	--	--	--
Cessna 172 Skyhawk TSIO36 IO-360-L2A	General Aviation-Piston	0.10	0.01	0.00	0.00	0.00
Cessna 182 IO360 NONE	General Aviation-Piston	0.03	0.01	0.00	0.00	0.00
Cessna 206 TIO540 IO-540-AC	General Aviation-Piston	0.08	0.00	0.00	0.00	0.00
Cessna 206 TIO540 TIO-540-AJ1A	General Aviation-Piston	0.06	0.00	0.00	0.00	0.00
EADS Socata TB-9 Tampico IO320 NONE	General Aviation-Piston	0.05	0.02	0.00	0.00	0.00
Piper PA-24 Comanche TIO540 NONE	General Aviation-Piston	0.42	0.00	0.01	0.01	0.01
Piper PA-28 Cherokee Series IO320 O-320-D3G	General Aviation-Piston	0.01	0.00	0.00	0.00	0.00
Piper PA-30 Twin Comanche IO320 NONE	General Aviation-Piston	0.01	0.00	0.00	0.00	0.00
Raytheon Beech Baron 58 TIO540 NONE	General Aviation-Piston	0.39	0.01	0.01	0.01	0.01
Cessna 208 Caravan PT6A14 NONE	General Aviation-Turbo	0.03	0.15	0.01	0.01	--
Cessna 441 Conquest II TPE8 NONE	General Aviation-Turbo	0.01	0.05	0.00	0.00	--
DeHavilland DHC-6-200 Twin Otter PT6A27 NONE	General Aviation-Turbo	0.04	0.37	0.01	0.01	--
Piper PA-42 Cheyenne Series PT6A41 NONE	General Aviation-Turbo	0.03	0.02	0.00	0.00	--
A109	Helicopter	0.00	0.01	--	--	0.00
B206L	Helicopter	0.00	0.00	--	--	0.00
Bell 206L-4T Long Ranger 250B17 NONE	Helicopter	0.00	0.00	--	--	0.00
Bell 407 / Rolls-Royce 250-C47B 250B17 NONE	Helicopter	--	--	--	--	--
Bell 430 250B17 NONE	Helicopter	--	--	--	--	--
EC130	Helicopter	0.00	0.11	--	--	0.01
R22	Helicopter	0.00	0.00	--	--	0.00
R44	Helicopter	0.01	0.00	--	--	0.00
SA350D	Helicopter	--	--	--	--	--
C-130E	Military	0.07	0.06	0.00	0.00	--
C130HP	Military	0.07	0.05	0.00	0.00	--
F15A	Military	0.03	0.05	0.00	0.00	--
F-18	Military	0.20	0.07	0.00	0.00	--
F5E	Military	--	--	--	--	--
S61	Military	0.00	0.01	--	--	--
SA341G	Military	--	--	--	--	--
Sikorsky S-76 Spirit T70070 NONE	Military	0.00	0.01	--	--	--

Notes:

[1] Aircraft name shown is consistent with the aircraft name provided in AEDT.

[2] AEDT calculates VOC, NOx, $PM_{2.5}$, and PM_{10} emissions from aircraft operations. Lead emissions were calculated based on consumption of aviation gasoline as calculated in AEDT. Emissions shown as zero may be non-zero values, however, they are below a meaningful reporting level for this analysis.

[3] Lead emissions from general aviation piston aircraft and helicopters were estimated using the lead emission factor, engine lead retention rate and the average density for aviation gasoline from USEPA (2013), "Calculating Piston-Engine Aircraft Airport Inventories for Lead for the 2011 National Emissions Inventory", available at https://nepis.epa.gov/Exe/ZyPDF.cgi/P100LFGL.PDF?Dockey=P100LFGL.PDF, accessed May 2019.

Abbreviations:

AEDT - Aviation Environmental Design Tool
lb/day - pounds per day
NOx - oxides of nitrogen
PM_{10} - particulate matter smaller than 10 µm in diameter
$PM_{2.5}$ - particulate matter smaller than 2.5 µm in diameter
USEPA - United States Environmental Protection Agency
VOC - volatile organic compounds
ton/yr - tons per year

APPENDIX C
AERMOD FILES

APPENDIX D1
TOXIC AIR CONTAMINANTS EMISSION RATES BY SOURCE GROUP

Appendix D1. TAC Emission Rates By Source Group
Mineta San Jose International Airport
San Jose, California

Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	AIRSIDE	(1Methylpropyl)Benzene	68411449	1.24E-06	No
Existing/Baseline	AIRSIDE	(2Methylpropyl)Benzene	538932	8.25E-07	No
Existing/Baseline	AIRSIDE	1,2,3Trimethylbenzene	526738	1.77E-05	No
Existing/Baseline	AIRSIDE	1,2,4Trimethylbenzene	95636	1.12E-04	No
Existing/Baseline	AIRSIDE	1,2Diethylbenzene (Ortho)	135013	4.95E-06	No
Existing/Baseline	AIRSIDE	1,2Propadiene	463490	3.34E-05	No
Existing/Baseline	AIRSIDE	1,3,5Trimethylbenzene	108678	3.22E-05	No
Existing/Baseline	AIRSIDE	1,3Butadiene	106990	4.62E-05	Yes
Existing/Baseline	AIRSIDE	1Butene	106989	3.18E-05	No
Existing/Baseline	AIRSIDE	1Methyl2Ethylbenzene	611143	2.64E-05	No
Existing/Baseline	AIRSIDE	1Methyl3Ethylbenzene	620144	5.90E-05	No
Existing/Baseline	AIRSIDE	1Pentene	109671	8.66E-06	No
Existing/Baseline	AIRSIDE	2,2,4Trimethylpentane	540841	2.60E-05	No
Existing/Baseline	AIRSIDE	2,2Dimethylbutane	75832	1.32E-05	No
Existing/Baseline	AIRSIDE	2,3,4Trimethylpentane	565753	1.44E-05	No
Existing/Baseline	AIRSIDE	2,3Dimethyl1Butene	563780	7.84E-06	No
Existing/Baseline	AIRSIDE	2,3Dimethylhexane	584941	4.54E-06	No
Existing/Baseline	AIRSIDE	2,3Dimethylpentane	565593	1.32E-05	No
Existing/Baseline	AIRSIDE	2,4Dimethylhexane	589435	1.03E-05	No
Existing/Baseline	AIRSIDE	2,4Dimethylpentane	108087	1.16E-05	No
Existing/Baseline	AIRSIDE	2Methylheptane	592278	1.32E-05	No
Existing/Baseline	AIRSIDE	2Methylhexane	591764	2.89E-05	No
Existing/Baseline	AIRSIDE	2Methylpentane	107835	5.82E-05	No
Existing/Baseline	AIRSIDE	3Methylhexane	589344	3.09E-05	No
Existing/Baseline	AIRSIDE	3Methylpentane	96140	3.63E-05	No
Existing/Baseline	AIRSIDE	Acetaldehyde	75070	1.20E-05	Yes
Existing/Baseline	AIRSIDE	Acetone	67641	1.40E-05	No
Existing/Baseline	AIRSIDE	Acetylene	74862	3.12E-04	No
Existing/Baseline	AIRSIDE	Benzaldehyde	100527	3.71E-06	No
Existing/Baseline	AIRSIDE	Benzene	71432	2.09E-04	Yes
Existing/Baseline	AIRSIDE	BMethylstyrene	637503	6.60E-06	No
Existing/Baseline	AIRSIDE	Butyraldehyde	123728	4.13E-07	No
Existing/Baseline	AIRSIDE	Cis2Butene	590181	5.78E-06	No
Existing/Baseline	AIRSIDE	Cis2Pentene	627203	1.03E-05	No
Existing/Baseline	AIRSIDE	Cumene	98828	2.89E-06	No
Existing/Baseline	AIRSIDE	Cyclohexane	110827	1.65E-06	No
Existing/Baseline	AIRSIDE	Cyclohexanone	108941	8.25E-07	No
Existing/Baseline	AIRSIDE	Cyclopentane	287923	7.84E-06	No
Existing/Baseline	AIRSIDE	DPM	9901	8.06E-04	Yes
Existing/Baseline	AIRSIDE	Ethane	74840	3.42E-05	No
Existing/Baseline	AIRSIDE	Ethyl Alcohol	64175	8.25E-07	No
Existing/Baseline	AIRSIDE	Ethylbenzene	100414	7.01E-05	Yes
Existing/Baseline	AIRSIDE	Ethylene	74851	2.96E-04	No
Existing/Baseline	AIRSIDE	Ethylhexane	619998	1.32E-05	No
Existing/Baseline	AIRSIDE	Formaldehyde	50000	4.58E-05	Yes
Existing/Baseline	AIRSIDE	Indan	496117	1.16E-05	No
Existing/Baseline	AIRSIDE	Isobutane	75285	1.03E-05	No
Existing/Baseline	AIRSIDE	Isobutylene	115117	4.54E-05	No
Existing/Baseline	AIRSIDE	Isomers Of Diethylbenzene	25340174	8.25E-06	No

Appendix D1. TAC Emission Rates By Source Group
Mineta San Jose International Airport
San Jose, California

Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	AIRSIDE	Isopentane	78784	9.90E-05	No
Existing/Baseline	AIRSIDE	Methane	74828	2.61E-04	No
Existing/Baseline	AIRSIDE	Methanol	67561	5.78E-06	Yes
Existing/Baseline	AIRSIDE	Methyl Ethyl Ketone {2Butanone}	78933	2.48E-06	Yes
Existing/Baseline	AIRSIDE	Methyl NButyl Ketone	591786	8.25E-06	No
Existing/Baseline	AIRSIDE	Methylcyclohexane	108872	1.57E-05	No
Existing/Baseline	AIRSIDE	Methylcyclopentane	96377	4.50E-05	No
Existing/Baseline	AIRSIDE	MXylene	108383	1.24E-04	Yes
Existing/Baseline	AIRSIDE	Naphthalene	91203	3.30E-06	Yes
Existing/Baseline	AIRSIDE	NButane	106978	2.52E-05	No
Existing/Baseline	AIRSIDE	N-butylbenzene	104518	1.49E-05	No
Existing/Baseline	AIRSIDE	NDecane	124185	9.08E-06	No
Existing/Baseline	AIRSIDE	NHeptane	142825	2.15E-05	No
Existing/Baseline	AIRSIDE	n-Hexane	110543	4.58E-05	Yes
Existing/Baseline	AIRSIDE	NNonane	111842	1.69E-05	No
Existing/Baseline	AIRSIDE	NOctane	111659	1.32E-05	No
Existing/Baseline	AIRSIDE	NPentane	109660	4.25E-05	No
Existing/Baseline	AIRSIDE	NPropylbenzene	103651	1.44E-05	No
Existing/Baseline	AIRSIDE	NUndecane	1120214	8.25E-06	No
Existing/Baseline	AIRSIDE	OXylene	95476	9.90E-05	Yes
Existing/Baseline	AIRSIDE	Propane	74986	2.85E-05	No
Existing/Baseline	AIRSIDE	Propionaldehyde	123386	6.19E-06	No
Existing/Baseline	AIRSIDE	Propylene	115071	1.37E-04	Yes
Existing/Baseline	AIRSIDE	PXylene	106423	8.29E-05	Yes
Existing/Baseline	AIRSIDE	Styrene	100425	8.25E-06	Yes
Existing/Baseline	AIRSIDE	Toluene	108883	3.22E-04	Yes
Existing/Baseline	AIRSIDE	Trans2Butene	624646	8.25E-06	No
Existing/Baseline	AIRSIDE	Trans2Pentene	646048	1.40E-05	No
Existing/Baseline	AT1	Benzene	71432	0.00E+00	Yes
Existing/Baseline	AT1	Ethylbenzene	100414	7.31E-06	Yes
Existing/Baseline	AT1	n-Hexane	110543	5.62E-07	Yes
Existing/Baseline	AT1	Toluene	108883	7.31E-06	Yes
Existing/Baseline	AT1	Xylenes	1330207	1.74E-05	Yes
Existing/Baseline	AT2	Benzene	71432	0.00E+00	Yes
Existing/Baseline	AT2	Ethylbenzene	100414	7.31E-06	Yes
Existing/Baseline	AT2	n-Hexane	110543	5.62E-07	Yes
Existing/Baseline	AT2	Toluene	108883	7.31E-06	Yes
Existing/Baseline	AT2	Xylenes	1330207	1.74E-05	Yes
Existing/Baseline	AT3	Benzene	71432	0.00E+00	Yes
Existing/Baseline	AT3	Ethylbenzene	100414	7.31E-06	Yes
Existing/Baseline	AT3	n-Hexane	110543	5.62E-07	Yes
Existing/Baseline	AT3	Toluene	108883	7.31E-06	Yes
Existing/Baseline	AT3	Xylenes	1330207	1.74E-05	Yes
Existing/Baseline	AT4	Benzene	71432	0.00E+00	Yes
Existing/Baseline	AT4	Ethylbenzene	100414	7.31E-06	Yes
Existing/Baseline	AT4	n-Hexane	110543	5.62E-07	Yes
Existing/Baseline	AT4	Toluene	108883	7.31E-06	Yes
Existing/Baseline	AT4	Xylenes	1330207	1.74E-05	Yes

Appendix D1. TAC Emission Rates By Source Group
Mineta San Jose International Airport
San Jose, California

Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	AT5	1,2,4Trimethylbenzene	95636	1.28E-05	No
Existing/Baseline	AT5	Benzene	71432	9.20E-06	Yes
Existing/Baseline	AT5	Cumene	98828	2.56E-06	No
Existing/Baseline	AT5	Cyclohexane	110827	1.23E-06	No
Existing/Baseline	AT5	Ethylbenzene	100414	7.16E-06	Yes
Existing/Baseline	AT5	Isooctane	26635643	2.04E-05	No
Existing/Baseline	AT5	n-Hexane	110543	5.11E-06	Yes
Existing/Baseline	AT5	Toluene	108883	3.58E-05	Yes
Existing/Baseline	AT5	Xylenes	1330207	3.58E-05	Yes
Existing/Baseline	AV1	Benzene	71432	0.00E+00	Yes
Existing/Baseline	AV1	Ethylbenzene	100414	7.31E-06	Yes
Existing/Baseline	AV1	n-Hexane	110543	5.62E-07	Yes
Existing/Baseline	AV1	Toluene	108883	7.31E-06	Yes
Existing/Baseline	AV1	Xylenes	1330207	1.74E-05	Yes
Existing/Baseline	BT04A	1,2,3trimethylbenzene	526738	1.87E-06	No
Existing/Baseline	BT04A	1,2,4Trimethylbenzene	95636	6.19E-06	No
Existing/Baseline	BT04A	1,3,5trimethylbenzene	108678	9.54E-07	No
Existing/Baseline	BT04A	1,3butadiene	106990	2.98E-05	Yes
Existing/Baseline	BT04A	1butene	106989	3.10E-05	No
Existing/Baseline	BT04A	1decene	872059	3.27E-06	No
Existing/Baseline	BT04A	1hexene	592416	1.30E-05	No
Existing/Baseline	BT04A	1Methyl2Ethylbenzene	611143	1.15E-06	No
Existing/Baseline	BT04A	1Methyl3Ethylbenzene	620144	2.72E-06	No
Existing/Baseline	BT04A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.13E-06	No
Existing/Baseline	BT04A	1Methylnaphthalene	90120	4.37E-06	No
Existing/Baseline	BT04A	1nonene	124118	4.35E-06	No
Existing/Baseline	BT04A	1octene	111660	4.88E-06	No
Existing/Baseline	BT04A	1pentene	109671	1.37E-05	No
Existing/Baseline	BT04A	2methyl1butene	563462	2.47E-06	No
Existing/Baseline	BT04A	2methyl1pentene	763291	6.01E-07	No
Existing/Baseline	BT04A	2methyl2butene	513359	3.27E-06	No
Existing/Baseline	BT04A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	7.58E-06	No
Existing/Baseline	BT04A	2methylnaphthalene	91576	3.64E-06	No
Existing/Baseline	BT04A	2Methylpentane	107835	7.21E-06	No
Existing/Baseline	BT04A	3methyl1butene	563451	1.98E-06	No
Existing/Baseline	BT04A	4methyl1pentene	691372	1.22E-06	No
Existing/Baseline	BT04A	Acetaldehyde	75070	7.55E-05	Yes
Existing/Baseline	BT04A	Acetone	67641	6.52E-06	No
Existing/Baseline	BT04A	Acetylene	74862	6.96E-05	No
Existing/Baseline	BT04A	Acrolein (2propenal)	107028	4.33E-05	Yes
Existing/Baseline	BT04A	Ammonium	14798039	1.31E-04	No
Existing/Baseline	BT04A	Antimony	7440360	0.00E+00	No
Existing/Baseline	BT04A	Benzaldehyde	100527	8.31E-06	No

Appendix D1. TAC Emission Rates By Source Group
Mineta San Jose International Airport
San Jose, California

Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	BT04A	Benzene	71432	2.97E-05	Yes
Existing/Baseline	BT04A	Bromine	7726956	3.65E-07	No
Existing/Baseline	BT04A	Butyraldehyde	123728	2.10E-06	No
Existing/Baseline	BT04A	Calcium	7440702	0.00E+00	No
Existing/Baseline	BT04A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	BT04A	Chromium	7440473	4.81E-07	No
Existing/Baseline	BT04A	Cis2butene	590181	3.71E-06	No
Existing/Baseline	BT04A	Cis2pentene	627203	4.88E-06	No
Existing/Baseline	BT04A	Copper	7440508	3.97E-06	Yes
Existing/Baseline	BT04A	Crotonaldehyde (or 2Butenal)	4170303	1.83E-05	No
Existing/Baseline	BT04A	Cumene	98828	5.30E-08	No
Existing/Baseline	BT04A	Decanal	112312	1.03E-04	No
Existing/Baseline	BT04A	Dimethyl napthalene	28804888	1.59E-06	No
Existing/Baseline	BT04A	Dodecenal	112549	5.16E-05	No
Existing/Baseline	BT04A	Elemental Carbon	7440440	3.98E-04	No
Existing/Baseline	BT04A	Ethane	74840	9.21E-06	No
Existing/Baseline	BT04A	Ethylbenzene	100414	3.08E-06	Yes
Existing/Baseline	BT04A	Ethylene	74851	2.73E-04	No
Existing/Baseline	BT04A	Formaldehyde	50000	2.18E-04	Yes
Existing/Baseline	BT04A	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	BT04A	Glyoxal	107222	3.21E-05	No
Existing/Baseline	BT04A	Heptadecane	629787	1.59E-07	No
Existing/Baseline	BT04A	Heptene	25339564	7.74E-06	No
Existing/Baseline	BT04A	Hexadecane	544763	8.66E-07	No
Existing/Baseline	BT04A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	BT04A	Indium	7440746	0.00E+00	No
Existing/Baseline	BT04A	Insolchlorine	7782505	1.32E-06	Yes
Existing/Baseline	BT04A	Iron	7439896	0.00E+00	No
Existing/Baseline	BT04A	Isovaleraldehyde	590863	5.66E-07	No
Existing/Baseline	BT04A	Magnesium	7439954	2.12E-06	No
Existing/Baseline	BT04A	Manganese	7439965	3.37E-07	Yes
Existing/Baseline	BT04A	Methane	74828	0.00E+00	No
Existing/Baseline	BT04A	Methanol	67561	3.19E-05	Yes
Existing/Baseline	BT04A	Methylglyoxal	78988	2.66E-05	No
Existing/Baseline	BT04A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	4.91E-06	No
Existing/Baseline	BT04A	Naphthalene	91203	9.56E-06	Yes
Existing/Baseline	BT04A	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	BT04A	Ndecane	124185	5.66E-06	No
Existing/Baseline	BT04A	Ndodecane	112403	8.17E-06	No
Existing/Baseline	BT04A	Nheptane	142825	1.13E-06	No
Existing/Baseline	BT04A	Nickel	7440020	6.76E-07	Yes
Existing/Baseline	BT04A	Nnonane	111842	1.10E-06	No
Existing/Baseline	BT04A	Noctane	111659	1.10E-06	No
Existing/Baseline	BT04A	Npentane	109660	3.50E-06	No
Existing/Baseline	BT04A	Npentylbenzene	538681	0.00E+00	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	BT04A	Npropylbenzene	103651	9.37E-07	No
Existing/Baseline	BT04A	Ntridecane	629505	9.46E-06	No
Existing/Baseline	BT04A	Nundecane	1120214	7.85E-06	No
Existing/Baseline	BT04A	oTolualdehyde	529204	4.07E-06	No
Existing/Baseline	BT04A	Oxylene	95476	2.93E-06	Yes
Existing/Baseline	BT04A	Pentadecane	629629	3.06E-06	No
Existing/Baseline	BT04A	Phenol (carbolic acid)	108952	1.28E-05	Yes
Existing/Baseline	BT04A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	BT04A	Potassium ion	7440097	1.65E-06	No
Existing/Baseline	BT04A	Propane	74986	1.38E-06	No
Existing/Baseline	BT04A	Propionaldehyde	123386	1.28E-05	No
Existing/Baseline	BT04A	Propylene	115071	8.01E-05	Yes
Existing/Baseline	BT04A	pTolualdehyde	104870	8.48E-07	No
Existing/Baseline	BT04A	Silicon	7440213	7.36E-06	No
Existing/Baseline	BT04A	Silver	7440224	1.24E-06	No
Existing/Baseline	BT04A	Styrene	100425	5.46E-06	Yes
Existing/Baseline	BT04A	Sulfate	9960	4.23E-04	Yes
Existing/Baseline	BT04A	Sulfur	7704349	0.00E+00	No
Existing/Baseline	BT04A	Tetradecane	629594	7.35E-06	No
Existing/Baseline	BT04A	Thallium	7440280	0.00E+00	No
Existing/Baseline	BT04A	Titanium	7440326	9.71E-08	No
Existing/Baseline	BT04A	Toluene	108883	1.13E-05	Yes
Existing/Baseline	BT04A	Trans2hexene	4050457	5.30E-07	No
Existing/Baseline	BT04A	Trans2pentene	646048	6.34E-06	No
Existing/Baseline	BT04A	Valeraldehyde	110623	4.33E-06	No
Existing/Baseline	BT04A	Xylenes	1330207	4.98E-06	Yes
Existing/Baseline	BT04A	Zinc	7440666	2.99E-07	No
Existing/Baseline	BT04B	1,2,3trimethylbenzene	526738	9.66E-07	No
Existing/Baseline	BT04B	1,2,4Trimethylbenzene	95636	3.19E-06	No
Existing/Baseline	BT04B	1,3,5trimethylbenzene	108678	4.92E-07	No
Existing/Baseline	BT04B	1,3butadiene	106990	1.54E-05	Yes
Existing/Baseline	BT04B	1butene	106989	1.60E-05	No
Existing/Baseline	BT04B	1decene	872059	1.69E-06	No
Existing/Baseline	BT04B	1hexene	592416	6.70E-06	No
Existing/Baseline	BT04B	1Methyl2Ethylbenzene	611143	5.92E-07	No
Existing/Baseline	BT04B	1Methyl3Ethylbenzene	620144	1.40E-06	No
Existing/Baseline	BT04B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	5.83E-07	No
Existing/Baseline	BT04B	1Methylnaphthalene	90120	2.25E-06	No
Existing/Baseline	BT04B	1nonene	124118	2.24E-06	No
Existing/Baseline	BT04B	1octene	111660	2.51E-06	No
Existing/Baseline	BT04B	1pentene	109671	7.07E-06	No
Existing/Baseline	BT04B	2methyl1butene	563462	1.28E-06	No
Existing/Baseline	BT04B	2methyl1pentene	763291	3.10E-07	No
Existing/Baseline	BT04B	2methyl2butene	513359	1.69E-06	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	BT04B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	3.91E-06	No
Existing/Baseline	BT04B	2methylnaphthalene	91576	1.88E-06	No
Existing/Baseline	BT04B	2Methylpentane	107835	3.72E-06	No
Existing/Baseline	BT04B	3methyl1butene	563451	1.02E-06	No
Existing/Baseline	BT04B	4methyl1pentene	691372	6.28E-07	No
Existing/Baseline	BT04B	Acetaldehyde	75070	3.89E-05	Yes
Existing/Baseline	BT04B	Acetone	67641	3.36E-06	No
Existing/Baseline	BT04B	Acetylene	74862	3.59E-05	No
Existing/Baseline	BT04B	Acrolein (2propenal)	107028	2.23E-05	Yes
Existing/Baseline	BT04B	Ammonium	14798039	9.71E-05	No
Existing/Baseline	BT04B	Antimony	7440360	0.00E+00	No
Existing/Baseline	BT04B	Benzaldehyde	100527	4.28E-06	No
Existing/Baseline	BT04B	Benzene	71432	1.53E-05	Yes
Existing/Baseline	BT04B	Bromine	7726956	2.70E-07	No
Existing/Baseline	BT04B	Butyraldehyde	123728	1.08E-06	No
Existing/Baseline	BT04B	Calcium	7440702	0.00E+00	No
Existing/Baseline	BT04B	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	BT04B	Chromium	7440473	3.56E-07	No
Existing/Baseline	BT04B	Cis2butene	590181	1.91E-06	No
Existing/Baseline	BT04B	Cis2pentene	627203	2.51E-06	No
Existing/Baseline	BT04B	Copper	7440508	2.93E-06	Yes
Existing/Baseline	BT04B	Crotonaldehyde (or 2Butenal)	4170303	9.41E-06	No
Existing/Baseline	BT04B	Cumene	98828	2.73E-08	No
Existing/Baseline	BT04B	Decanal	112312	5.32E-05	No
Existing/Baseline	BT04B	Dimethyl napthalene	28804888	8.20E-07	No
Existing/Baseline	BT04B	Dodecenal	112549	2.66E-05	No
Existing/Baseline	BT04B	Elemental Carbon	7440440	2.94E-04	No
Existing/Baseline	BT04B	Ethane	74840	4.75E-06	No
Existing/Baseline	BT04B	Ethylbenzene	100414	1.58E-06	Yes
Existing/Baseline	BT04B	Ethylene	74851	1.41E-04	No
Existing/Baseline	BT04B	Formaldehyde	50000	1.12E-04	Yes
Existing/Baseline	BT04B	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	BT04B	Glyoxal	107222	1.65E-05	No
Existing/Baseline	BT04B	Heptadecane	629787	8.20E-08	No
Existing/Baseline	BT04B	Heptene	25339564	3.99E-06	No
Existing/Baseline	BT04B	Hexadecane	544763	4.46E-07	No
Existing/Baseline	BT04B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	BT04B	Indium	7440746	0.00E+00	No
Existing/Baseline	BT04B	Insolchlorine	7782505	9.77E-07	Yes
Existing/Baseline	BT04B	Iron	7439896	0.00E+00	No
Existing/Baseline	BT04B	Isovaleraldehyde	590863	2.91E-07	No
Existing/Baseline	BT04B	Magnesium	7439954	1.57E-06	No
Existing/Baseline	BT04B	Manganese	7439965	2.49E-07	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	BT04B	Methane	74828	0.00E+00	No
Existing/Baseline	BT04B	Methanol	67561	1.64E-05	Yes
Existing/Baseline	BT04B	Methylglyoxal	78988	1.37E-05	No
Existing/Baseline	BT04B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.53E-06	No
Existing/Baseline	BT04B	Naphthalene	91203	4.93E-06	Yes
Existing/Baseline	BT04B	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	BT04B	Ndecane	124185	2.91E-06	No
Existing/Baseline	BT04B	Ndodecane	112403	4.21E-06	No
Existing/Baseline	BT04B	Nheptane	142825	5.83E-07	No
Existing/Baseline	BT04B	Nickel	7440020	4.99E-07	Yes
Existing/Baseline	BT04B	Nnonane	111842	5.65E-07	No
Existing/Baseline	BT04B	Noctane	111659	5.65E-07	No
Existing/Baseline	BT04B	Npentane	109660	1.80E-06	No
Existing/Baseline	BT04B	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	BT04B	Npropylbenzene	103651	4.83E-07	No
Existing/Baseline	BT04B	Ntridecane	629505	4.87E-06	No
Existing/Baseline	BT04B	Nundecane	1120214	4.04E-06	No
Existing/Baseline	BT04B	oTolualdehyde	529204	2.09E-06	No
Existing/Baseline	BT04B	Oxylene	95476	1.51E-06	Yes
Existing/Baseline	BT04B	Pentadecane	629629	1.58E-06	No
Existing/Baseline	BT04B	Phenol (carbolic acid)	108952	6.61E-06	Yes
Existing/Baseline	BT04B	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	BT04B	Potassium ion	7440097	1.22E-06	No
Existing/Baseline	BT04B	Propane	74986	7.10E-07	No
Existing/Baseline	BT04B	Propionaldehyde	123386	6.62E-06	No
Existing/Baseline	BT04B	Propylene	115071	4.13E-05	Yes
Existing/Baseline	BT04B	pTolualdehyde	104870	4.37E-07	No
Existing/Baseline	BT04B	Silicon	7440213	5.44E-06	No
Existing/Baseline	BT04B	Silver	7440224	9.17E-07	No
Existing/Baseline	BT04B	Styrene	100425	2.81E-06	Yes
Existing/Baseline	BT04B	Sulfate	9960	3.13E-04	Yes
Existing/Baseline	BT04B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	BT04B	Tetradecane	629594	3.79E-06	No
Existing/Baseline	BT04B	Thallium	7440280	0.00E+00	No
Existing/Baseline	BT04B	Titanium	7440326	7.17E-08	No
Existing/Baseline	BT04B	Toluene	108883	5.85E-06	Yes
Existing/Baseline	BT04B	Trans2hexene	4050457	2.73E-07	No
Existing/Baseline	BT04B	Trans2pentene	646048	3.27E-06	No
Existing/Baseline	BT04B	Valeraldehyde	110623	2.23E-06	No
Existing/Baseline	BT04B	Xylenes	1330207	2.57E-06	Yes
Existing/Baseline	BT04B	Zinc	7440666	2.21E-07	No
Existing/Baseline	BT14A	1,2,3trimethylbenzene	526738	9.18E-07	No
Existing/Baseline	BT14A	1,2,4Trimethylbenzene	95636	3.03E-06	No
Existing/Baseline	BT14A	1,3,5trimethylbenzene	108678	4.67E-07	No
Existing/Baseline	BT14A	1,3butadiene	106990	1.46E-05	Yes
Existing/Baseline	BT14A	1butene	106989	1.52E-05	No
Existing/Baseline	BT14A	1decene	872059	1.60E-06	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	BT14A	1hexene	592416	6.37E-06	No
Existing/Baseline	BT14A	1Methyl2Ethylbenzene	611143	5.63E-07	No
Existing/Baseline	BT14A	1Methyl3Ethylbenzene	620144	1.33E-06	No
Existing/Baseline	BT14A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	5.54E-07	No
Existing/Baseline	BT14A	1Methylnaphthalene	90120	2.14E-06	No
Existing/Baseline	BT14A	1nonene	124118	2.13E-06	No
Existing/Baseline	BT14A	1octene	111660	2.39E-06	No
Existing/Baseline	BT14A	1pentene	109671	6.72E-06	No
Existing/Baseline	BT14A	2methyl1butene	563462	1.21E-06	No
Existing/Baseline	BT14A	2methyl1pentene	763291	2.94E-07	No
Existing/Baseline	BT14A	2methyl2butene	513359	1.60E-06	No
Existing/Baseline	BT14A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	3.71E-06	No
Existing/Baseline	BT14A	2methylnaphthalene	91576	1.78E-06	No
Existing/Baseline	BT14A	2Methylpentane	107835	3.53E-06	No
Existing/Baseline	BT14A	3methyl1butene	563451	9.70E-07	No
Existing/Baseline	BT14A	4methyl1pentene	691372	5.97E-07	No
Existing/Baseline	BT14A	Acetaldehyde	75070	3.70E-05	Yes
Existing/Baseline	BT14A	Acetone	67641	3.19E-06	No
Existing/Baseline	BT14A	Acetylene	74862	3.41E-05	No
Existing/Baseline	BT14A	Acrolein (2propenal)	107028	2.12E-05	Yes
Existing/Baseline	BT14A	Ammonium	14798039	6.44E-05	No
Existing/Baseline	BT14A	Antimony	7440360	0.00E+00	No
Existing/Baseline	BT14A	Benzaldehyde	100527	4.07E-06	No
Existing/Baseline	BT14A	Benzene	71432	1.46E-05	Yes
Existing/Baseline	BT14A	Bromine	7726956	1.79E-07	No
Existing/Baseline	BT14A	Butyraldehyde	123728	1.03E-06	No
Existing/Baseline	BT14A	Calcium	7440702	0.00E+00	No
Existing/Baseline	BT14A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	BT14A	Chromium	7440473	2.36E-07	No
Existing/Baseline	BT14A	Cis2butene	590181	1.82E-06	No
Existing/Baseline	BT14A	Cis2pentene	627203	2.39E-06	No
Existing/Baseline	BT14A	Copper	7440508	1.94E-06	Yes
Existing/Baseline	BT14A	Crotonaldehyde (or 2Butenal)	4170303	8.94E-06	No
Existing/Baseline	BT14A	Cumene	98828	2.60E-08	No
Existing/Baseline	BT14A	Decanal	112312	5.06E-05	No
Existing/Baseline	BT14A	Dimethyl napthalene	28804888	7.79E-07	No
Existing/Baseline	BT14A	Dodecenal	112549	2.53E-05	No
Existing/Baseline	BT14A	Elemental Carbon	7440440	1.95E-04	No
Existing/Baseline	BT14A	Ethane	74840	4.51E-06	No
Existing/Baseline	BT14A	Ethylbenzene	100414	1.51E-06	Yes
Existing/Baseline	BT14A	Ethylene	74851	1.34E-04	No
Existing/Baseline	BT14A	Formaldehyde	50000	1.07E-04	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	BT14A	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	BT14A	Glyoxal	107222	1.57E-05	No
Existing/Baseline	BT14A	Heptadecane	629787	7.79E-08	No
Existing/Baseline	BT14A	Heptene	25339564	3.79E-06	No
Existing/Baseline	BT14A	Hexadecane	544763	4.24E-07	No
Existing/Baseline	BT14A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	BT14A	Indium	7440746	0.00E+00	No
Existing/Baseline	BT14A	Insolchlorine	7782505	6.48E-07	Yes
Existing/Baseline	BT14A	Iron	7439896	0.00E+00	No
Existing/Baseline	BT14A	Isovaleraldehyde	590863	2.77E-07	No
Existing/Baseline	BT14A	Magnesium	7439954	1.04E-06	No
Existing/Baseline	BT14A	Manganese	7439965	1.65E-07	Yes
Existing/Baseline	BT14A	Methane	74828	0.00E+00	No
Existing/Baseline	BT14A	Methanol	67561	1.56E-05	Yes
Existing/Baseline	BT14A	Methylglyoxal	78988	1.30E-05	No
Existing/Baseline	BT14A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.41E-06	No
Existing/Baseline	BT14A	Naphthalene	91203	4.68E-06	Yes
Existing/Baseline	BT14A	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	BT14A	Ndecane	124185	2.77E-06	No
Existing/Baseline	BT14A	Ndodecane	112403	4.00E-06	No
Existing/Baseline	BT14A	Nheptane	142825	5.54E-07	No
Existing/Baseline	BT14A	Nickel	7440020	3.31E-07	Yes
Existing/Baseline	BT14A	Nnonane	111842	5.37E-07	No
Existing/Baseline	BT14A	Noctane	111659	5.37E-07	No
Existing/Baseline	BT14A	Npentane	109660	1.71E-06	No
Existing/Baseline	BT14A	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	BT14A	Npropylbenzene	103651	4.59E-07	No
Existing/Baseline	BT14A	Ntridecane	629505	4.63E-06	No
Existing/Baseline	BT14A	Nundecane	1120214	3.84E-06	No
Existing/Baseline	BT14A	oTolualdehyde	529204	1.99E-06	No
Existing/Baseline	BT14A	Oxylene	95476	1.44E-06	Yes
Existing/Baseline	BT14A	Pentadecane	629629	1.50E-06	No
Existing/Baseline	BT14A	Phenol (carbolic acid)	108952	6.29E-06	Yes
Existing/Baseline	BT14A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	BT14A	Potassium ion	7440097	8.06E-07	No
Existing/Baseline	BT14A	Propane	74986	6.75E-07	No
Existing/Baseline	BT14A	Propionaldehyde	123386	6.29E-06	No
Existing/Baseline	BT14A	Propylene	115071	3.93E-05	Yes
Existing/Baseline	BT14A	pTolualdehyde	104870	4.16E-07	No
Existing/Baseline	BT14A	Silicon	7440213	3.60E-06	No
Existing/Baseline	BT14A	Silver	7440224	6.08E-07	No
Existing/Baseline	BT14A	Styrene	100425	2.68E-06	Yes
Existing/Baseline	BT14A	Sulfate	9960	2.07E-04	Yes
Existing/Baseline	BT14A	Sulfur	7704349	0.00E+00	No
Existing/Baseline	BT14A	Tetradecane	629594	3.60E-06	No
Existing/Baseline	BT14A	Thallium	7440280	0.00E+00	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	BT14A	Titanium	7440326	4.75E-08	No
Existing/Baseline	BT14A	Toluene	108883	5.56E-06	Yes
Existing/Baseline	BT14A	Trans2hexene	4050457	2.60E-07	No
Existing/Baseline	BT14A	Trans2pentene	646048	3.11E-06	No
Existing/Baseline	BT14A	Valeraldehyde	110623	2.12E-06	No
Existing/Baseline	BT14A	Xylenes	1330207	2.44E-06	Yes
Existing/Baseline	BT14A	Zinc	7440666	1.46E-07	No
Existing/Baseline	BT14B	1,2,3trimethylbenzene	526738	4.73E-07	No
Existing/Baseline	BT14B	1,2,4Trimethylbenzene	95636	1.56E-06	No
Existing/Baseline	BT14B	1,3,5trimethylbenzene	108678	2.41E-07	No
Existing/Baseline	BT14B	1,3butadiene	106990	7.53E-06	Yes
Existing/Baseline	BT14B	1butene	106989	7.83E-06	No
Existing/Baseline	BT14B	1decene	872059	8.25E-07	No
Existing/Baseline	BT14B	1hexene	592416	3.28E-06	No
Existing/Baseline	BT14B	1Methyl2Ethylbenzene	611143	2.90E-07	No
Existing/Baseline	BT14B	1Methyl3Ethylbenzene	620144	6.87E-07	No
Existing/Baseline	BT14B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	2.86E-07	No
Existing/Baseline	BT14B	1Methylnaphthalene	90120	1.10E-06	No
Existing/Baseline	BT14B	1nonene	124118	1.10E-06	No
Existing/Baseline	BT14B	1octene	111660	1.23E-06	No
Existing/Baseline	BT14B	1pentene	109671	3.46E-06	No
Existing/Baseline	BT14B	2methyl1butene	563462	6.25E-07	No
Existing/Baseline	BT14B	2methyl1pentene	763291	1.52E-07	No
Existing/Baseline	BT14B	2methyl2butene	513359	8.25E-07	No
Existing/Baseline	BT14B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.91E-06	No
Existing/Baseline	BT14B	2methylnaphthalene	91576	9.19E-07	No
Existing/Baseline	BT14B	2Methylpentane	107835	1.82E-06	No
Existing/Baseline	BT14B	3methyl1butene	563451	5.00E-07	No
Existing/Baseline	BT14B	4methyl1pentene	691372	3.08E-07	No
Existing/Baseline	BT14B	Acetaldehyde	75070	1.91E-05	Yes
Existing/Baseline	BT14B	Acetone	67641	1.65E-06	No
Existing/Baseline	BT14B	Acetylene	74862	1.76E-05	No
Existing/Baseline	BT14B	Acrolein (2propenal)	107028	1.09E-05	Yes
Existing/Baseline	BT14B	Ammonium	14798039	4.76E-05	No
Existing/Baseline	BT14B	Antimony	7440360	0.00E+00	No
Existing/Baseline	BT14B	Benzaldehyde	100527	2.10E-06	No
Existing/Baseline	BT14B	Benzene	71432	7.50E-06	Yes
Existing/Baseline	BT14B	Bromine	7726956	1.32E-07	No
Existing/Baseline	BT14B	Butyraldehyde	123728	5.31E-07	No
Existing/Baseline	BT14B	Calcium	7440702	0.00E+00	No
Existing/Baseline	BT14B	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	BT14B	Chromium	7440473	1.74E-07	No
Existing/Baseline	BT14B	Cis2butene	590181	9.37E-07	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	BT14B	Cis2pentene	627203	1.23E-06	No
Existing/Baseline	BT14B	Copper	7440508	1.44E-06	Yes
Existing/Baseline	BT14B	Crotonaldehyde (or 2Butenal)	4170303	4.61E-06	No
Existing/Baseline	BT14B	Cumene	98828	1.34E-08	No
Existing/Baseline	BT14B	Decanal	112312	2.61E-05	No
Existing/Baseline	BT14B	Dimethyl napthalene	28804888	4.02E-07	No
Existing/Baseline	BT14B	Dodecenal	112549	1.30E-05	No
Existing/Baseline	BT14B	Elemental Carbon	7440440	1.44E-04	No
Existing/Baseline	BT14B	Ethane	74840	2.32E-06	No
Existing/Baseline	BT14B	Ethylbenzene	100414	7.76E-07	Yes
Existing/Baseline	BT14B	Ethylene	74851	6.90E-05	No
Existing/Baseline	BT14B	Formaldehyde	50000	5.49E-05	Yes
Existing/Baseline	BT14B	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	BT14B	Glyoxal	107222	8.10E-06	No
Existing/Baseline	BT14B	Heptadecane	629787	4.02E-08	No
Existing/Baseline	BT14B	Heptene	25339564	1.95E-06	No
Existing/Baseline	BT14B	Hexadecane	544763	2.19E-07	No
Existing/Baseline	BT14B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	BT14B	Indium	7440746	0.00E+00	No
Existing/Baseline	BT14B	Insolchlorine	7782505	4.79E-07	Yes
Existing/Baseline	BT14B	Iron	7439896	0.00E+00	No
Existing/Baseline	BT14B	Isovaleraldehyde	590863	1.43E-07	No
Existing/Baseline	BT14B	Magnesium	7439954	7.68E-07	No
Existing/Baseline	BT14B	Manganese	7439965	1.22E-07	Yes
Existing/Baseline	BT14B	Methane	74828	0.00E+00	No
Existing/Baseline	BT14B	Methanol	67561	8.05E-06	Yes
Existing/Baseline	BT14B	Methylglyoxal	78988	6.71E-06	No
Existing/Baseline	BT14B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.24E-06	No
Existing/Baseline	BT14B	Naphthalene	91203	2.41E-06	Yes
Existing/Baseline	BT14B	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	BT14B	Ndecane	124185	1.43E-06	No
Existing/Baseline	BT14B	Ndodecane	112403	2.06E-06	No
Existing/Baseline	BT14B	Nheptane	142825	2.86E-07	No
Existing/Baseline	BT14B	Nickel	7440020	2.45E-07	Yes
Existing/Baseline	BT14B	Nnonane	111842	2.77E-07	No
Existing/Baseline	BT14B	Noctane	111659	2.77E-07	No
Existing/Baseline	BT14B	Npentane	109660	8.83E-07	No
Existing/Baseline	BT14B	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	BT14B	Npropylbenzene	103651	2.36E-07	No
Existing/Baseline	BT14B	Ntridecane	629505	2.39E-06	No
Existing/Baseline	BT14B	Nundecane	1120214	1.98E-06	No
Existing/Baseline	BT14B	oTolualdehyde	529204	1.03E-06	No
Existing/Baseline	BT14B	Oxylene	95476	7.41E-07	Yes
Existing/Baseline	BT14B	Pentadecane	629629	7.72E-07	No
Existing/Baseline	BT14B	Phenol (carbolic acid)	108952	3.24E-06	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	BT14B	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	BT14B	Potassium ion	7440097	5.96E-07	No
Existing/Baseline	BT14B	Propane	74986	3.48E-07	No
Existing/Baseline	BT14B	Propionaldehyde	123386	3.24E-06	No
Existing/Baseline	BT14B	Propylene	115071	2.02E-05	Yes
Existing/Baseline	BT14B	pTolualdehyde	104870	2.14E-07	No
Existing/Baseline	BT14B	Silicon	7440213	2.66E-06	No
Existing/Baseline	BT14B	Silver	7440224	4.49E-07	No
Existing/Baseline	BT14B	Styrene	100425	1.38E-06	Yes
Existing/Baseline	BT14B	Sulfate	9960	1.53E-04	Yes
Existing/Baseline	BT14B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	BT14B	Tetradecane	629594	1.86E-06	No
Existing/Baseline	BT14B	Thallium	7440280	0.00E+00	No
Existing/Baseline	BT14B	Titanium	7440326	3.51E-08	No
Existing/Baseline	BT14B	Toluene	108883	2.86E-06	Yes
Existing/Baseline	BT14B	Trans2hexene	4050457	1.34E-07	No
Existing/Baseline	BT14B	Trans2pentene	646048	1.60E-06	No
Existing/Baseline	BT14B	Valeraldehyde	110623	1.09E-06	No
Existing/Baseline	BT14B	Xylenes	1330207	1.26E-06	Yes
Existing/Baseline	BT14B	Zinc	7440666	1.08E-07	No
Existing/Baseline	BT23A	1,2,3trimethylbenzene	526738	1.05E-07	No
Existing/Baseline	BT23A	1,2,4Trimethylbenzene	95636	3.45E-07	No
Existing/Baseline	BT23A	1,3,5trimethylbenzene	108678	5.33E-08	No
Existing/Baseline	BT23A	1,3butadiene	106990	1.66E-06	Yes
Existing/Baseline	BT23A	1butene	106989	1.73E-06	No
Existing/Baseline	BT23A	1decene	872059	1.83E-07	No
Existing/Baseline	BT23A	1hexene	592416	7.26E-07	No
Existing/Baseline	BT23A	1Methyl2Ethylbenzene	611143	6.41E-08	No
Existing/Baseline	BT23A	1Methyl3Ethylbenzene	620144	1.52E-07	No
Existing/Baseline	BT23A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	6.32E-08	No
Existing/Baseline	BT23A	1Methylnaphthalene	90120	2.44E-07	No
Existing/Baseline	BT23A	1nonene	124118	2.43E-07	No
Existing/Baseline	BT23A	1octene	111660	2.72E-07	No
Existing/Baseline	BT23A	1pentene	109671	7.66E-07	No
Existing/Baseline	BT23A	2methyl1butene	563462	1.38E-07	No
Existing/Baseline	BT23A	2methyl1pentene	763291	3.36E-08	No
Existing/Baseline	BT23A	2methyl2butene	513359	1.83E-07	No
Existing/Baseline	BT23A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	4.23E-07	No
Existing/Baseline	BT23A	2methylnaphthalene	91576	2.03E-07	No
Existing/Baseline	BT23A	2Methylpentane	107835	4.03E-07	No
Existing/Baseline	BT23A	3methyl1butene	563451	1.11E-07	No
Existing/Baseline	BT23A	4methyl1pentene	691372	6.81E-08	No
Existing/Baseline	BT23A	Acetaldehyde	75070	4.22E-06	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	BT23A	Acetone	67641	3.64E-07	No
Existing/Baseline	BT23A	Acetylene	74862	3.89E-06	No
Existing/Baseline	BT23A	Acrolein (2propenal)	107028	2.42E-06	Yes
Existing/Baseline	BT23A	Ammonium	14798039	7.34E-06	No
Existing/Baseline	BT23A	Antimony	7440360	0.00E+00	No
Existing/Baseline	BT23A	Benzaldehyde	100527	4.64E-07	No
Existing/Baseline	BT23A	Benzene	71432	1.66E-06	Yes
Existing/Baseline	BT23A	Bromine	7726956	2.04E-08	No
Existing/Baseline	BT23A	Butyraldehyde	123728	1.17E-07	No
Existing/Baseline	BT23A	Calcium	7440702	0.00E+00	No
Existing/Baseline	BT23A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	BT23A	Chromium	7440473	2.69E-08	No
Existing/Baseline	BT23A	Cis2butene	590181	2.07E-07	No
Existing/Baseline	BT23A	Cis2pentene	627203	2.72E-07	No
Existing/Baseline	BT23A	Copper	7440508	2.22E-07	Yes
Existing/Baseline	BT23A	Crotonaldehyde (or 2Butenal)	4170303	1.02E-06	No
Existing/Baseline	BT23A	Cumene	98828	2.96E-09	No
Existing/Baseline	BT23A	Decanal	112312	5.77E-06	No
Existing/Baseline	BT23A	Dimethyl napthalene	28804888	8.88E-08	No
Existing/Baseline	BT23A	Dodecenal	112549	2.88E-06	No
Existing/Baseline	BT23A	Elemental Carbon	7440440	2.22E-05	No
Existing/Baseline	BT23A	Ethane	74840	5.14E-07	No
Existing/Baseline	BT23A	Ethylbenzene	100414	1.72E-07	Yes
Existing/Baseline	BT23A	Ethylene	74851	1.53E-05	No
Existing/Baseline	BT23A	Formaldehyde	50000	1.21E-05	Yes
Existing/Baseline	BT23A	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	BT23A	Glyoxal	107222	1.79E-06	No
Existing/Baseline	BT23A	Heptadecane	629787	8.88E-09	No
Existing/Baseline	BT23A	Heptene	25339564	4.32E-07	No
Existing/Baseline	BT23A	Hexadecane	544763	4.84E-08	No
Existing/Baseline	BT23A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	BT23A	Indium	7440746	0.00E+00	No
Existing/Baseline	BT23A	Insolchlorine	7782505	7.38E-08	Yes
Existing/Baseline	BT23A	Iron	7439896	0.00E+00	No
Existing/Baseline	BT23A	Isovaleraldehyde	590863	3.16E-08	No
Existing/Baseline	BT23A	Magnesium	7439954	1.18E-07	No
Existing/Baseline	BT23A	Manganese	7439965	1.88E-08	Yes
Existing/Baseline	BT23A	Methane	74828	0.00E+00	No
Existing/Baseline	BT23A	Methanol	67561	1.78E-06	Yes
Existing/Baseline	BT23A	Methylglyoxal	78988	1.48E-06	No
Existing/Baseline	BT23A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.74E-07	No
Existing/Baseline	BT23A	Naphthalene	91203	5.34E-07	Yes
Existing/Baseline	BT23A	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	BT23A	Ndecane	124185	3.16E-07	No
Existing/Baseline	BT23A	Ndodecane	112403	4.56E-07	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	BT23A	Nheptane	142825	6.32E-08	No
Existing/Baseline	BT23A	Nickel	7440020	3.77E-08	Yes
Existing/Baseline	BT23A	Nnonane	111842	6.12E-08	No
Existing/Baseline	BT23A	Noctane	111659	6.12E-08	No
Existing/Baseline	BT23A	Npentane	109660	1.95E-07	No
Existing/Baseline	BT23A	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	BT23A	Npropylbenzene	103651	5.23E-08	No
Existing/Baseline	BT23A	Ntridecane	629505	5.28E-07	No
Existing/Baseline	BT23A	Nundecane	1120214	4.38E-07	No
Existing/Baseline	BT23A	oTolualdehyde	529204	2.27E-07	No
Existing/Baseline	BT23A	Oxylene	95476	1.64E-07	Yes
Existing/Baseline	BT23A	Pentadecane	629629	1.71E-07	No
Existing/Baseline	BT23A	Phenol (carbolic acid)	108952	7.16E-07	Yes
Existing/Baseline	BT23A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	BT23A	Potassium ion	7440097	9.19E-08	No
Existing/Baseline	BT23A	Propane	74986	7.70E-08	No
Existing/Baseline	BT23A	Propionaldehyde	123386	7.17E-07	No
Existing/Baseline	BT23A	Propylene	115071	4.47E-06	Yes
Existing/Baseline	BT23A	pTolualdehyde	104870	4.74E-08	No
Existing/Baseline	BT23A	Silicon	7440213	4.11E-07	No
Existing/Baseline	BT23A	Silver	7440224	6.93E-08	No
Existing/Baseline	BT23A	Styrene	100425	3.05E-07	Yes
Existing/Baseline	BT23A	Sulfate	9960	2.36E-05	Yes
Existing/Baseline	BT23A	Sulfur	7704349	0.00E+00	No
Existing/Baseline	BT23A	Tetradecane	629594	4.11E-07	No
Existing/Baseline	BT23A	Thallium	7440280	0.00E+00	No
Existing/Baseline	BT23A	Titanium	7440326	5.42E-09	No
Existing/Baseline	BT23A	Toluene	108883	6.34E-07	Yes
Existing/Baseline	BT23A	Trans2hexene	4050457	2.96E-08	No
Existing/Baseline	BT23A	Trans2pentene	646048	3.54E-07	No
Existing/Baseline	BT23A	Valeraldehyde	110623	2.42E-07	No
Existing/Baseline	BT23A	Xylenes	1330207	2.78E-07	Yes
Existing/Baseline	BT23A	Zinc	7440666	1.67E-08	No
Existing/Baseline	BT23B	1,2,3trimethylbenzene	526738	5.39E-08	No
Existing/Baseline	BT23B	1,2,4Trimethylbenzene	95636	1.78E-07	No
Existing/Baseline	BT23B	1,3,5trimethylbenzene	108678	2.75E-08	No
Existing/Baseline	BT23B	1,3butadiene	106990	8.58E-07	Yes
Existing/Baseline	BT23B	1butene	106989	8.92E-07	No
Existing/Baseline	BT23B	1decene	872059	9.41E-08	No
Existing/Baseline	BT23B	1hexene	592416	3.74E-07	No
Existing/Baseline	BT23B	1Methyl2Ethylbenzene	611143	3.31E-08	No
Existing/Baseline	BT23B	1Methyl3Ethylbenzene	620144	7.83E-08	No
Existing/Baseline	BT23B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	3.25E-08	No
Existing/Baseline	BT23B	1Methylnaphthalene	90120	1.26E-07	No
Existing/Baseline	BT23B	1nonene	124118	1.25E-07	No
Existing/Baseline	BT23B	1octene	111660	1.40E-07	No
Existing/Baseline	BT23B	1pentene	109671	3.95E-07	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	BT23B	2methyl1butene	563462	7.12E-08	No
Existing/Baseline	BT23B	2methyl1pentene	763291	1.73E-08	No
Existing/Baseline	BT23B	2methyl2butene	513359	9.41E-08	No
Existing/Baseline	BT23B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	2.18E-07	No
Existing/Baseline	BT23B	2methylnaphthalene	91576	1.05E-07	No
Existing/Baseline	BT23B	2Methylpentane	107835	2.07E-07	No
Existing/Baseline	BT23B	3methyl1butene	563451	5.70E-08	No
Existing/Baseline	BT23B	4methyl1pentene	691372	3.51E-08	No
Existing/Baseline	BT23B	Acetaldehyde	75070	2.17E-06	Yes
Existing/Baseline	BT23B	Acetone	67641	1.88E-07	No
Existing/Baseline	BT23B	Acetylene	74862	2.00E-06	No
Existing/Baseline	BT23B	Acrolein (2propenal)	107028	1.25E-06	Yes
Existing/Baseline	BT23B	Ammonium	14798039	5.42E-06	No
Existing/Baseline	BT23B	Antimony	7440360	0.00E+00	No
Existing/Baseline	BT23B	Benzaldehyde	100527	2.39E-07	No
Existing/Baseline	BT23B	Benzene	71432	8.55E-07	Yes
Existing/Baseline	BT23B	Bromine	7726956	1.51E-08	No
Existing/Baseline	BT23B	Butyraldehyde	123728	6.05E-08	No
Existing/Baseline	BT23B	Calcium	7440702	0.00E+00	No
Existing/Baseline	BT23B	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	BT23B	Chromium	7440473	1.99E-08	No
Existing/Baseline	BT23B	Cis2butene	590181	1.07E-07	No
Existing/Baseline	BT23B	Cis2pentene	627203	1.40E-07	No
Existing/Baseline	BT23B	Copper	7440508	1.64E-07	Yes
Existing/Baseline	BT23B	Crotonaldehyde (or 2Butenal)	4170303	5.25E-07	No
Existing/Baseline	BT23B	Cumene	98828	1.53E-09	No
Existing/Baseline	BT23B	Decanal	112312	2.97E-06	No
Existing/Baseline	BT23B	Dimethyl napthalene	28804888	4.58E-08	No
Existing/Baseline	BT23B	Dodecenal	112549	1.49E-06	No
Existing/Baseline	BT23B	Elemental Carbon	7440440	1.64E-05	No
Existing/Baseline	BT23B	Ethane	74840	2.65E-07	No
Existing/Baseline	BT23B	Ethylbenzene	100414	8.85E-08	Yes
Existing/Baseline	BT23B	Ethylene	74851	7.86E-06	No
Existing/Baseline	BT23B	Formaldehyde	50000	6.26E-06	Yes
Existing/Baseline	BT23B	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	BT23B	Glyoxal	107222	9.24E-07	No
Existing/Baseline	BT23B	Heptadecane	629787	4.58E-09	No
Existing/Baseline	BT23B	Heptene	25339564	2.23E-07	No
Existing/Baseline	BT23B	Hexadecane	544763	2.49E-08	No
Existing/Baseline	BT23B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	BT23B	Indium	7440746	0.00E+00	No
Existing/Baseline	BT23B	Insolchlorine	7782505	5.46E-08	Yes
Existing/Baseline	BT23B	Iron	7439896	0.00E+00	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	BT23B	Isovaleraldehyde	590863	1.63E-08	No
Existing/Baseline	BT23B	Magnesium	7439954	8.75E-08	No
Existing/Baseline	BT23B	Manganese	7439965	1.39E-08	Yes
Existing/Baseline	BT23B	Methane	74828	0.00E+00	No
Existing/Baseline	BT23B	Methanol	67561	9.18E-07	Yes
Existing/Baseline	BT23B	Methylglyoxal	78988	7.64E-07	No
Existing/Baseline	BT23B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.41E-07	No
Existing/Baseline	BT23B	Naphthalene	91203	2.75E-07	Yes
Existing/Baseline	BT23B	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	BT23B	Ndecane	124185	1.63E-07	No
Existing/Baseline	BT23B	Ndodecane	112403	2.35E-07	No
Existing/Baseline	BT23B	Nheptane	142825	3.25E-08	No
Existing/Baseline	BT23B	Nickel	7440020	2.79E-08	Yes
Existing/Baseline	BT23B	Nnonane	111842	3.15E-08	No
Existing/Baseline	BT23B	Noctane	111659	3.15E-08	No
Existing/Baseline	BT23B	Npentane	109660	1.01E-07	No
Existing/Baseline	BT23B	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	BT23B	Npropylbenzene	103651	2.70E-08	No
Existing/Baseline	BT23B	Ntridecane	629505	2.72E-07	No
Existing/Baseline	BT23B	Nundecane	1120214	2.26E-07	No
Existing/Baseline	BT23B	oTolualdehyde	529204	1.17E-07	No
Existing/Baseline	BT23B	Oxylene	95476	8.44E-08	Yes
Existing/Baseline	BT23B	Pentadecane	629629	8.80E-08	No
Existing/Baseline	BT23B	Phenol (carbolic acid)	108952	3.69E-07	Yes
Existing/Baseline	BT23B	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	BT23B	Potassium ion	7440097	6.79E-08	No
Existing/Baseline	BT23B	Propane	74986	3.97E-08	No
Existing/Baseline	BT23B	Propionaldehyde	123386	3.70E-07	No
Existing/Baseline	BT23B	Propylene	115071	2.31E-06	Yes
Existing/Baseline	BT23B	pTolualdehyde	104870	2.44E-08	No
Existing/Baseline	BT23B	Silicon	7440213	3.04E-07	No
Existing/Baseline	BT23B	Silver	7440224	5.12E-08	No
Existing/Baseline	BT23B	Styrene	100425	1.57E-07	Yes
Existing/Baseline	BT23B	Sulfate	9960	1.75E-05	Yes
Existing/Baseline	BT23B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	BT23B	Tetradecane	629594	2.12E-07	No
Existing/Baseline	BT23B	Thallium	7440280	0.00E+00	No
Existing/Baseline	BT23B	Titanium	7440326	4.00E-09	No
Existing/Baseline	BT23B	Toluene	108883	3.27E-07	Yes
Existing/Baseline	BT23B	Trans2hexene	4050457	1.53E-08	No
Existing/Baseline	BT23B	Trans2pentene	646048	1.83E-07	No
Existing/Baseline	BT23B	Valeraldehyde	110623	1.25E-07	No
Existing/Baseline	BT23B	Xylenes	1330207	1.43E-07	Yes
Existing/Baseline	BT23B	Zinc	7440666	1.23E-08	No
Existing/Baseline	BT27A	1,2,3trimethylbenzene	526738	2.27E-07	No
Existing/Baseline	BT27A	1,2,4Trimethylbenzene	95636	7.51E-07	No
Existing/Baseline	BT27A	1,3,5trimethylbenzene	108678	1.16E-07	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	BT27A	1,3butadiene	106990	3.62E-06	Yes
Existing/Baseline	BT27A	1butene	106989	3.76E-06	No
Existing/Baseline	BT27A	1decene	872059	3.97E-07	No
Existing/Baseline	BT27A	1hexene	592416	1.58E-06	No
Existing/Baseline	BT27A	1Methyl2Ethylbenzene	611143	1.39E-07	No
Existing/Baseline	BT27A	1Methyl3Ethylbenzene	620144	3.30E-07	No
Existing/Baseline	BT27A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.37E-07	No
Existing/Baseline	BT27A	1Methylnaphthalene	90120	5.30E-07	No
Existing/Baseline	BT27A	1nonene	124118	5.28E-07	No
Existing/Baseline	BT27A	1octene	111660	5.92E-07	No
Existing/Baseline	BT27A	1pentene	109671	1.66E-06	No
Existing/Baseline	BT27A	2methyl1butene	563462	3.00E-07	No
Existing/Baseline	BT27A	2methyl1pentene	763291	7.29E-08	No
Existing/Baseline	BT27A	2methyl2butene	513359	3.97E-07	No
Existing/Baseline	BT27A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	9.20E-07	No
Existing/Baseline	BT27A	2methylnaphthalene	91576	4.42E-07	No
Existing/Baseline	BT27A	2Methylpentane	107835	8.75E-07	No
Existing/Baseline	BT27A	3methyl1butene	563451	2.40E-07	No
Existing/Baseline	BT27A	4methyl1pentene	691372	1.48E-07	No
Existing/Baseline	BT27A	Acetaldehyde	75070	9.17E-06	Yes
Existing/Baseline	BT27A	Acetone	67641	7.92E-07	No
Existing/Baseline	BT27A	Acetylene	74862	8.45E-06	No
Existing/Baseline	BT27A	Acrolein (2propenal)	107028	5.25E-06	Yes
Existing/Baseline	BT27A	Ammonium	14798039	1.60E-05	No
Existing/Baseline	BT27A	Antimony	7440360	0.00E+00	No
Existing/Baseline	BT27A	Benzaldehyde	100527	1.01E-06	No
Existing/Baseline	BT27A	Benzene	71432	3.61E-06	Yes
Existing/Baseline	BT27A	Bromine	7726956	4.44E-08	No
Existing/Baseline	BT27A	Butyraldehyde	123728	2.55E-07	No
Existing/Baseline	BT27A	Calcium	7440702	0.00E+00	No
Existing/Baseline	BT27A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	BT27A	Chromium	7440473	5.84E-08	No
Existing/Baseline	BT27A	Cis2butene	590181	4.51E-07	No
Existing/Baseline	BT27A	Cis2pentene	627203	5.92E-07	No
Existing/Baseline	BT27A	Copper	7440508	4.82E-07	Yes
Existing/Baseline	BT27A	Crotonaldehyde (or 2Butenal)	4170303	2.22E-06	No
Existing/Baseline	BT27A	Cumene	98828	6.44E-09	No
Existing/Baseline	BT27A	Decanal	112312	1.25E-05	No
Existing/Baseline	BT27A	Dimethyl napthalene	28804888	1.93E-07	No
Existing/Baseline	BT27A	Dodecenal	112549	6.27E-06	No
Existing/Baseline	BT27A	Elemental Carbon	7440440	4.83E-05	No
Existing/Baseline	BT27A	Ethane	74840	1.12E-06	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	BT27A	Ethylbenzene	100414	3.73E-07	Yes
Existing/Baseline	BT27A	Ethylene	74851	3.32E-05	No
Existing/Baseline	BT27A	Formaldehyde	50000	2.64E-05	Yes
Existing/Baseline	BT27A	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	BT27A	Glyoxal	107222	3.90E-06	No
Existing/Baseline	BT27A	Heptadecane	629787	1.93E-08	No
Existing/Baseline	BT27A	Heptene	25339564	9.40E-07	No
Existing/Baseline	BT27A	Hexadecane	544763	1.05E-07	No
Existing/Baseline	BT27A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	BT27A	Indium	7440746	0.00E+00	No
Existing/Baseline	BT27A	Insolchlorine	7782505	1.61E-07	Yes
Existing/Baseline	BT27A	Iron	7439896	0.00E+00	No
Existing/Baseline	BT27A	Isovaleraldehyde	590863	6.87E-08	No
Existing/Baseline	BT27A	Magnesium	7439954	2.58E-07	No
Existing/Baseline	BT27A	Manganese	7439965	4.09E-08	Yes
Existing/Baseline	BT27A	Methane	74828	0.00E+00	No
Existing/Baseline	BT27A	Methanol	67561	3.87E-06	Yes
Existing/Baseline	BT27A	Methylglyoxal	78988	3.22E-06	No
Existing/Baseline	BT27A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	5.96E-07	No
Existing/Baseline	BT27A	Naphthalene	91203	1.16E-06	Yes
Existing/Baseline	BT27A	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	BT27A	Ndecane	124185	6.87E-07	No
Existing/Baseline	BT27A	Ndodecane	112403	9.91E-07	No
Existing/Baseline	BT27A	Nheptane	142825	1.37E-07	No
Existing/Baseline	BT27A	Nickel	7440020	8.20E-08	Yes
Existing/Baseline	BT27A	Nnonane	111842	1.33E-07	No
Existing/Baseline	BT27A	Noctane	111659	1.33E-07	No
Existing/Baseline	BT27A	Npentane	109660	4.25E-07	No
Existing/Baseline	BT27A	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	BT27A	Npropylbenzene	103651	1.14E-07	No
Existing/Baseline	BT27A	Ntridecane	629505	1.15E-06	No
Existing/Baseline	BT27A	Nundecane	1120214	9.53E-07	No
Existing/Baseline	BT27A	oTolualdehyde	529204	4.93E-07	No
Existing/Baseline	BT27A	Oxylene	95476	3.56E-07	Yes
Existing/Baseline	BT27A	Pentadecane	629629	3.71E-07	No
Existing/Baseline	BT27A	Phenol (carbolic acid)	108952	1.56E-06	Yes
Existing/Baseline	BT27A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	BT27A	Potassium ion	7440097	2.00E-07	No
Existing/Baseline	BT27A	Propane	74986	1.67E-07	No
Existing/Baseline	BT27A	Propionaldehyde	123386	1.56E-06	No
Existing/Baseline	BT27A	Propylene	115071	9.73E-06	Yes
Existing/Baseline	BT27A	pTolualdehyde	104870	1.03E-07	No
Existing/Baseline	BT27A	Silicon	7440213	8.93E-07	No
Existing/Baseline	BT27A	Silver	7440224	1.51E-07	No
Existing/Baseline	BT27A	Styrene	100425	6.63E-07	Yes
Existing/Baseline	BT27A	Sulfate	9960	5.14E-05	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	BT27A	Sulfur	7704349	0.00E+00	No
Existing/Baseline	BT27A	Tetradecane	629594	8.93E-07	No
Existing/Baseline	BT27A	Thallium	7440280	0.00E+00	No
Existing/Baseline	BT27A	Titanium	7440326	1.18E-08	No
Existing/Baseline	BT27A	Toluene	108883	1.38E-06	Yes
Existing/Baseline	BT27A	Trans2hexene	4050457	6.44E-08	No
Existing/Baseline	BT27A	Trans2pentene	646048	7.70E-07	No
Existing/Baseline	BT27A	Valeraldehyde	110623	5.26E-07	No
Existing/Baseline	BT27A	Xylenes	1330207	6.05E-07	Yes
Existing/Baseline	BT27A	Zinc	7440666	3.63E-08	No
Existing/Baseline	BT27B	1,2,3trimethylbenzene	526738	1.17E-07	No
Existing/Baseline	BT27B	1,2,4Trimethylbenzene	95636	3.87E-07	No
Existing/Baseline	BT27B	1,3,5trimethylbenzene	108678	5.97E-08	No
Existing/Baseline	BT27B	1,3butadiene	106990	1.87E-06	Yes
Existing/Baseline	BT27B	1butene	106989	1.94E-06	No
Existing/Baseline	BT27B	1decene	872059	2.05E-07	No
Existing/Baseline	BT27B	1hexene	592416	8.14E-07	No
Existing/Baseline	BT27B	1Methyl2Ethylbenzene	611143	7.19E-08	No
Existing/Baseline	BT27B	1Methyl3Ethylbenzene	620144	1.70E-07	No
Existing/Baseline	BT27B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	7.08E-08	No
Existing/Baseline	BT27B	1Methylnaphthalene	90120	2.73E-07	No
Existing/Baseline	BT27B	1nonene	124118	2.72E-07	No
Existing/Baseline	BT27B	1octene	111660	3.05E-07	No
Existing/Baseline	BT27B	1pentene	109671	8.58E-07	No
Existing/Baseline	BT27B	2methyl1butene	563462	1.55E-07	No
Existing/Baseline	BT27B	2methyl1pentene	763291	3.76E-08	No
Existing/Baseline	BT27B	2methyl2butene	513359	2.05E-07	No
Existing/Baseline	BT27B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	4.74E-07	No
Existing/Baseline	BT27B	2methylnaphthalene	91576	2.28E-07	No
Existing/Baseline	BT27B	2Methylpentane	107835	4.51E-07	No
Existing/Baseline	BT27B	3methyl1butene	563451	1.24E-07	No
Existing/Baseline	BT27B	4methyl1pentene	691372	7.63E-08	No
Existing/Baseline	BT27B	Acetaldehyde	75070	4.72E-06	Yes
Existing/Baseline	BT27B	Acetone	67641	4.08E-07	No
Existing/Baseline	BT27B	Acetylene	74862	4.36E-06	No
Existing/Baseline	BT27B	Acrolein (2propenal)	107028	2.71E-06	Yes
Existing/Baseline	BT27B	Ammonium	14798039	1.18E-05	No
Existing/Baseline	BT27B	Antimony	7440360	0.00E+00	No
Existing/Baseline	BT27B	Benzaldehyde	100527	5.20E-07	No
Existing/Baseline	BT27B	Benzene	71432	1.86E-06	Yes
Existing/Baseline	BT27B	Bromine	7726956	3.28E-08	No
Existing/Baseline	BT27B	Butyraldehyde	123728	1.32E-07	No
Existing/Baseline	BT27B	Calcium	7440702	0.00E+00	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	BT27B	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	BT27B	Chromium	7440473	4.32E-08	No
Existing/Baseline	BT27B	Cis2butene	590181	2.32E-07	No
Existing/Baseline	BT27B	Cis2pentene	627203	3.05E-07	No
Existing/Baseline	BT27B	Copper	7440508	3.56E-07	Yes
Existing/Baseline	BT27B	Crotonaldehyde (or 2Butenal)	4170303	1.14E-06	No
Existing/Baseline	BT27B	Cumene	98828	3.32E-09	No
Existing/Baseline	BT27B	Decanal	112312	6.46E-06	No
Existing/Baseline	BT27B	Dimethyl napthalene	28804888	9.95E-08	No
Existing/Baseline	BT27B	Dodecenal	112549	3.23E-06	No
Existing/Baseline	BT27B	Elemental Carbon	7440440	3.57E-05	No
Existing/Baseline	BT27B	Ethane	74840	5.76E-07	No
Existing/Baseline	BT27B	Ethylbenzene	100414	1.92E-07	Yes
Existing/Baseline	BT27B	Ethylene	74851	1.71E-05	No
Existing/Baseline	BT27B	Formaldehyde	50000	1.36E-05	Yes
Existing/Baseline	BT27B	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	BT27B	Glyoxal	107222	2.01E-06	No
Existing/Baseline	BT27B	Heptadecane	629787	9.95E-09	No
Existing/Baseline	BT27B	Heptene	25339564	4.84E-07	No
Existing/Baseline	BT27B	Hexadecane	544763	5.42E-08	No
Existing/Baseline	BT27B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	BT27B	Indium	7440746	0.00E+00	No
Existing/Baseline	BT27B	Insolchlorine	7782505	1.19E-07	Yes
Existing/Baseline	BT27B	Iron	7439896	0.00E+00	No
Existing/Baseline	BT27B	Isovaleraldehyde	590863	3.54E-08	No
Existing/Baseline	BT27B	Magnesium	7439954	1.90E-07	No
Existing/Baseline	BT27B	Manganese	7439965	3.02E-08	Yes
Existing/Baseline	BT27B	Methane	74828	0.00E+00	No
Existing/Baseline	BT27B	Methanol	67561	2.00E-06	Yes
Existing/Baseline	BT27B	Methylglyoxal	78988	1.66E-06	No
Existing/Baseline	BT27B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	3.07E-07	No
Existing/Baseline	BT27B	Naphthalene	91203	5.98E-07	Yes
Existing/Baseline	BT27B	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	BT27B	Ndecane	124185	3.54E-07	No
Existing/Baseline	BT27B	Ndodecane	112403	5.11E-07	No
Existing/Baseline	BT27B	Nheptane	142825	7.08E-08	No
Existing/Baseline	BT27B	Nickel	7440020	6.06E-08	Yes
Existing/Baseline	BT27B	Nnonane	111842	6.86E-08	No
Existing/Baseline	BT27B	Noctane	111659	6.86E-08	No
Existing/Baseline	BT27B	Npentane	109660	2.19E-07	No
Existing/Baseline	BT27B	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	BT27B	Npropylbenzene	103651	5.86E-08	No
Existing/Baseline	BT27B	Ntridecane	629505	5.92E-07	No
Existing/Baseline	BT27B	Nundecane	1120214	4.91E-07	No
Existing/Baseline	BT27B	oTolualdehyde	529204	2.54E-07	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	BT27B	Oxylene	95476	1.84E-07	Yes
Existing/Baseline	BT27B	Pentadecane	629629	1.91E-07	No
Existing/Baseline	BT27B	Phenol (carbolic acid)	108952	8.03E-07	Yes
Existing/Baseline	BT27B	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	BT27B	Potassium ion	7440097	1.48E-07	No
Existing/Baseline	BT27B	Propane	74986	8.62E-08	No
Existing/Baseline	BT27B	Propionaldehyde	123386	8.04E-07	No
Existing/Baseline	BT27B	Propylene	115071	5.01E-06	Yes
Existing/Baseline	BT27B	pTolualdehyde	104870	5.31E-08	No
Existing/Baseline	BT27B	Silicon	7440213	6.60E-07	No
Existing/Baseline	BT27B	Silver	7440224	1.11E-07	No
Existing/Baseline	BT27B	Styrene	100425	3.42E-07	Yes
Existing/Baseline	BT27B	Sulfate	9960	3.80E-05	Yes
Existing/Baseline	BT27B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	BT27B	Tetradecane	629594	4.60E-07	No
Existing/Baseline	BT27B	Thallium	7440280	0.00E+00	No
Existing/Baseline	BT27B	Titanium	7440326	8.71E-09	No
Existing/Baseline	BT27B	Toluene	108883	7.10E-07	Yes
Existing/Baseline	BT27B	Trans2hexene	4050457	3.32E-08	No
Existing/Baseline	BT27B	Trans2pentene	646048	3.97E-07	No
Existing/Baseline	BT27B	Valeraldehyde	110623	2.71E-07	No
Existing/Baseline	BT27B	Xylenes	1330207	3.12E-07	Yes
Existing/Baseline	BT27B	Zinc	7440666	2.68E-08	No
Existing/Baseline	CL01A	1,2,3trimethylbenzene	526738	2.71E-04	No
Existing/Baseline	CL01A	1,2,4Trimethylbenzene	95636	8.95E-04	No
Existing/Baseline	CL01A	1,3,5trimethylbenzene	108678	1.38E-04	No
Existing/Baseline	CL01A	1,3butadiene	106990	4.57E-03	Yes
Existing/Baseline	CL01A	1butene	106989	4.78E-03	No
Existing/Baseline	CL01A	1decene	872059	4.98E-04	No
Existing/Baseline	CL01A	1hexene	592416	2.01E-03	No
Existing/Baseline	CL01A	1Methyl2Ethylbenzene	611143	1.66E-04	No
Existing/Baseline	CL01A	1Methyl3Ethylbenzene	620144	3.94E-04	No
Existing/Baseline	CL01A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.64E-04	No
Existing/Baseline	CL01A	1Methylnaphthalene	90120	6.32E-04	No
Existing/Baseline	CL01A	1nonene	124118	6.65E-04	No
Existing/Baseline	CL01A	1octene	111660	7.47E-04	No
Existing/Baseline	CL01A	1pentene	109671	2.11E-03	No
Existing/Baseline	CL01A	2methyl1butene	563462	3.58E-04	No
Existing/Baseline	CL01A	2methyl1pentene	763291	8.70E-05	No
Existing/Baseline	CL01A	2methyl2butene	513359	5.03E-04	No
Existing/Baseline	CL01A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.10E-03	No
Existing/Baseline	CL01A	2methylnaphthalene	91576	5.27E-04	No
Existing/Baseline	CL01A	2Methylpentane	107835	1.10E-03	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CL01A	3methyl1butene	563451	2.86E-04	No
Existing/Baseline	CL01A	4methyl1pentene	691372	1.76E-04	No
Existing/Baseline	CL01A	Acetaldehyde	75070	1.16E-02	Yes
Existing/Baseline	CL01A	Acetone	67641	1.43E-03	No
Existing/Baseline	CL01A	Acetylene	74862	1.07E-02	No
Existing/Baseline	CL01A	Acrolein (2propenal)	107028	6.60E-03	Yes
Existing/Baseline	CL01A	Ammonium	14798039	1.57E-03	No
Existing/Baseline	CL01A	Antimony	7440360	0.00E+00	No
Existing/Baseline	CL01A	Benzaldehyde	100527	1.29E-03	No
Existing/Baseline	CL01A	Benzene	71432	4.59E-03	Yes
Existing/Baseline	CL01A	Bromine	7726956	4.38E-06	No
Existing/Baseline	CL01A	Butyraldehyde	123728	5.01E-04	No
Existing/Baseline	CL01A	Calcium	7440702	0.00E+00	No
Existing/Baseline	CL01A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	CL01A	Chromium	7440473	5.77E-06	No
Existing/Baseline	CL01A	Cis2butene	590181	6.11E-04	No
Existing/Baseline	CL01A	Cis2pentene	627203	7.06E-04	No
Existing/Baseline	CL01A	Copper	7440508	4.76E-05	Yes
Existing/Baseline	CL01A	Crotonaldehyde (or 2Butenal)	4170303	2.64E-03	No
Existing/Baseline	CL01A	Cumene	98828	7.67E-06	No
Existing/Baseline	CL01A	Decanal	112312	1.49E-02	No
Existing/Baseline	CL01A	Dimethyl napthalene	28804888	2.30E-04	No
Existing/Baseline	CL01A	Dodecenal	112549	7.47E-03	No
Existing/Baseline	CL01A	Elemental Carbon	7440440	4.76E-03	No
Existing/Baseline	CL01A	Ethane	74840	1.48E-03	No
Existing/Baseline	CL01A	Ethylbenzene	100414	4.70E-04	Yes
Existing/Baseline	CL01A	Ethylene	74851	4.21E-02	No
Existing/Baseline	CL01A	Formaldehyde	50000	3.38E-02	Yes
Existing/Baseline	CL01A	Furfuryl alcohol	98000	2.99E-04	No
Existing/Baseline	CL01A	Glyoxal	107222	5.06E-03	No
Existing/Baseline	CL01A	Heptadecane	629787	2.47E-05	No
Existing/Baseline	CL01A	Heptene	25339564	1.21E-03	No
Existing/Baseline	CL01A	Hexadecane	544763	1.48E-04	No
Existing/Baseline	CL01A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	3.30E-05	No
Existing/Baseline	CL01A	Indium	7440746	0.00E+00	No
Existing/Baseline	CL01A	Insolchlorine	7782505	1.58E-05	Yes
Existing/Baseline	CL01A	Iron	7439896	0.00E+00	No
Existing/Baseline	CL01A	Isovaleraldehyde	590863	8.18E-05	No
Existing/Baseline	CL01A	Lead	7439921	8.06E-04	Yes
Existing/Baseline	CL01A	Magnesium	7439954	2.54E-05	No
Existing/Baseline	CL01A	Manganese	7439965	4.04E-06	Yes
Existing/Baseline	CL01A	Methane	74828	1.81E-03	No
Existing/Baseline	CL01A	Methanol	67561	4.62E-03	Yes
Existing/Baseline	CL01A	Methylglyoxal	78988	3.84E-03	No
Existing/Baseline	CL01A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	7.11E-04	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CL01A	Naphthalene	91203	1.47E-03	Yes
Existing/Baseline	CL01A	N-butylbenzene	104518	3.63E-05	No
Existing/Baseline	CL01A	Ndecane	124185	8.88E-04	No
Existing/Baseline	CL01A	Ndodecane	112403	1.38E-03	No
Existing/Baseline	CL01A	Nheptane	142825	1.74E-04	No
Existing/Baseline	CL01A	Nickel	7440020	8.09E-06	Yes
Existing/Baseline	CL01A	Nnonane	111842	1.83E-04	No
Existing/Baseline	CL01A	Noctane	111659	1.65E-04	No
Existing/Baseline	CL01A	Npentane	109660	5.38E-04	No
Existing/Baseline	CL01A	Npentylbenzene	538681	2.81E-05	No
Existing/Baseline	CL01A	Npropylbenzene	103651	1.36E-04	No
Existing/Baseline	CL01A	Ntridecane	629505	1.48E-03	No
Existing/Baseline	CL01A	Nundecane	1120214	1.22E-03	No
Existing/Baseline	CL01A	oTolualdehyde	529204	5.88E-04	No
Existing/Baseline	CL01A	Oxylene	95476	4.54E-04	Yes
Existing/Baseline	CL01A	Pentadecane	629629	4.87E-04	No
Existing/Baseline	CL01A	Phenol (carbolic acid)	108952	1.89E-03	Yes
Existing/Baseline	CL01A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	CL01A	Potassium ion	7440097	1.97E-05	No
Existing/Baseline	CL01A	Propane	74986	2.32E-04	No
Existing/Baseline	CL01A	Propionaldehyde	123386	2.01E-03	No
Existing/Baseline	CL01A	Propylene	115071	1.24E-02	Yes
Existing/Baseline	CL01A	pTolualdehyde	104870	1.23E-04	No
Existing/Baseline	CL01A	Silicon	7440213	8.81E-05	No
Existing/Baseline	CL01A	Silver	7440224	1.49E-05	No
Existing/Baseline	CL01A	Styrene	100425	8.51E-04	Yes
Existing/Baseline	CL01A	Sulfate	9960	5.07E-03	Yes
Existing/Baseline	CL01A	Sulfur	7704349	0.00E+00	No
Existing/Baseline	CL01A	Tetradecane	629594	1.16E-03	No
Existing/Baseline	CL01A	Thallium	7440280	0.00E+00	No
Existing/Baseline	CL01A	Titanium	7440326	1.16E-06	No
Existing/Baseline	CL01A	Toluene	108883	1.72E-03	Yes
Existing/Baseline	CL01A	Trans2hexene	4050457	7.67E-05	No
Existing/Baseline	CL01A	Trans2pentene	646048	9.18E-04	No
Existing/Baseline	CL01A	Valeraldehyde	110623	6.27E-04	No
Existing/Baseline	CL01A	Xylenes	1330207	7.64E-04	Yes
Existing/Baseline	CL01A	Zinc	7440666	3.58E-06	No
Existing/Baseline	CL01B	1,2,3trimethylbenzene	526738	9.61E-05	No
Existing/Baseline	CL01B	1,2,4Trimethylbenzene	95636	3.17E-04	No
Existing/Baseline	CL01B	1,3,5trimethylbenzene	108678	4.90E-05	No
Existing/Baseline	CL01B	1,3butadiene	106990	1.67E-03	Yes
Existing/Baseline	CL01B	1butene	106989	1.75E-03	No
Existing/Baseline	CL01B	1decene	872059	1.81E-04	No
Existing/Baseline	CL01B	1hexene	592416	7.36E-04	No
Existing/Baseline	CL01B	1Methyl2Ethylbenzene	611143	5.89E-05	No
Existing/Baseline	CL01B	1Methyl3Ethylbenzene	620144	1.40E-04	No
Existing/Baseline	CL01B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	5.80E-05	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CL01B	1Methylnaphthalene	90120	2.24E-04	No
Existing/Baseline	CL01B	1nonene	124118	2.43E-04	No
Existing/Baseline	CL01B	1octene	111660	2.73E-04	No
Existing/Baseline	CL01B	1pentene	109671	7.71E-04	No
Existing/Baseline	CL01B	2methyl1butene	563462	1.27E-04	No
Existing/Baseline	CL01B	2methyl1pentene	763291	3.08E-05	No
Existing/Baseline	CL01B	2methyl2butene	513359	1.84E-04	No
Existing/Baseline	CL01B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	3.89E-04	No
Existing/Baseline	CL01B	2methylnaphthalene	91576	1.87E-04	No
Existing/Baseline	CL01B	2Methylpentane	107835	4.02E-04	No
Existing/Baseline	CL01B	3methyl1butene	563451	1.02E-04	No
Existing/Baseline	CL01B	4methyl1pentene	691372	6.25E-05	No
Existing/Baseline	CL01B	Acetaldehyde	75070	4.26E-03	Yes
Existing/Baseline	CL01B	Acetone	67641	6.00E-04	No
Existing/Baseline	CL01B	Acetylene	74862	3.90E-03	No
Existing/Baseline	CL01B	Acrolein (2propenal)	107028	2.41E-03	Yes
Existing/Baseline	CL01B	Ammonium	14798039	8.98E-04	No
Existing/Baseline	CL01B	Antimony	7440360	0.00E+00	No
Existing/Baseline	CL01B	Benzaldehyde	100527	4.74E-04	No
Existing/Baseline	CL01B	Benzene	71432	1.69E-03	Yes
Existing/Baseline	CL01B	Bromine	7726956	2.50E-06	No
Existing/Baseline	CL01B	Butyraldehyde	123728	2.16E-04	No
Existing/Baseline	CL01B	Calcium	7440702	0.00E+00	No
Existing/Baseline	CL01B	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	CL01B	Chromium	7440473	3.29E-06	No
Existing/Baseline	CL01B	Cis2butene	590181	2.31E-04	No
Existing/Baseline	CL01B	Cis2pentene	627203	2.50E-04	No
Existing/Baseline	CL01B	Copper	7440508	2.71E-05	Yes
Existing/Baseline	CL01B	Crotonaldehyde (or 2Butenal)	4170303	9.36E-04	No
Existing/Baseline	CL01B	Cumene	98828	2.72E-06	No
Existing/Baseline	CL01B	Decanal	112312	5.30E-03	No
Existing/Baseline	CL01B	Dimethyl napthalene	28804888	8.16E-05	No
Existing/Baseline	CL01B	Dodecenal	112549	2.65E-03	No
Existing/Baseline	CL01B	Elemental Carbon	7440440	2.72E-03	No
Existing/Baseline	CL01B	Ethane	74840	5.56E-04	No
Existing/Baseline	CL01B	Ethylbenzene	100414	1.71E-04	Yes
Existing/Baseline	CL01B	Ethylene	74851	1.54E-02	No
Existing/Baseline	CL01B	Formaldehyde	50000	1.24E-02	Yes
Existing/Baseline	CL01B	Furfuryl alcohol	98000	1.64E-04	No
Existing/Baseline	CL01B	Glyoxal	107222	1.88E-03	No
Existing/Baseline	CL01B	Heptadecane	629787	9.06E-06	No
Existing/Baseline	CL01B	Heptene	25339564	4.44E-04	No
Existing/Baseline	CL01B	Hexadecane	544763	5.71E-05	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CL01B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	1.81E-05	No
Existing/Baseline	CL01B	Indium	7440746	0.00E+00	No
Existing/Baseline	CL01B	Insolchlorine	7782505	9.03E-06	Yes
Existing/Baseline	CL01B	Iron	7439896	0.00E+00	No
Existing/Baseline	CL01B	Isovaleraldehyde	590863	2.90E-05	No
Existing/Baseline	CL01B	Lead	7439921	4.51E-04	Yes
Existing/Baseline	CL01B	Magnesium	7439954	1.45E-05	No
Existing/Baseline	CL01B	Manganese	7439965	2.30E-06	Yes
Existing/Baseline	CL01B	Methane	74828	9.91E-04	No
Existing/Baseline	CL01B	Methanol	67561	1.64E-03	Yes
Existing/Baseline	CL01B	Methylglyoxal	78988	1.36E-03	No
Existing/Baseline	CL01B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.52E-04	No
Existing/Baseline	CL01B	Naphthalene	91203	5.37E-04	Yes
Existing/Baseline	CL01B	N-butylbenzene	104518	1.99E-05	No
Existing/Baseline	CL01B	Ndecane	124185	3.28E-04	No
Existing/Baseline	CL01B	Ndodecane	112403	5.28E-04	No
Existing/Baseline	CL01B	Nheptane	142825	6.34E-05	No
Existing/Baseline	CL01B	Nickel	7440020	4.61E-06	Yes
Existing/Baseline	CL01B	Nnonane	111842	6.98E-05	No
Existing/Baseline	CL01B	Noctane	111659	5.98E-05	No
Existing/Baseline	CL01B	Npentane	109660	1.97E-04	No
Existing/Baseline	CL01B	Npentylbenzene	538681	1.54E-05	No
Existing/Baseline	CL01B	Npropylbenzene	103651	4.80E-05	No
Existing/Baseline	CL01B	Ntridecane	629505	5.45E-04	No
Existing/Baseline	CL01B	Nundecane	1120214	4.50E-04	No
Existing/Baseline	CL01B	oTolualdehyde	529204	2.08E-04	No
Existing/Baseline	CL01B	Oxylene	95476	1.67E-04	Yes
Existing/Baseline	CL01B	Pentadecane	629629	1.81E-04	No
Existing/Baseline	CL01B	Phenol (carbolic acid)	108952	6.78E-04	Yes
Existing/Baseline	CL01B	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	CL01B	Potassium ion	7440097	1.12E-05	No
Existing/Baseline	CL01B	Propane	74986	8.88E-05	No
Existing/Baseline	CL01B	Propionaldehyde	123386	7.41E-04	No
Existing/Baseline	CL01B	Propylene	115071	4.53E-03	Yes
Existing/Baseline	CL01B	pTolualdehyde	104870	4.35E-05	No
Existing/Baseline	CL01B	Silicon	7440213	5.03E-05	No
Existing/Baseline	CL01B	Silver	7440224	8.47E-06	No
Existing/Baseline	CL01B	Styrene	100425	3.14E-04	Yes
Existing/Baseline	CL01B	Sulfate	9960	2.89E-03	Yes
Existing/Baseline	CL01B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	CL01B	Tetradecane	629594	4.31E-04	No
Existing/Baseline	CL01B	Thallium	7440280	0.00E+00	No
Existing/Baseline	CL01B	Titanium	7440326	6.63E-07	No
Existing/Baseline	CL01B	Toluene	108883	6.26E-04	Yes
Existing/Baseline	CL01B	Trans2hexene	4050457	2.72E-05	No
Existing/Baseline	CL01B	Trans2pentene	646048	3.25E-04	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CL01B	Valeraldehyde	110623	2.22E-04	No
Existing/Baseline	CL01B	Xylenes	1330207	2.79E-04	Yes
Existing/Baseline	CL01B	Zinc	7440666	2.04E-06	No
Existing/Baseline	CL03A	1,2,3trimethylbenzene	526738	3.35E-05	No
Existing/Baseline	CL03A	1,2,4Trimethylbenzene	95636	1.11E-04	No
Existing/Baseline	CL03A	1,3,5trimethylbenzene	108678	1.71E-05	No
Existing/Baseline	CL03A	1,3butadiene	106990	5.66E-04	Yes
Existing/Baseline	CL03A	1butene	106989	5.91E-04	No
Existing/Baseline	CL03A	1decene	872059	6.16E-05	No
Existing/Baseline	CL03A	1hexene	592416	2.48E-04	No
Existing/Baseline	CL03A	1Methyl2Ethylbenzene	611143	2.06E-05	No
Existing/Baseline	CL03A	1Methyl3Ethylbenzene	620144	4.87E-05	No
Existing/Baseline	CL03A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	2.02E-05	No
Existing/Baseline	CL03A	1Methylnaphthalene	90120	7.81E-05	No
Existing/Baseline	CL03A	1nonene	124118	8.23E-05	No
Existing/Baseline	CL03A	1octene	111660	9.24E-05	No
Existing/Baseline	CL03A	1pentene	109671	2.61E-04	No
Existing/Baseline	CL03A	2methyl1butene	563462	4.43E-05	No
Existing/Baseline	CL03A	2methyl1pentene	763291	1.08E-05	No
Existing/Baseline	CL03A	2methyl2butene	513359	6.22E-05	No
Existing/Baseline	CL03A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.36E-04	No
Existing/Baseline	CL03A	2methylnaphthalene	91576	6.52E-05	No
Existing/Baseline	CL03A	2Methylpentane	107835	1.36E-04	No
Existing/Baseline	CL03A	3methyl1butene	563451	3.54E-05	No
Existing/Baseline	CL03A	4methyl1pentene	691372	2.18E-05	No
Existing/Baseline	CL03A	Acetaldehyde	75070	1.44E-03	Yes
Existing/Baseline	CL03A	Acetone	67641	1.77E-04	No
Existing/Baseline	CL03A	Acetylene	74862	1.32E-03	No
Existing/Baseline	CL03A	Acrolein (2propenal)	107028	8.17E-04	Yes
Existing/Baseline	CL03A	Ammonium	14798039	1.95E-04	No
Existing/Baseline	CL03A	Antimony	7440360	0.00E+00	No
Existing/Baseline	CL03A	Benzaldehyde	100527	1.60E-04	No
Existing/Baseline	CL03A	Benzene	71432	5.68E-04	Yes
Existing/Baseline	CL03A	Bromine	7726956	5.42E-07	No
Existing/Baseline	CL03A	Butyraldehyde	123728	6.19E-05	No
Existing/Baseline	CL03A	Calcium	7440702	0.00E+00	No
Existing/Baseline	CL03A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	CL03A	Chromium	7440473	7.14E-07	No
Existing/Baseline	CL03A	Cis2butene	590181	7.56E-05	No
Existing/Baseline	CL03A	Cis2pentene	627203	8.73E-05	No
Existing/Baseline	CL03A	Copper	7440508	5.88E-06	Yes
Existing/Baseline	CL03A	Crotonaldehyde (or 2Butenal)	4170303	3.27E-04	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CL03A	Cumene	98828	9.49E-07	No
Existing/Baseline	CL03A	Decanal	112312	1.85E-03	No
Existing/Baseline	CL03A	Dimethyl napthalene	28804888	2.85E-05	No
Existing/Baseline	CL03A	Dodecenal	112549	9.24E-04	No
Existing/Baseline	CL03A	Elemental Carbon	7440440	5.89E-04	No
Existing/Baseline	CL03A	Ethane	74840	1.84E-04	No
Existing/Baseline	CL03A	Ethylbenzene	100414	5.81E-05	Yes
Existing/Baseline	CL03A	Ethylene	74851	5.21E-03	No
Existing/Baseline	CL03A	Formaldehyde	50000	4.18E-03	Yes
Existing/Baseline	CL03A	Furfuryl alcohol	98000	3.69E-05	No
Existing/Baseline	CL03A	Glyoxal	107222	6.26E-04	No
Existing/Baseline	CL03A	Heptadecane	629787	3.05E-06	No
Existing/Baseline	CL03A	Heptene	25339564	1.49E-04	No
Existing/Baseline	CL03A	Hexadecane	544763	1.84E-05	No
Existing/Baseline	CL03A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	4.08E-06	No
Existing/Baseline	CL03A	Indium	7440746	0.00E+00	No
Existing/Baseline	CL03A	Insolchlorine	7782505	1.96E-06	Yes
Existing/Baseline	CL03A	Iron	7439896	0.00E+00	No
Existing/Baseline	CL03A	Isovaleraldehyde	590863	1.01E-05	No
Existing/Baseline	CL03A	Lead	7439921	9.97E-05	Yes
Existing/Baseline	CL03A	Magnesium	7439954	3.14E-06	No
Existing/Baseline	CL03A	Manganese	7439965	4.99E-07	Yes
Existing/Baseline	CL03A	Methane	74828	2.24E-04	No
Existing/Baseline	CL03A	Methanol	67561	5.71E-04	Yes
Existing/Baseline	CL03A	Methylglyoxal	78988	4.76E-04	No
Existing/Baseline	CL03A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	8.80E-05	No
Existing/Baseline	CL03A	Naphthalene	91203	1.82E-04	Yes
Existing/Baseline	CL03A	N-butylbenzene	104518	4.49E-06	No
Existing/Baseline	CL03A	Ndecane	124185	1.10E-04	No
Existing/Baseline	CL03A	Ndodecane	112403	1.71E-04	No
Existing/Baseline	CL03A	Nheptane	142825	2.15E-05	No
Existing/Baseline	CL03A	Nickel	7440020	1.00E-06	Yes
Existing/Baseline	CL03A	Nnonane	111842	2.27E-05	No
Existing/Baseline	CL03A	Noctane	111659	2.04E-05	No
Existing/Baseline	CL03A	Npentane	109660	6.65E-05	No
Existing/Baseline	CL03A	Npentylbenzene	538681	3.47E-06	No
Existing/Baseline	CL03A	Npropylbenzene	103651	1.68E-05	No
Existing/Baseline	CL03A	Ntridecane	629505	1.83E-04	No
Existing/Baseline	CL03A	Nundecane	1120214	1.51E-04	No
Existing/Baseline	CL03A	oTolualdehyde	529204	7.28E-05	No
Existing/Baseline	CL03A	Oxylene	95476	5.62E-05	Yes
Existing/Baseline	CL03A	Pentadecane	629629	6.02E-05	No
Existing/Baseline	CL03A	Phenol (carbolic acid)	108952	2.34E-04	Yes
Existing/Baseline	CL03A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	CL03A	Potassium ion	7440097	2.44E-06	No
Existing/Baseline	CL03A	Propane	74986	2.88E-05	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CL03A	Propionaldehyde	123386	2.48E-04	No
Existing/Baseline	CL03A	Propylene	115071	1.53E-03	Yes
Existing/Baseline	CL03A	pTolualdehyde	104870	1.52E-05	No
Existing/Baseline	CL03A	Silicon	7440213	1.09E-05	No
Existing/Baseline	CL03A	Silver	7440224	1.84E-06	No
Existing/Baseline	CL03A	Styrene	100425	1.05E-04	Yes
Existing/Baseline	CL03A	Sulfate	9960	6.27E-04	Yes
Existing/Baseline	CL03A	Sulfur	7704349	0.00E+00	No
Existing/Baseline	CL03A	Tetradecane	629594	1.44E-04	No
Existing/Baseline	CL03A	Thallium	7440280	0.00E+00	No
Existing/Baseline	CL03A	Titanium	7440326	1.44E-07	No
Existing/Baseline	CL03A	Toluene	108883	2.13E-04	Yes
Existing/Baseline	CL03A	Trans2hexene	4050457	9.49E-06	No
Existing/Baseline	CL03A	Trans2pentene	646048	1.14E-04	No
Existing/Baseline	CL03A	Valeraldehyde	110623	7.75E-05	No
Existing/Baseline	CL03A	Xylenes	1330207	9.45E-05	Yes
Existing/Baseline	CL03A	Zinc	7440666	4.43E-07	No
Existing/Baseline	CL03B	1,2,3trimethylbenzene	526738	1.19E-05	No
Existing/Baseline	CL03B	1,2,4Trimethylbenzene	95636	3.92E-05	No
Existing/Baseline	CL03B	1,3,5trimethylbenzene	108678	6.06E-06	No
Existing/Baseline	CL03B	1,3butadiene	106990	2.07E-04	Yes
Existing/Baseline	CL03B	1butene	106989	2.17E-04	No
Existing/Baseline	CL03B	1decene	872059	2.24E-05	No
Existing/Baseline	CL03B	1hexene	592416	9.10E-05	No
Existing/Baseline	CL03B	1Methyl2Ethylbenzene	611143	7.29E-06	No
Existing/Baseline	CL03B	1Methyl3Ethylbenzene	620144	1.73E-05	No
Existing/Baseline	CL03B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	7.18E-06	No
Existing/Baseline	CL03B	1Methylnaphthalene	90120	2.77E-05	No
Existing/Baseline	CL03B	1nonene	124118	3.00E-05	No
Existing/Baseline	CL03B	1octene	111660	3.37E-05	No
Existing/Baseline	CL03B	1pentene	109671	9.54E-05	No
Existing/Baseline	CL03B	2methyl1butene	563462	1.57E-05	No
Existing/Baseline	CL03B	2methyl1pentene	763291	3.81E-06	No
Existing/Baseline	CL03B	2methyl2butene	513359	2.28E-05	No
Existing/Baseline	CL03B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	4.81E-05	No
Existing/Baseline	CL03B	2methylnaphthalene	91576	2.31E-05	No
Existing/Baseline	CL03B	2Methylpentane	107835	4.97E-05	No
Existing/Baseline	CL03B	3methyl1butene	563451	1.26E-05	No
Existing/Baseline	CL03B	4methyl1pentene	691372	7.74E-06	No
Existing/Baseline	CL03B	Acetaldehyde	75070	5.27E-04	Yes
Existing/Baseline	CL03B	Acetone	67641	7.42E-05	No
Existing/Baseline	CL03B	Acetylene	74862	4.83E-04	No
Existing/Baseline	CL03B	Acrolein (2propenal)	107028	2.98E-04	Yes

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CL03B	Ammonium	14798039	1.11E-04	No
Existing/Baseline	CL03B	Antimony	7440360	0.00E+00	No
Existing/Baseline	CL03B	Benzaldehyde	100527	5.86E-05	No
Existing/Baseline	CL03B	Benzene	71432	2.09E-04	Yes
Existing/Baseline	CL03B	Bromine	7726956	3.09E-07	No
Existing/Baseline	CL03B	Butyraldehyde	123728	2.67E-05	No
Existing/Baseline	CL03B	Calcium	7440702	0.00E+00	No
Existing/Baseline	CL03B	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	CL03B	Chromium	7440473	4.07E-07	No
Existing/Baseline	CL03B	Cis2butene	590181	2.86E-05	No
Existing/Baseline	CL03B	Cis2pentene	627203	3.10E-05	No
Existing/Baseline	CL03B	Copper	7440508	3.35E-06	Yes
Existing/Baseline	CL03B	Crotonaldehyde (or 2Butenal)	4170303	1.16E-04	No
Existing/Baseline	CL03B	Cumene	98828	3.36E-07	No
Existing/Baseline	CL03B	Decanal	112312	6.55E-04	No
Existing/Baseline	CL03B	Dimethyl napthalene	28804888	1.01E-05	No
Existing/Baseline	CL03B	Dodecenal	112549	3.28E-04	No
Existing/Baseline	CL03B	Elemental Carbon	7440440	3.36E-04	No
Existing/Baseline	CL03B	Ethane	74840	6.87E-05	No
Existing/Baseline	CL03B	Ethylbenzene	100414	2.12E-05	Yes
Existing/Baseline	CL03B	Ethylene	74851	1.91E-03	No
Existing/Baseline	CL03B	Formaldehyde	50000	1.54E-03	Yes
Existing/Baseline	CL03B	Furfuryl alcohol	98000	2.03E-05	No
Existing/Baseline	CL03B	Glyoxal	107222	2.32E-04	No
Existing/Baseline	CL03B	Heptadecane	629787	1.12E-06	No
Existing/Baseline	CL03B	Heptene	25339564	5.49E-05	No
Existing/Baseline	CL03B	Hexadecane	544763	7.06E-06	No
Existing/Baseline	CL03B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	2.24E-06	No
Existing/Baseline	CL03B	Indium	7440746	0.00E+00	No
Existing/Baseline	CL03B	Insolchlorine	7782505	1.12E-06	Yes
Existing/Baseline	CL03B	Iron	7439896	0.00E+00	No
Existing/Baseline	CL03B	Isovaleraldehyde	590863	3.59E-06	No
Existing/Baseline	CL03B	Lead	7439921	5.58E-05	Yes
Existing/Baseline	CL03B	Magnesium	7439954	1.79E-06	No
Existing/Baseline	CL03B	Manganese	7439965	2.85E-07	Yes
Existing/Baseline	CL03B	Methane	74828	1.23E-04	No
Existing/Baseline	CL03B	Methanol	67561	2.02E-04	Yes
Existing/Baseline	CL03B	Methylglyoxal	78988	1.69E-04	No
Existing/Baseline	CL03B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	3.12E-05	No
Existing/Baseline	CL03B	Naphthalene	91203	6.64E-05	Yes
Existing/Baseline	CL03B	N-butylbenzene	104518	2.46E-06	No
Existing/Baseline	CL03B	Ndecane	124185	4.06E-05	No
Existing/Baseline	CL03B	Ndodecane	112403	6.54E-05	No
Existing/Baseline	CL03B	Nheptane	142825	7.85E-06	No
Existing/Baseline	CL03B	Nickel	7440020	5.71E-07	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CL03B	Nnonane	111842	8.63E-06	No
Existing/Baseline	CL03B	Noctane	111659	7.40E-06	No
Existing/Baseline	CL03B	Npentane	109660	2.43E-05	No
Existing/Baseline	CL03B	Npentylbenzene	538681	1.90E-06	No
Existing/Baseline	CL03B	Npropylbenzene	103651	5.94E-06	No
Existing/Baseline	CL03B	Ntridecane	629505	6.74E-05	No
Existing/Baseline	CL03B	Nundecane	1120214	5.56E-05	No
Existing/Baseline	CL03B	oTolualdehyde	529204	2.58E-05	No
Existing/Baseline	CL03B	Oxylene	95476	2.06E-05	Yes
Existing/Baseline	CL03B	Pentadecane	629629	2.24E-05	No
Existing/Baseline	CL03B	Phenol (carbolic acid)	108952	8.39E-05	Yes
Existing/Baseline	CL03B	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	CL03B	Potassium ion	7440097	1.39E-06	No
Existing/Baseline	CL03B	Propane	74986	1.10E-05	No
Existing/Baseline	CL03B	Propionaldehyde	123386	9.16E-05	No
Existing/Baseline	CL03B	Propylene	115071	5.60E-04	Yes
Existing/Baseline	CL03B	pTolualdehyde	104870	5.38E-06	No
Existing/Baseline	CL03B	Silicon	7440213	6.22E-06	No
Existing/Baseline	CL03B	Silver	7440224	1.05E-06	No
Existing/Baseline	CL03B	Styrene	100425	3.88E-05	Yes
Existing/Baseline	CL03B	Sulfate	9960	3.58E-04	Yes
Existing/Baseline	CL03B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	CL03B	Tetradecane	629594	5.33E-05	No
Existing/Baseline	CL03B	Thallium	7440280	0.00E+00	No
Existing/Baseline	CL03B	Titanium	7440326	8.20E-08	No
Existing/Baseline	CL03B	Toluene	108883	7.75E-05	Yes
Existing/Baseline	CL03B	Trans2hexene	4050457	3.36E-06	No
Existing/Baseline	CL03B	Trans2pentene	646048	4.03E-05	No
Existing/Baseline	CL03B	Valeraldehyde	110623	2.75E-05	No
Existing/Baseline	CL03B	Xylenes	1330207	3.45E-05	Yes
Existing/Baseline	CL03B	Zinc	7440666	2.52E-07	No
Existing/Baseline	CL06A	1,2,3trimethylbenzene	526738	3.79E-06	No
Existing/Baseline	CL06A	1,2,4Trimethylbenzene	95636	1.25E-05	No
Existing/Baseline	CL06A	1,3,5trimethylbenzene	108678	1.93E-06	No
Existing/Baseline	CL06A	1,3butadiene	106990	6.39E-05	Yes
Existing/Baseline	CL06A	1butene	106989	6.68E-05	No
Existing/Baseline	CL06A	1decene	872059	6.96E-06	No
Existing/Baseline	CL06A	1hexene	592416	2.81E-05	No
Existing/Baseline	CL06A	1Methyl2Ethylbenzene	611143	2.32E-06	No
Existing/Baseline	CL06A	1Methyl3Ethylbenzene	620144	5.51E-06	No
Existing/Baseline	CL06A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	2.29E-06	No
Existing/Baseline	CL06A	1Methylnaphthalene	90120	8.83E-06	No
Existing/Baseline	CL06A	1nonene	124118	9.30E-06	No
Existing/Baseline	CL06A	1octene	111660	1.04E-05	No
Existing/Baseline	CL06A	1pentene	109671	2.95E-05	No
Existing/Baseline	CL06A	2methyl1butene	563462	5.01E-06	No
Existing/Baseline	CL06A	2methyl1pentene	763291	1.22E-06	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CL06A	2methyl2butene	513359	7.03E-06	No
Existing/Baseline	CL06A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.53E-05	No
Existing/Baseline	CL06A	2methylnaphthalene	91576	7.37E-06	No
Existing/Baseline	CL06A	2Methylpentane	107835	1.54E-05	No
Existing/Baseline	CL06A	3methyl1butene	563451	4.00E-06	No
Existing/Baseline	CL06A	4methyl1pentene	691372	2.47E-06	No
Existing/Baseline	CL06A	Acetaldehyde	75070	1.63E-04	Yes
Existing/Baseline	CL06A	Acetone	67641	2.00E-05	No
Existing/Baseline	CL06A	Acetylene	74862	1.49E-04	No
Existing/Baseline	CL06A	Acrolein (2propenal)	107028	9.23E-05	Yes
Existing/Baseline	CL06A	Ammonium	14798039	2.20E-05	No
Existing/Baseline	CL06A	Antimony	7440360	0.00E+00	No
Existing/Baseline	CL06A	Benzaldehyde	100527	1.80E-05	No
Existing/Baseline	CL06A	Benzene	71432	6.42E-05	Yes
Existing/Baseline	CL06A	Bromine	7726956	6.12E-08	No
Existing/Baseline	CL06A	Butyraldehyde	123728	7.00E-06	No
Existing/Baseline	CL06A	Calcium	7440702	0.00E+00	No
Existing/Baseline	CL06A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	CL06A	Chromium	7440473	8.06E-08	No
Existing/Baseline	CL06A	Cis2butene	590181	8.55E-06	No
Existing/Baseline	CL06A	Cis2pentene	627203	9.87E-06	No
Existing/Baseline	CL06A	Copper	7440508	6.65E-07	Yes
Existing/Baseline	CL06A	Crotonaldehyde (or 2Butenal)	4170303	3.69E-05	No
Existing/Baseline	CL06A	Cumene	98828	1.07E-07	No
Existing/Baseline	CL06A	Decanal	112312	2.09E-04	No
Existing/Baseline	CL06A	Dimethyl napthalene	28804888	3.22E-06	No
Existing/Baseline	CL06A	Dodecenal	112549	1.04E-04	No
Existing/Baseline	CL06A	Elemental Carbon	7440440	6.66E-05	No
Existing/Baseline	CL06A	Ethane	74840	2.08E-05	No
Existing/Baseline	CL06A	Ethylbenzene	100414	6.57E-06	Yes
Existing/Baseline	CL06A	Ethylene	74851	5.89E-04	No
Existing/Baseline	CL06A	Formaldehyde	50000	4.73E-04	Yes
Existing/Baseline	CL06A	Furfuryl alcohol	98000	4.18E-06	No
Existing/Baseline	CL06A	Glyoxal	107222	7.08E-05	No
Existing/Baseline	CL06A	Heptadecane	629787	3.45E-07	No
Existing/Baseline	CL06A	Heptene	25339564	1.69E-05	No
Existing/Baseline	CL06A	Hexadecane	544763	2.08E-06	No
Existing/Baseline	CL06A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	4.61E-07	No
Existing/Baseline	CL06A	Indium	7440746	0.00E+00	No
Existing/Baseline	CL06A	Insolchlorine	7782505	2.22E-07	Yes
Existing/Baseline	CL06A	Iron	7439896	0.00E+00	No
Existing/Baseline	CL06A	Isovaleraldehyde	590863	1.14E-06	No
Existing/Baseline	CL06A	Lead	7439921	1.13E-05	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CL06A	Magnesium	7439954	3.55E-07	No
Existing/Baseline	CL06A	Manganese	7439965	5.64E-08	Yes
Existing/Baseline	CL06A	Methane	74828	2.53E-05	No
Existing/Baseline	CL06A	Methanol	67561	6.45E-05	Yes
Existing/Baseline	CL06A	Methylglyoxal	78988	5.37E-05	No
Existing/Baseline	CL06A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	9.94E-06	No
Existing/Baseline	CL06A	Naphthalene	91203	2.05E-05	Yes
Existing/Baseline	CL06A	N-butylbenzene	104518	5.08E-07	No
Existing/Baseline	CL06A	Ndecane	124185	1.24E-05	No
Existing/Baseline	CL06A	Ndodecane	112403	1.93E-05	No
Existing/Baseline	CL06A	Nheptane	142825	2.43E-06	No
Existing/Baseline	CL06A	Nickel	7440020	1.13E-07	Yes
Existing/Baseline	CL06A	Nnonane	111842	2.56E-06	No
Existing/Baseline	CL06A	Noctane	111659	2.31E-06	No
Existing/Baseline	CL06A	Npentane	109660	7.52E-06	No
Existing/Baseline	CL06A	Npentylbenzene	538681	3.92E-07	No
Existing/Baseline	CL06A	Npropylbenzene	103651	1.90E-06	No
Existing/Baseline	CL06A	Ntridecane	629505	2.07E-05	No
Existing/Baseline	CL06A	Nundecane	1120214	1.71E-05	No
Existing/Baseline	CL06A	oTolualdehyde	529204	8.22E-06	No
Existing/Baseline	CL06A	Oxylene	95476	6.35E-06	Yes
Existing/Baseline	CL06A	Pentadecane	629629	6.81E-06	No
Existing/Baseline	CL06A	Phenol (carbolic acid)	108952	2.65E-05	Yes
Existing/Baseline	CL06A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	CL06A	Potassium ion	7440097	2.76E-07	No
Existing/Baseline	CL06A	Propane	74986	3.25E-06	No
Existing/Baseline	CL06A	Propionaldehyde	123386	2.81E-05	No
Existing/Baseline	CL06A	Propylene	115071	1.73E-04	Yes
Existing/Baseline	CL06A	pTolualdehyde	104870	1.72E-06	No
Existing/Baseline	CL06A	Silicon	7440213	1.23E-06	No
Existing/Baseline	CL06A	Silver	7440224	2.08E-07	No
Existing/Baseline	CL06A	Styrene	100425	1.19E-05	Yes
Existing/Baseline	CL06A	Sulfate	9960	7.09E-05	Yes
Existing/Baseline	CL06A	Sulfur	7704349	0.00E+00	No
Existing/Baseline	CL06A	Tetradecane	629594	1.62E-05	No
Existing/Baseline	CL06A	Thallium	7440280	0.00E+00	No
Existing/Baseline	CL06A	Titanium	7440326	1.63E-08	No
Existing/Baseline	CL06A	Toluene	108883	2.41E-05	Yes
Existing/Baseline	CL06A	Trans2hexene	4050457	1.07E-06	No
Existing/Baseline	CL06A	Trans2pentene	646048	1.28E-05	No
Existing/Baseline	CL06A	Valeraldehyde	110623	8.76E-06	No
Existing/Baseline	CL06A	Xylenes	1330207	1.07E-05	Yes
Existing/Baseline	CL06A	Zinc	7440666	5.00E-08	No
Existing/Baseline	CL06B	1,2,3trimethylbenzene	526738	1.34E-06	No
Existing/Baseline	CL06B	1,2,4Trimethylbenzene	95636	4.44E-06	No
Existing/Baseline	CL06B	1,3,5trimethylbenzene	108678	6.84E-07	No
Existing/Baseline	CL06B	1,3butadiene	106990	2.34E-05	Yes

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CL06B	1butene	106989	2.45E-05	No
Existing/Baseline	CL06B	1decene	872059	2.53E-06	No
Existing/Baseline	CL06B	1hexene	592416	1.03E-05	No
Existing/Baseline	CL06B	1Methyl2Ethylbenzene	611143	8.24E-07	No
Existing/Baseline	CL06B	1Methyl3Ethylbenzene	620144	1.95E-06	No
Existing/Baseline	CL06B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	8.11E-07	No
Existing/Baseline	CL06B	1Methylnaphthalene	90120	3.13E-06	No
Existing/Baseline	CL06B	1nonene	124118	3.40E-06	No
Existing/Baseline	CL06B	1octene	111660	3.81E-06	No
Existing/Baseline	CL06B	1pentene	109671	1.08E-05	No
Existing/Baseline	CL06B	2methyl1butene	563462	1.77E-06	No
Existing/Baseline	CL06B	2methyl1pentene	763291	4.31E-07	No
Existing/Baseline	CL06B	2methyl2butene	513359	2.57E-06	No
Existing/Baseline	CL06B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	5.44E-06	No
Existing/Baseline	CL06B	2methylnaphthalene	91576	2.61E-06	No
Existing/Baseline	CL06B	2Methylpentane	107835	5.61E-06	No
Existing/Baseline	CL06B	3methyl1butene	563451	1.42E-06	No
Existing/Baseline	CL06B	4methyl1pentene	691372	8.74E-07	No
Existing/Baseline	CL06B	Acetaldehyde	75070	5.96E-05	Yes
Existing/Baseline	CL06B	Acetone	67641	8.38E-06	No
Existing/Baseline	CL06B	Acetylene	74862	5.46E-05	No
Existing/Baseline	CL06B	Acrolein (2propenal)	107028	3.36E-05	Yes
Existing/Baseline	CL06B	Ammonium	14798039	1.26E-05	No
Existing/Baseline	CL06B	Antimony	7440360	0.00E+00	No
Existing/Baseline	CL06B	Benzaldehyde	100527	6.63E-06	No
Existing/Baseline	CL06B	Benzene	71432	2.36E-05	Yes
Existing/Baseline	CL06B	Bromine	7726956	3.49E-08	No
Existing/Baseline	CL06B	Butyraldehyde	123728	3.01E-06	No
Existing/Baseline	CL06B	Calcium	7440702	0.00E+00	No
Existing/Baseline	CL06B	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	CL06B	Chromium	7440473	4.60E-08	No
Existing/Baseline	CL06B	Cis2butene	590181	3.23E-06	No
Existing/Baseline	CL06B	Cis2pentene	627203	3.50E-06	No
Existing/Baseline	CL06B	Copper	7440508	3.79E-07	Yes
Existing/Baseline	CL06B	Crotonaldehyde (or 2Butenal)	4170303	1.31E-05	No
Existing/Baseline	CL06B	Cumene	98828	3.80E-08	No
Existing/Baseline	CL06B	Decanal	112312	7.41E-05	No
Existing/Baseline	CL06B	Dimethyl napthalene	28804888	1.14E-06	No
Existing/Baseline	CL06B	Dodecenal	112549	3.70E-05	No
Existing/Baseline	CL06B	Elemental Carbon	7440440	3.80E-05	No
Existing/Baseline	CL06B	Ethane	74840	7.77E-06	No
Existing/Baseline	CL06B	Ethylbenzene	100414	2.40E-06	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CL06B	Ethylene	74851	2.16E-04	No
Existing/Baseline	CL06B	Formaldehyde	50000	1.74E-04	Yes
Existing/Baseline	CL06B	Furfuryl alcohol	98000	2.29E-06	No
Existing/Baseline	CL06B	Glyoxal	107222	2.62E-05	No
Existing/Baseline	CL06B	Heptadecane	629787	1.27E-07	No
Existing/Baseline	CL06B	Heptene	25339564	6.21E-06	No
Existing/Baseline	CL06B	Hexadecane	544763	7.98E-07	No
Existing/Baseline	CL06B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	2.53E-07	No
Existing/Baseline	CL06B	Indium	7440746	0.00E+00	No
Existing/Baseline	CL06B	Insolchlorine	7782505	1.26E-07	Yes
Existing/Baseline	CL06B	Iron	7439896	0.00E+00	No
Existing/Baseline	CL06B	Isovaleraldehyde	590863	4.06E-07	No
Existing/Baseline	CL06B	Lead	7439921	6.31E-06	Yes
Existing/Baseline	CL06B	Magnesium	7439954	2.03E-07	No
Existing/Baseline	CL06B	Manganese	7439965	3.22E-08	Yes
Existing/Baseline	CL06B	Methane	74828	1.39E-05	No
Existing/Baseline	CL06B	Methanol	67561	2.29E-05	Yes
Existing/Baseline	CL06B	Methylglyoxal	78988	1.90E-05	No
Existing/Baseline	CL06B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	3.52E-06	No
Existing/Baseline	CL06B	Naphthalene	91203	7.50E-06	Yes
Existing/Baseline	CL06B	N-butylbenzene	104518	2.78E-07	No
Existing/Baseline	CL06B	Ndecane	124185	4.59E-06	No
Existing/Baseline	CL06B	Ndodecane	112403	7.39E-06	No
Existing/Baseline	CL06B	Nheptane	142825	8.87E-07	No
Existing/Baseline	CL06B	Nickel	7440020	6.45E-08	Yes
Existing/Baseline	CL06B	Nnonane	111842	9.76E-07	No
Existing/Baseline	CL06B	Noctane	111659	8.36E-07	No
Existing/Baseline	CL06B	Npentane	109660	2.75E-06	No
Existing/Baseline	CL06B	Npentylbenzene	538681	2.15E-07	No
Existing/Baseline	CL06B	Npropylbenzene	103651	6.72E-07	No
Existing/Baseline	CL06B	Ntridecane	629505	7.62E-06	No
Existing/Baseline	CL06B	Nundecane	1120214	6.29E-06	No
Existing/Baseline	CL06B	oTolualdehyde	529204	2.91E-06	No
Existing/Baseline	CL06B	Oxylene	95476	2.33E-06	Yes
Existing/Baseline	CL06B	Pentadecane	629629	2.53E-06	No
Existing/Baseline	CL06B	Phenol (carbolic acid)	108952	9.48E-06	Yes
Existing/Baseline	CL06B	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	CL06B	Potassium ion	7440097	1.57E-07	No
Existing/Baseline	CL06B	Propane	74986	1.24E-06	No
Existing/Baseline	CL06B	Propionaldehyde	123386	1.04E-05	No
Existing/Baseline	CL06B	Propylene	115071	6.33E-05	Yes
Existing/Baseline	CL06B	pTolualdehyde	104870	6.08E-07	No
Existing/Baseline	CL06B	Silicon	7440213	7.03E-07	No
Existing/Baseline	CL06B	Silver	7440224	1.18E-07	No
Existing/Baseline	CL06B	Styrene	100425	4.38E-06	Yes
Existing/Baseline	CL06B	Sulfate	9960	4.04E-05	Yes

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CL06B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	CL06B	Tetradecane	629594	6.02E-06	No
Existing/Baseline	CL06B	Thallium	7440280	0.00E+00	No
Existing/Baseline	CL06B	Titanium	7440326	9.27E-09	No
Existing/Baseline	CL06B	Toluene	108883	8.76E-06	Yes
Existing/Baseline	CL06B	Trans2hexene	4050457	3.80E-07	No
Existing/Baseline	CL06B	Trans2pentene	646048	4.55E-06	No
Existing/Baseline	CL06B	Valeraldehyde	110623	3.11E-06	No
Existing/Baseline	CL06B	Xylenes	1330207	3.90E-06	Yes
Existing/Baseline	CL06B	Zinc	7440666	2.85E-08	No
Existing/Baseline	CL10A	1,2,3trimethylbenzene	526738	2.95E-05	No
Existing/Baseline	CL10A	1,2,4Trimethylbenzene	95636	9.76E-05	No
Existing/Baseline	CL10A	1,3,5trimethylbenzene	108678	1.51E-05	No
Existing/Baseline	CL10A	1,3butadiene	106990	4.98E-04	Yes
Existing/Baseline	CL10A	1butene	106989	5.21E-04	No
Existing/Baseline	CL10A	1decene	872059	5.43E-05	No
Existing/Baseline	CL10A	1hexene	592416	2.19E-04	No
Existing/Baseline	CL10A	1Methyl2Ethylbenzene	611143	1.81E-05	No
Existing/Baseline	CL10A	1Methyl3Ethylbenzene	620144	4.29E-05	No
Existing/Baseline	CL10A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.78E-05	No
Existing/Baseline	CL10A	1Methylnaphthalene	90120	6.88E-05	No
Existing/Baseline	CL10A	1nonene	124118	7.25E-05	No
Existing/Baseline	CL10A	1octene	111660	8.14E-05	No
Existing/Baseline	CL10A	1pentene	109671	2.30E-04	No
Existing/Baseline	CL10A	2methyl1butene	563462	3.90E-05	No
Existing/Baseline	CL10A	2methyl1pentene	763291	9.48E-06	No
Existing/Baseline	CL10A	2methyl2butene	513359	5.48E-05	No
Existing/Baseline	CL10A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.20E-04	No
Existing/Baseline	CL10A	2methylnaphthalene	91576	5.74E-05	No
Existing/Baseline	CL10A	2Methylpentane	107835	1.20E-04	No
Existing/Baseline	CL10A	3methyl1butene	563451	3.12E-05	No
Existing/Baseline	CL10A	4methyl1pentene	691372	1.92E-05	No
Existing/Baseline	CL10A	Acetaldehyde	75070	1.27E-03	Yes
Existing/Baseline	CL10A	Acetone	67641	1.56E-04	No
Existing/Baseline	CL10A	Acetylene	74862	1.16E-03	No
Existing/Baseline	CL10A	Acrolein (2propenal)	107028	7.20E-04	Yes
Existing/Baseline	CL10A	Ammonium	14798039	1.72E-04	No
Existing/Baseline	CL10A	Antimony	7440360	0.00E+00	No
Existing/Baseline	CL10A	Benzaldehyde	100527	1.41E-04	No
Existing/Baseline	CL10A	Benzene	71432	5.01E-04	Yes
Existing/Baseline	CL10A	Bromine	7726956	4.77E-07	No
Existing/Baseline	CL10A	Butyraldehyde	123728	5.46E-05	No
Existing/Baseline	CL10A	Calcium	7440702	0.00E+00	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CL10A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	CL10A	Chromium	7440473	6.29E-07	No
Existing/Baseline	CL10A	Cis2butene	590181	6.66E-05	No
Existing/Baseline	CL10A	Cis2pentene	627203	7.69E-05	No
Existing/Baseline	CL10A	Copper	7440508	5.18E-06	Yes
Existing/Baseline	CL10A	Crotonaldehyde (or 2Butenal)	4170303	2.88E-04	No
Existing/Baseline	CL10A	Cumene	98828	8.36E-07	No
Existing/Baseline	CL10A	Decanal	112312	1.63E-03	No
Existing/Baseline	CL10A	Dimethyl napthalene	28804888	2.51E-05	No
Existing/Baseline	CL10A	Dodecenal	112549	8.14E-04	No
Existing/Baseline	CL10A	Elemental Carbon	7440440	5.19E-04	No
Existing/Baseline	CL10A	Ethane	74840	1.62E-04	No
Existing/Baseline	CL10A	Ethylbenzene	100414	5.12E-05	Yes
Existing/Baseline	CL10A	Ethylene	74851	4.59E-03	No
Existing/Baseline	CL10A	Formaldehyde	50000	3.69E-03	Yes
Existing/Baseline	CL10A	Furfuryl alcohol	98000	3.25E-05	No
Existing/Baseline	CL10A	Glyoxal	107222	5.52E-04	No
Existing/Baseline	CL10A	Heptadecane	629787	2.69E-06	No
Existing/Baseline	CL10A	Heptene	25339564	1.31E-04	No
Existing/Baseline	CL10A	Hexadecane	544763	1.62E-05	No
Existing/Baseline	CL10A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	3.60E-06	No
Existing/Baseline	CL10A	Indium	7440746	0.00E+00	No
Existing/Baseline	CL10A	Insolchlorine	7782505	1.73E-06	Yes
Existing/Baseline	CL10A	Iron	7439896	0.00E+00	No
Existing/Baseline	CL10A	Isovaleraldehyde	590863	8.92E-06	No
Existing/Baseline	CL10A	Lead	7439921	8.78E-05	Yes
Existing/Baseline	CL10A	Magnesium	7439954	2.77E-06	No
Existing/Baseline	CL10A	Manganese	7439965	4.40E-07	Yes
Existing/Baseline	CL10A	Methane	74828	1.97E-04	No
Existing/Baseline	CL10A	Methanol	67561	5.03E-04	Yes
Existing/Baseline	CL10A	Methylglyoxal	78988	4.19E-04	No
Existing/Baseline	CL10A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	7.75E-05	No
Existing/Baseline	CL10A	Naphthalene	91203	1.60E-04	Yes
Existing/Baseline	CL10A	N-butylbenzene	104518	3.96E-06	No
Existing/Baseline	CL10A	Ndecane	124185	9.67E-05	No
Existing/Baseline	CL10A	Ndodecane	112403	1.51E-04	No
Existing/Baseline	CL10A	Nheptane	142825	1.89E-05	No
Existing/Baseline	CL10A	Nickel	7440020	8.82E-07	Yes
Existing/Baseline	CL10A	Nnonane	111842	2.00E-05	No
Existing/Baseline	CL10A	Noctane	111659	1.80E-05	No
Existing/Baseline	CL10A	Npentane	109660	5.86E-05	No
Existing/Baseline	CL10A	Npentylbenzene	538681	3.06E-06	No
Existing/Baseline	CL10A	Npropylbenzene	103651	1.48E-05	No
Existing/Baseline	CL10A	Ntridecane	629505	1.61E-04	No
Existing/Baseline	CL10A	Nundecane	1120214	1.33E-04	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CL10A	oTolualdehyde	529204	6.41E-05	No
Existing/Baseline	CL10A	Oxylene	95476	4.95E-05	Yes
Existing/Baseline	CL10A	Pentadecane	629629	5.31E-05	No
Existing/Baseline	CL10A	Phenol (carbolic acid)	108952	2.06E-04	Yes
Existing/Baseline	CL10A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	CL10A	Potassium ion	7440097	2.15E-06	No
Existing/Baseline	CL10A	Propane	74986	2.53E-05	No
Existing/Baseline	CL10A	Propionaldehyde	123386	2.19E-04	No
Existing/Baseline	CL10A	Propylene	115071	1.35E-03	Yes
Existing/Baseline	CL10A	pTolualdehyde	104870	1.34E-05	No
Existing/Baseline	CL10A	Silicon	7440213	9.61E-06	No
Existing/Baseline	CL10A	Silver	7440224	1.62E-06	No
Existing/Baseline	CL10A	Styrene	100425	9.28E-05	Yes
Existing/Baseline	CL10A	Sulfate	9960	5.53E-04	Yes
Existing/Baseline	CL10A	Sulfur	7704349	0.00E+00	No
Existing/Baseline	CL10A	Tetradecane	629594	1.27E-04	No
Existing/Baseline	CL10A	Thallium	7440280	0.00E+00	No
Existing/Baseline	CL10A	Titanium	7440326	1.27E-07	No
Existing/Baseline	CL10A	Toluene	108883	1.88E-04	Yes
Existing/Baseline	CL10A	Trans2hexene	4050457	8.36E-06	No
Existing/Baseline	CL10A	Trans2pentene	646048	1.00E-04	No
Existing/Baseline	CL10A	Valeraldehyde	110623	6.83E-05	No
Existing/Baseline	CL10A	Xylenes	1330207	8.33E-05	Yes
Existing/Baseline	CL10A	Zinc	7440666	3.90E-07	No
Existing/Baseline	CL10B	1,2,3trimethylbenzene	526738	1.05E-05	No
Existing/Baseline	CL10B	1,2,4Trimethylbenzene	95636	3.46E-05	No
Existing/Baseline	CL10B	1,3,5trimethylbenzene	108678	5.33E-06	No
Existing/Baseline	CL10B	1,3butadiene	106990	1.82E-04	Yes
Existing/Baseline	CL10B	1butene	106989	1.91E-04	No
Existing/Baseline	CL10B	1decene	872059	1.98E-05	No
Existing/Baseline	CL10B	1hexene	592416	8.02E-05	No
Existing/Baseline	CL10B	1Methyl2Ethylbenzene	611143	6.42E-06	No
Existing/Baseline	CL10B	1Methyl3Ethylbenzene	620144	1.52E-05	No
Existing/Baseline	CL10B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	6.32E-06	No
Existing/Baseline	CL10B	1Methylnaphthalene	90120	2.44E-05	No
Existing/Baseline	CL10B	1nonene	124118	2.65E-05	No
Existing/Baseline	CL10B	1octene	111660	2.97E-05	No
Existing/Baseline	CL10B	1pentene	109671	8.41E-05	No
Existing/Baseline	CL10B	2methyl1butene	563462	1.38E-05	No
Existing/Baseline	CL10B	2methyl1pentene	763291	3.36E-06	No
Existing/Baseline	CL10B	2methyl2butene	513359	2.01E-05	No
Existing/Baseline	CL10B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	4.24E-05	No
Existing/Baseline	CL10B	2methylnaphthalene	91576	2.04E-05	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CL10B	2Methylpentane	107835	4.38E-05	No
Existing/Baseline	CL10B	3methyl1butene	563451	1.11E-05	No
Existing/Baseline	CL10B	4methyl1pentene	691372	6.82E-06	No
Existing/Baseline	CL10B	Acetaldehyde	75070	4.65E-04	Yes
Existing/Baseline	CL10B	Acetone	67641	6.54E-05	No
Existing/Baseline	CL10B	Acetylene	74862	4.26E-04	No
Existing/Baseline	CL10B	Acrolein (2propenal)	107028	2.62E-04	Yes
Existing/Baseline	CL10B	Ammonium	14798039	9.78E-05	No
Existing/Baseline	CL10B	Antimony	7440360	0.00E+00	No
Existing/Baseline	CL10B	Benzaldehyde	100527	5.17E-05	No
Existing/Baseline	CL10B	Benzene	71432	1.84E-04	Yes
Existing/Baseline	CL10B	Bromine	7726956	2.72E-07	No
Existing/Baseline	CL10B	Butyraldehyde	123728	2.35E-05	No
Existing/Baseline	CL10B	Calcium	7440702	0.00E+00	No
Existing/Baseline	CL10B	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	CL10B	Chromium	7440473	3.58E-07	No
Existing/Baseline	CL10B	Cis2butene	590181	2.52E-05	No
Existing/Baseline	CL10B	Cis2pentene	627203	2.73E-05	No
Existing/Baseline	CL10B	Copper	7440508	2.95E-06	Yes
Existing/Baseline	CL10B	Crotonaldehyde (or 2Butenal)	4170303	1.02E-04	No
Existing/Baseline	CL10B	Cumene	98828	2.96E-07	No
Existing/Baseline	CL10B	Decanal	112312	5.77E-04	No
Existing/Baseline	CL10B	Dimethyl napthalene	28804888	8.89E-06	No
Existing/Baseline	CL10B	Dodecenal	112549	2.89E-04	No
Existing/Baseline	CL10B	Elemental Carbon	7440440	2.96E-04	No
Existing/Baseline	CL10B	Ethane	74840	6.05E-05	No
Existing/Baseline	CL10B	Ethylbenzene	100414	1.87E-05	Yes
Existing/Baseline	CL10B	Ethylene	74851	1.68E-03	No
Existing/Baseline	CL10B	Formaldehyde	50000	1.36E-03	Yes
Existing/Baseline	CL10B	Furfuryl alcohol	98000	1.79E-05	No
Existing/Baseline	CL10B	Glyoxal	107222	2.04E-04	No
Existing/Baseline	CL10B	Heptadecane	629787	9.88E-07	No
Existing/Baseline	CL10B	Heptene	25339564	4.84E-05	No
Existing/Baseline	CL10B	Hexadecane	544763	6.22E-06	No
Existing/Baseline	CL10B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	1.97E-06	No
Existing/Baseline	CL10B	Indium	7440746	0.00E+00	No
Existing/Baseline	CL10B	Insolchlorine	7782505	9.84E-07	Yes
Existing/Baseline	CL10B	Iron	7439896	0.00E+00	No
Existing/Baseline	CL10B	Isovaleraldehyde	590863	3.16E-06	No
Existing/Baseline	CL10B	Lead	7439921	4.91E-05	Yes
Existing/Baseline	CL10B	Magnesium	7439954	1.58E-06	No
Existing/Baseline	CL10B	Manganese	7439965	2.51E-07	Yes
Existing/Baseline	CL10B	Methane	74828	1.08E-04	No
Existing/Baseline	CL10B	Methanol	67561	1.78E-04	Yes
Existing/Baseline	CL10B	Methylglyoxal	78988	1.48E-04	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CL10B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.75E-05	No
Existing/Baseline	CL10B	Naphthalene	91203	5.85E-05	Yes
Existing/Baseline	CL10B	N-butylbenzene	104518	2.17E-06	No
Existing/Baseline	CL10B	Ndecane	124185	3.58E-05	No
Existing/Baseline	CL10B	Ndodecane	112403	5.76E-05	No
Existing/Baseline	CL10B	Nheptane	142825	6.91E-06	No
Existing/Baseline	CL10B	Nickel	7440020	5.03E-07	Yes
Existing/Baseline	CL10B	Nnonane	111842	7.60E-06	No
Existing/Baseline	CL10B	Noctane	111659	6.52E-06	No
Existing/Baseline	CL10B	Npentane	109660	2.14E-05	No
Existing/Baseline	CL10B	Npentylbenzene	538681	1.68E-06	No
Existing/Baseline	CL10B	Npropylbenzene	103651	5.24E-06	No
Existing/Baseline	CL10B	Ntridecane	629505	5.94E-05	No
Existing/Baseline	CL10B	Nundecane	1120214	4.90E-05	No
Existing/Baseline	CL10B	oTolualdehyde	529204	2.27E-05	No
Existing/Baseline	CL10B	Oxylene	95476	1.82E-05	Yes
Existing/Baseline	CL10B	Pentadecane	629629	1.98E-05	No
Existing/Baseline	CL10B	Phenol (carbolic acid)	108952	7.39E-05	Yes
Existing/Baseline	CL10B	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	CL10B	Potassium ion	7440097	1.23E-06	No
Existing/Baseline	CL10B	Propane	74986	9.68E-06	No
Existing/Baseline	CL10B	Propionaldehyde	123386	8.07E-05	No
Existing/Baseline	CL10B	Propylene	115071	4.93E-04	Yes
Existing/Baseline	CL10B	pTolualdehyde	104870	4.74E-06	No
Existing/Baseline	CL10B	Silicon	7440213	5.48E-06	No
Existing/Baseline	CL10B	Silver	7440224	9.24E-07	No
Existing/Baseline	CL10B	Styrene	100425	3.42E-05	Yes
Existing/Baseline	CL10B	Sulfate	9960	3.15E-04	Yes
Existing/Baseline	CL10B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	CL10B	Tetradecane	629594	4.69E-05	No
Existing/Baseline	CL10B	Thallium	7440280	0.00E+00	No
Existing/Baseline	CL10B	Titanium	7440326	7.22E-08	No
Existing/Baseline	CL10B	Toluene	108883	6.83E-05	Yes
Existing/Baseline	CL10B	Trans2hexene	4050457	2.96E-06	No
Existing/Baseline	CL10B	Trans2pentene	646048	3.55E-05	No
Existing/Baseline	CL10B	Valeraldehyde	110623	2.42E-05	No
Existing/Baseline	CL10B	Xylenes	1330207	3.04E-05	Yes
Existing/Baseline	CL10B	Zinc	7440666	2.22E-07	No
Existing/Baseline	COMRAMP	(1Methylpropyl)Benzene	68411449	3.44E-05	No
Existing/Baseline	COMRAMP	(2Methylpropyl)Benzene	538932	2.29E-05	No
Existing/Baseline	COMRAMP	1,2,3trimethylbenzene	526738	1.22E-03	No
Existing/Baseline	COMRAMP	1,2,4Trimethylbenzene	95636	5.52E-03	No
Existing/Baseline	COMRAMP	1,2Diethylbenzene (Ortho)	135013	1.37E-04	No
Existing/Baseline	COMRAMP	1,2Propadiene	463490	9.28E-04	No
Existing/Baseline	COMRAMP	1,3,5trimethylbenzene	108678	1.26E-03	No
Existing/Baseline	COMRAMP	1,3butadiene	106990	1.29E-02	Yes
Existing/Baseline	COMRAMP	1butene	106989	1.29E-02	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	COMRAMP	1decene	872059	1.27E-03	No
Existing/Baseline	COMRAMP	1hexene	592416	5.05E-03	No
Existing/Baseline	COMRAMP	1Methyl2Ethylbenzene	611143	1.18E-03	No
Existing/Baseline	COMRAMP	1Methyl3Ethylbenzene	620144	2.69E-03	No
Existing/Baseline	COMRAMP	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	4.39E-04	No
Existing/Baseline	COMRAMP	1Methylnaphthalene	90120	1.69E-03	No
Existing/Baseline	COMRAMP	1nonene	124118	1.69E-03	No
Existing/Baseline	COMRAMP	1octene	111660	1.89E-03	No
Existing/Baseline	COMRAMP	1pentene	109671	5.56E-03	No
Existing/Baseline	COMRAMP	2,2,4Trimethylpentane	540841	7.22E-04	No
Existing/Baseline	COMRAMP	2,2Dimethylbutane	75832	3.67E-04	No
Existing/Baseline	COMRAMP	2,3,4Trimethylpentane	565753	4.01E-04	No
Existing/Baseline	COMRAMP	2,3Dimethyl1Butene	563780	2.18E-04	No
Existing/Baseline	COMRAMP	2,3Dimethylhexane	584941	1.26E-04	No
Existing/Baseline	COMRAMP	2,3Dimethylpentane	565593	3.67E-04	No
Existing/Baseline	COMRAMP	2,4Dimethylhexane	589435	2.86E-04	No
Existing/Baseline	COMRAMP	2,4Dimethylpentane	108087	3.21E-04	No
Existing/Baseline	COMRAMP	2methyl1butene	563462	9.60E-04	No
Existing/Baseline	COMRAMP	2methyl1pentene	763291	2.33E-04	No
Existing/Baseline	COMRAMP	2methyl2butene	513359	1.27E-03	No
Existing/Baseline	COMRAMP	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	2.94E-03	No
Existing/Baseline	COMRAMP	2Methylheptane	592278	3.67E-04	No
Existing/Baseline	COMRAMP	2Methylhexane	591764	8.02E-04	No
Existing/Baseline	COMRAMP	2methylnaphthalene	91576	1.41E-03	No
Existing/Baseline	COMRAMP	2Methylpentane	107835	4.41E-03	No
Existing/Baseline	COMRAMP	3methyl1butene	563451	7.68E-04	No
Existing/Baseline	COMRAMP	3Methylhexane	589344	8.59E-04	No
Existing/Baseline	COMRAMP	3Methylpentane	96140	1.01E-03	No
Existing/Baseline	COMRAMP	4methyl1pentene	691372	4.73E-04	No
Existing/Baseline	COMRAMP	Acetaldehyde	75070	2.96E-02	Yes
Existing/Baseline	COMRAMP	Acetone	67641	2.92E-03	No
Existing/Baseline	COMRAMP	Acetylene	74862	3.57E-02	No
Existing/Baseline	COMRAMP	Acrolein (2propenal)	107028	1.68E-02	Yes
Existing/Baseline	COMRAMP	Ammonium	14798039	3.87E-03	No
Existing/Baseline	COMRAMP	Antimony	7440360	0.00E+00	No
Existing/Baseline	COMRAMP	Benzaldehyde	100527	3.33E-03	No
Existing/Baseline	COMRAMP	Benzene	71432	1.73E-02	Yes
Existing/Baseline	COMRAMP	BMethylstyrene	637503	1.83E-04	No
Existing/Baseline	COMRAMP	Bromine	7726956	1.08E-05	No
Existing/Baseline	COMRAMP	Butyraldehyde	123728	8.28E-04	No
Existing/Baseline	COMRAMP	Calcium	7440702	0.00E+00	No
Existing/Baseline	COMRAMP	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	COMRAMP	Chromium	7440473	1.42E-05	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	COMRAMP	Cis2butene	590181	1.60E-03	No
Existing/Baseline	COMRAMP	Cis2pentene	627203	2.18E-03	No
Existing/Baseline	COMRAMP	Copper	7440508	1.17E-04	Yes
Existing/Baseline	COMRAMP	Crotonaldehyde (or 2Butenal)	4170303	7.08E-03	No
Existing/Baseline	COMRAMP	Cumene	98828	1.01E-04	No
Existing/Baseline	COMRAMP	Cyclohexane	110827	4.58E-05	No
Existing/Baseline	COMRAMP	Cyclohexanone	108941	2.29E-05	No
Existing/Baseline	COMRAMP	Cyclopentane	287923	2.18E-04	No
Existing/Baseline	COMRAMP	Decanal	112312	4.01E-02	No
Existing/Baseline	COMRAMP	Dimethyl napthalene	28804888	6.17E-04	No
Existing/Baseline	COMRAMP	Dodecenal	112549	2.00E-02	No
Existing/Baseline	COMRAMP	DPM	9901	1.11E-02	Yes
Existing/Baseline	COMRAMP	Elemental Carbon	7440440	1.17E-02	No
Existing/Baseline	COMRAMP	Ethane	74840	4.52E-03	No
Existing/Baseline	COMRAMP	Ethyl Alcohol	64175	2.29E-05	No
Existing/Baseline	COMRAMP	Ethylbenzene	100414	3.14E-03	Yes
Existing/Baseline	COMRAMP	Ethylene	74851	1.14E-01	No
Existing/Baseline	COMRAMP	Ethylhexane	619998	3.67E-04	No
Existing/Baseline	COMRAMP	Formaldehyde	50000	8.57E-02	Yes
Existing/Baseline	COMRAMP	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	COMRAMP	Glyoxal	107222	1.25E-02	No
Existing/Baseline	COMRAMP	Heptadecane	629787	6.17E-05	No
Existing/Baseline	COMRAMP	Heptene	25339564	3.00E-03	No
Existing/Baseline	COMRAMP	Hexadecane	544763	3.36E-04	No
Existing/Baseline	COMRAMP	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	COMRAMP	Indan	496117	3.21E-04	No
Existing/Baseline	COMRAMP	Indium	7440746	0.00E+00	No
Existing/Baseline	COMRAMP	Insolchlorine	7782505	3.89E-05	Yes
Existing/Baseline	COMRAMP	Iron	7439896	0.00E+00	No
Existing/Baseline	COMRAMP	Isobutane	75285	2.86E-04	No
Existing/Baseline	COMRAMP	Isobutylene	115117	1.26E-03	No
Existing/Baseline	COMRAMP	Isomers Of Diethylbenzene	25340174	2.29E-04	No
Existing/Baseline	COMRAMP	Isopentane	78784	2.75E-03	No
Existing/Baseline	COMRAMP	Isovaleraldehyde	590863	2.19E-04	No
Existing/Baseline	COMRAMP	Magnesium	7439954	6.25E-05	No
Existing/Baseline	COMRAMP	Manganese	7439965	9.92E-06	Yes
Existing/Baseline	COMRAMP	Methane	74828	7.25E-03	No
Existing/Baseline	COMRAMP	Methanol	67561	1.25E-02	Yes
Existing/Baseline	COMRAMP	Methyl Ethyl Ketone {2Butanone}	78933	6.87E-05	Yes
Existing/Baseline	COMRAMP	Methyl NButyl Ketone	591786	2.29E-04	No
Existing/Baseline	COMRAMP	Methylcyclohexane	108872	4.35E-04	No
Existing/Baseline	COMRAMP	Methylcyclopentane	96377	1.25E-03	No
Existing/Baseline	COMRAMP	Methylglyoxal	78988	1.03E-02	No
Existing/Baseline	COMRAMP	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.91E-03	No

Appendix D1. TAC Emission Rates By Source Group
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San Jose, California

Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	COMRAMP	MXylene	108383	3.44E-03	Yes
Existing/Baseline	COMRAMP	Naphthalene	91203	3.80E-03	Yes
Existing/Baseline	COMRAMP	NButane	106978	6.99E-04	No
Existing/Baseline	COMRAMP	N-butylbenzene	104518	4.12E-04	No
Existing/Baseline	COMRAMP	Ndecane	124185	2.45E-03	No
Existing/Baseline	COMRAMP	Ndodecane	112403	3.17E-03	No
Existing/Baseline	COMRAMP	Nheptane	142825	1.03E-03	No
Existing/Baseline	COMRAMP	n-Hexane	110543	1.27E-03	Yes
Existing/Baseline	COMRAMP	Nickel	7440020	1.99E-05	Yes
Existing/Baseline	COMRAMP	Nnonane	111842	8.95E-04	No
Existing/Baseline	COMRAMP	Noctane	111659	7.92E-04	No
Existing/Baseline	COMRAMP	Npentane	109660	2.54E-03	No
Existing/Baseline	COMRAMP	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	COMRAMP	Npropylbenzene	103651	7.65E-04	No
Existing/Baseline	COMRAMP	Ntridecane	629505	3.67E-03	No
Existing/Baseline	COMRAMP	Nundecane	1120214	3.27E-03	No
Existing/Baseline	COMRAMP	oTolualdehyde	529204	1.58E-03	No
Existing/Baseline	COMRAMP	Oxylene	95476	3.89E-03	Yes
Existing/Baseline	COMRAMP	Pentadecane	629629	1.19E-03	No
Existing/Baseline	COMRAMP	Phenol (carbolic acid)	108952	4.98E-03	Yes
Existing/Baseline	COMRAMP	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	COMRAMP	Potassium ion	7440097	4.85E-05	No
Existing/Baseline	COMRAMP	Propane	74986	1.33E-03	No
Existing/Baseline	COMRAMP	Propionaldehyde	123386	5.16E-03	No
Existing/Baseline	COMRAMP	Propylene	115071	3.49E-02	Yes
Existing/Baseline	COMRAMP	pTolualdehyde	104870	3.29E-04	No
Existing/Baseline	COMRAMP	PXylene	106423	2.30E-03	Yes
Existing/Baseline	COMRAMP	Silicon	7440213	2.17E-04	No
Existing/Baseline	COMRAMP	Silver	7440224	3.65E-05	No
Existing/Baseline	COMRAMP	Styrene	100425	2.35E-03	Yes
Existing/Baseline	COMRAMP	Sulfate	9960	1.25E-02	Yes
Existing/Baseline	COMRAMP	Sulfur	7704349	0.00E+00	No
Existing/Baseline	COMRAMP	Tetradecane	629594	2.85E-03	No
Existing/Baseline	COMRAMP	Thallium	7440280	0.00E+00	No
Existing/Baseline	COMRAMP	Titanium	7440326	2.86E-06	No
Existing/Baseline	COMRAMP	Toluene	108883	1.33E-02	Yes
Existing/Baseline	COMRAMP	Trans2Butene	624646	2.29E-04	No
Existing/Baseline	COMRAMP	Trans2hexene	4050457	2.06E-04	No
Existing/Baseline	COMRAMP	Trans2pentene	646048	2.85E-03	No
Existing/Baseline	COMRAMP	Valeraldehyde	110623	1.68E-03	No
Existing/Baseline	COMRAMP	Xylenes	1330207	1.93E-03	Yes
Existing/Baseline	COMRAMP	Zinc	7440666	8.79E-06	No
Existing/Baseline	CT04A	1,2,3trimethylbenzene	526738	4.57E-07	No
Existing/Baseline	CT04A	1,2,4Trimethylbenzene	95636	1.51E-06	No
Existing/Baseline	CT04A	1,3,5trimethylbenzene	108678	2.33E-07	No
Existing/Baseline	CT04A	1,3butadiene	106990	7.27E-06	Yes
Existing/Baseline	CT04A	1butene	106989	7.56E-06	No
Existing/Baseline	CT04A	1decene	872059	7.98E-07	No
Existing/Baseline	CT04A	1hexene	592416	3.17E-06	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CT04A	1Methyl2Ethylbenzene	611143	2.80E-07	No
Existing/Baseline	CT04A	1Methyl3Ethylbenzene	620144	6.64E-07	No
Existing/Baseline	CT04A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	2.76E-07	No
Existing/Baseline	CT04A	1Methylnaphthalene	90120	1.06E-06	No
Existing/Baseline	CT04A	1nonene	124118	1.06E-06	No
Existing/Baseline	CT04A	1octene	111660	1.19E-06	No
Existing/Baseline	CT04A	1pentene	109671	3.35E-06	No
Existing/Baseline	CT04A	2methyl1butene	563462	6.04E-07	No
Existing/Baseline	CT04A	2methyl1pentene	763291	1.47E-07	No
Existing/Baseline	CT04A	2methyl2butene	513359	7.98E-07	No
Existing/Baseline	CT04A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.85E-06	No
Existing/Baseline	CT04A	2methylnaphthalene	91576	8.88E-07	No
Existing/Baseline	CT04A	2Methylpentane	107835	1.76E-06	No
Existing/Baseline	CT04A	3methyl1butene	563451	4.83E-07	No
Existing/Baseline	CT04A	4methyl1pentene	691372	2.97E-07	No
Existing/Baseline	CT04A	Acetaldehyde	75070	1.84E-05	Yes
Existing/Baseline	CT04A	Acetone	67641	1.59E-06	No
Existing/Baseline	CT04A	Acetylene	74862	1.70E-05	No
Existing/Baseline	CT04A	Acrolein (2propenal)	107028	1.06E-05	Yes
Existing/Baseline	CT04A	Ammonium	14798039	2.81E-05	No
Existing/Baseline	CT04A	Antimony	7440360	0.00E+00	No
Existing/Baseline	CT04A	Benzaldehyde	100527	2.03E-06	No
Existing/Baseline	CT04A	Benzene	71432	7.25E-06	Yes
Existing/Baseline	CT04A	Bromine	7726956	7.81E-08	No
Existing/Baseline	CT04A	Butyraldehyde	123728	5.13E-07	No
Existing/Baseline	CT04A	Calcium	7440702	0.00E+00	No
Existing/Baseline	CT04A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	CT04A	Chromium	7440473	1.03E-07	No
Existing/Baseline	CT04A	Cis2butene	590181	9.05E-07	No
Existing/Baseline	CT04A	Cis2pentene	627203	1.19E-06	No
Existing/Baseline	CT04A	Copper	7440508	8.49E-07	Yes
Existing/Baseline	CT04A	Crotonaldehyde (or 2Butenal)	4170303	4.45E-06	No
Existing/Baseline	CT04A	Cumene	98828	1.29E-08	No
Existing/Baseline	CT04A	Decanal	112312	2.52E-05	No
Existing/Baseline	CT04A	Dimethyl napthalene	28804888	3.88E-07	No
Existing/Baseline	CT04A	Dodecenal	112549	1.26E-05	No
Existing/Baseline	CT04A	Elemental Carbon	7440440	8.50E-05	No
Existing/Baseline	CT04A	Ethane	74840	2.25E-06	No
Existing/Baseline	CT04A	Ethylbenzene	100414	7.50E-07	Yes
Existing/Baseline	CT04A	Ethylene	74851	6.67E-05	No
Existing/Baseline	CT04A	Formaldehyde	50000	5.31E-05	Yes
Existing/Baseline	CT04A	Furfuryl alcohol	98000	0.00E+00	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CT04A	Glyoxal	107222	7.83E-06	No
Existing/Baseline	CT04A	Heptadecane	629787	3.88E-08	No
Existing/Baseline	CT04A	Heptene	25339564	1.89E-06	No
Existing/Baseline	CT04A	Hexadecane	544763	2.11E-07	No
Existing/Baseline	CT04A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	CT04A	Indium	7440746	0.00E+00	No
Existing/Baseline	CT04A	Insolchlorine	7782505	2.83E-07	Yes
Existing/Baseline	CT04A	Iron	7439896	0.00E+00	No
Existing/Baseline	CT04A	Isovaleraldehyde	590863	1.38E-07	No
Existing/Baseline	CT04A	Magnesium	7439954	4.54E-07	No
Existing/Baseline	CT04A	Manganese	7439965	7.20E-08	Yes
Existing/Baseline	CT04A	Methane	74828	0.00E+00	No
Existing/Baseline	CT04A	Methanol	67561	7.78E-06	Yes
Existing/Baseline	CT04A	Methylglyoxal	78988	6.48E-06	No
Existing/Baseline	CT04A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.20E-06	No
Existing/Baseline	CT04A	Naphthalene	91203	2.33E-06	Yes
Existing/Baseline	CT04A	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	CT04A	Ndecane	124185	1.38E-06	No
Existing/Baseline	CT04A	Ndodecane	112403	1.99E-06	No
Existing/Baseline	CT04A	Nheptane	142825	2.76E-07	No
Existing/Baseline	CT04A	Nickel	7440020	1.44E-07	Yes
Existing/Baseline	CT04A	Nnonane	111842	2.67E-07	No
Existing/Baseline	CT04A	Noctane	111659	2.67E-07	No
Existing/Baseline	CT04A	Npentane	109660	8.54E-07	No
Existing/Baseline	CT04A	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	CT04A	Npropylbenzene	103651	2.29E-07	No
Existing/Baseline	CT04A	Ntridecane	629505	2.31E-06	No
Existing/Baseline	CT04A	Nundecane	1120214	1.91E-06	No
Existing/Baseline	CT04A	oTolualdehyde	529204	9.92E-07	No
Existing/Baseline	CT04A	Oxylene	95476	7.16E-07	Yes
Existing/Baseline	CT04A	Pentadecane	629629	7.46E-07	No
Existing/Baseline	CT04A	Phenol (carbolic acid)	108952	3.13E-06	Yes
Existing/Baseline	CT04A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	CT04A	Potassium ion	7440097	3.52E-07	No
Existing/Baseline	CT04A	Propane	74986	3.36E-07	No
Existing/Baseline	CT04A	Propionaldehyde	123386	3.13E-06	No
Existing/Baseline	CT04A	Propylene	115071	1.95E-05	Yes
Existing/Baseline	CT04A	pTolualdehyde	104870	2.07E-07	No
Existing/Baseline	CT04A	Silicon	7440213	1.57E-06	No
Existing/Baseline	CT04A	Silver	7440224	2.65E-07	No
Existing/Baseline	CT04A	Styrene	100425	1.33E-06	Yes
Existing/Baseline	CT04A	Sulfate	9960	9.05E-05	Yes
Existing/Baseline	CT04A	Sulfur	7704349	0.00E+00	No
Existing/Baseline	CT04A	Tetradecane	629594	1.79E-06	No
Existing/Baseline	CT04A	Thallium	7440280	0.00E+00	No
Existing/Baseline	CT04A	Titanium	7440326	2.07E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CT04A	Toluene	108883	2.77E-06	Yes
Existing/Baseline	CT04A	Trans2hexene	4050457	1.29E-07	No
Existing/Baseline	CT04A	Trans2pentene	646048	1.55E-06	No
Existing/Baseline	CT04A	Valeraldehyde	110623	1.06E-06	No
Existing/Baseline	CT04A	Xylenes	1330207	1.22E-06	Yes
Existing/Baseline	CT04A	Zinc	7440666	6.39E-08	No
Existing/Baseline	CT04B	1,2,3trimethylbenzene	526738	1.92E-07	No
Existing/Baseline	CT04B	1,2,4Trimethylbenzene	95636	6.35E-07	No
Existing/Baseline	CT04B	1,3,5trimethylbenzene	108678	9.79E-08	No
Existing/Baseline	CT04B	1,3butadiene	106990	3.06E-06	Yes
Existing/Baseline	CT04B	1butene	106989	3.18E-06	No
Existing/Baseline	CT04B	1decene	872059	3.36E-07	No
Existing/Baseline	CT04B	1hexene	592416	1.33E-06	No
Existing/Baseline	CT04B	1Methyl2Ethylbenzene	611143	1.18E-07	No
Existing/Baseline	CT04B	1Methyl3Ethylbenzene	620144	2.79E-07	No
Existing/Baseline	CT04B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.16E-07	No
Existing/Baseline	CT04B	1Methylnaphthalene	90120	4.48E-07	No
Existing/Baseline	CT04B	1nonene	124118	4.46E-07	No
Existing/Baseline	CT04B	1octene	111660	5.01E-07	No
Existing/Baseline	CT04B	1pentene	109671	1.41E-06	No
Existing/Baseline	CT04B	2methyl1butene	563462	2.54E-07	No
Existing/Baseline	CT04B	2methyl1pentene	763291	6.17E-08	No
Existing/Baseline	CT04B	2methyl2butene	513359	3.36E-07	No
Existing/Baseline	CT04B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	7.78E-07	No
Existing/Baseline	CT04B	2methylnaphthalene	91576	3.74E-07	No
Existing/Baseline	CT04B	2Methylpentane	107835	7.40E-07	No
Existing/Baseline	CT04B	3methyl1butene	563451	2.03E-07	No
Existing/Baseline	CT04B	4methyl1pentene	691372	1.25E-07	No
Existing/Baseline	CT04B	Acetaldehyde	75070	7.75E-06	Yes
Existing/Baseline	CT04B	Acetone	67641	6.69E-07	No
Existing/Baseline	CT04B	Acetylene	74862	7.14E-06	No
Existing/Baseline	CT04B	Acrolein (2propenal)	107028	4.44E-06	Yes
Existing/Baseline	CT04B	Ammonium	14798039	1.20E-05	No
Existing/Baseline	CT04B	Antimony	7440360	0.00E+00	No
Existing/Baseline	CT04B	Benzaldehyde	100527	8.52E-07	No
Existing/Baseline	CT04B	Benzene	71432	3.05E-06	Yes
Existing/Baseline	CT04B	Bromine	7726956	3.33E-08	No
Existing/Baseline	CT04B	Butyraldehyde	123728	2.16E-07	No
Existing/Baseline	CT04B	Calcium	7440702	0.00E+00	No
Existing/Baseline	CT04B	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	CT04B	Chromium	7440473	4.39E-08	No
Existing/Baseline	CT04B	Cis2butene	590181	3.81E-07	No
Existing/Baseline	CT04B	Cis2pentene	627203	5.01E-07	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CT04B	Copper	7440508	3.62E-07	Yes
Existing/Baseline	CT04B	Crotonaldehyde (or 2Butenal)	4170303	1.87E-06	No
Existing/Baseline	CT04B	Cumene	98828	5.44E-09	No
Existing/Baseline	CT04B	Decanal	112312	1.06E-05	No
Existing/Baseline	CT04B	Dimethyl napthalene	28804888	1.63E-07	No
Existing/Baseline	CT04B	Dodecenal	112549	5.30E-06	No
Existing/Baseline	CT04B	Elemental Carbon	7440440	3.62E-05	No
Existing/Baseline	CT04B	Ethane	74840	9.45E-07	No
Existing/Baseline	CT04B	Ethylbenzene	100414	3.16E-07	Yes
Existing/Baseline	CT04B	Ethylene	74851	2.80E-05	No
Existing/Baseline	CT04B	Formaldehyde	50000	2.23E-05	Yes
Existing/Baseline	CT04B	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	CT04B	Glyoxal	107222	3.29E-06	No
Existing/Baseline	CT04B	Heptadecane	629787	1.63E-08	No
Existing/Baseline	CT04B	Heptene	25339564	7.94E-07	No
Existing/Baseline	CT04B	Hexadecane	544763	8.89E-08	No
Existing/Baseline	CT04B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	CT04B	Indium	7440746	0.00E+00	No
Existing/Baseline	CT04B	Insolchlorine	7782505	1.21E-07	Yes
Existing/Baseline	CT04B	Iron	7439896	0.00E+00	No
Existing/Baseline	CT04B	Isovaleraldehyde	590863	5.80E-08	No
Existing/Baseline	CT04B	Magnesium	7439954	1.93E-07	No
Existing/Baseline	CT04B	Manganese	7439965	3.07E-08	Yes
Existing/Baseline	CT04B	Methane	74828	0.00E+00	No
Existing/Baseline	CT04B	Methanol	67561	3.27E-06	Yes
Existing/Baseline	CT04B	Methylglyoxal	78988	2.73E-06	No
Existing/Baseline	CT04B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	5.04E-07	No
Existing/Baseline	CT04B	Naphthalene	91203	9.81E-07	Yes
Existing/Baseline	CT04B	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	CT04B	Ndecane	124185	5.80E-07	No
Existing/Baseline	CT04B	Ndodecane	112403	8.38E-07	No
Existing/Baseline	CT04B	Nheptane	142825	1.16E-07	No
Existing/Baseline	CT04B	Nickel	7440020	6.16E-08	Yes
Existing/Baseline	CT04B	Nnonane	111842	1.12E-07	No
Existing/Baseline	CT04B	Noctane	111659	1.12E-07	No
Existing/Baseline	CT04B	Npentane	109660	3.59E-07	No
Existing/Baseline	CT04B	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	CT04B	Npropylbenzene	103651	9.61E-08	No
Existing/Baseline	CT04B	Ntridecane	629505	9.70E-07	No
Existing/Baseline	CT04B	Nundecane	1120214	8.05E-07	No
Existing/Baseline	CT04B	oTolualdehyde	529204	4.17E-07	No
Existing/Baseline	CT04B	Oxylene	95476	3.01E-07	Yes
Existing/Baseline	CT04B	Pentadecane	629629	3.14E-07	No
Existing/Baseline	CT04B	Phenol (carbolic acid)	108952	1.32E-06	Yes
Existing/Baseline	CT04B	Phosphorus	7723140	0.00E+00	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CT04B	Potassium ion	7440097	1.50E-07	No
Existing/Baseline	CT04B	Propane	74986	1.41E-07	No
Existing/Baseline	CT04B	Propionaldehyde	123386	1.32E-06	No
Existing/Baseline	CT04B	Propylene	115071	8.22E-06	Yes
Existing/Baseline	CT04B	pTolualdehyde	104870	8.71E-08	No
Existing/Baseline	CT04B	Silicon	7440213	6.71E-07	No
Existing/Baseline	CT04B	Silver	7440224	1.13E-07	No
Existing/Baseline	CT04B	Styrene	100425	5.60E-07	Yes
Existing/Baseline	CT04B	Sulfate	9960	3.86E-05	Yes
Existing/Baseline	CT04B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	CT04B	Tetradecane	629594	7.55E-07	No
Existing/Baseline	CT04B	Thallium	7440280	0.00E+00	No
Existing/Baseline	CT04B	Titanium	7440326	8.85E-09	No
Existing/Baseline	CT04B	Toluene	108883	1.16E-06	Yes
Existing/Baseline	CT04B	Trans2hexene	4050457	5.44E-08	No
Existing/Baseline	CT04B	Trans2pentene	646048	6.51E-07	No
Existing/Baseline	CT04B	Valeraldehyde	110623	4.44E-07	No
Existing/Baseline	CT04B	Xylenes	1330207	5.11E-07	Yes
Existing/Baseline	CT04B	Zinc	7440666	2.72E-08	No
Existing/Baseline	CT18A	1,2,3trimethylbenzene	526738	1.63E-05	No
Existing/Baseline	CT18A	1,2,4Trimethylbenzene	95636	5.40E-05	No
Existing/Baseline	CT18A	1,3,5trimethylbenzene	108678	8.32E-06	No
Existing/Baseline	CT18A	1,3butadiene	106990	2.60E-04	Yes
Existing/Baseline	CT18A	1butene	106989	2.70E-04	No
Existing/Baseline	CT18A	1decene	872059	2.85E-05	No
Existing/Baseline	CT18A	1hexene	592416	1.13E-04	No
Existing/Baseline	CT18A	1Methyl2Ethylbenzene	611143	1.00E-05	No
Existing/Baseline	CT18A	1Methyl3Ethylbenzene	620144	2.37E-05	No
Existing/Baseline	CT18A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	9.87E-06	No
Existing/Baseline	CT18A	1Methylnaphthalene	90120	3.81E-05	No
Existing/Baseline	CT18A	1nonene	124118	3.79E-05	No
Existing/Baseline	CT18A	1octene	111660	4.25E-05	No
Existing/Baseline	CT18A	1pentene	109671	1.20E-04	No
Existing/Baseline	CT18A	2methyl1butene	563462	2.16E-05	No
Existing/Baseline	CT18A	2methyl1pentene	763291	5.24E-06	No
Existing/Baseline	CT18A	2methyl2butene	513359	2.85E-05	No
Existing/Baseline	CT18A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	6.61E-05	No
Existing/Baseline	CT18A	2methylnaphthalene	91576	3.18E-05	No
Existing/Baseline	CT18A	2Methylpentane	107835	6.29E-05	No
Existing/Baseline	CT18A	3methyl1butene	563451	1.73E-05	No
Existing/Baseline	CT18A	4methyl1pentene	691372	1.06E-05	No
Existing/Baseline	CT18A	Acetaldehyde	75070	6.59E-04	Yes
Existing/Baseline	CT18A	Acetone	67641	5.69E-05	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CT18A	Acetylene	74862	6.07E-04	No
Existing/Baseline	CT18A	Acrolein (2propenal)	107028	3.78E-04	Yes
Existing/Baseline	CT18A	Ammonium	14798039	1.00E-03	No
Existing/Baseline	CT18A	Antimony	7440360	0.00E+00	No
Existing/Baseline	CT18A	Benzaldehyde	100527	7.25E-05	No
Existing/Baseline	CT18A	Benzene	71432	2.59E-04	Yes
Existing/Baseline	CT18A	Bromine	7726956	2.79E-06	No
Existing/Baseline	CT18A	Butyraldehyde	123728	1.83E-05	No
Existing/Baseline	CT18A	Calcium	7440702	0.00E+00	No
Existing/Baseline	CT18A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	CT18A	Chromium	7440473	3.68E-06	No
Existing/Baseline	CT18A	Cis2butene	590181	3.24E-05	No
Existing/Baseline	CT18A	Cis2pentene	627203	4.25E-05	No
Existing/Baseline	CT18A	Copper	7440508	3.03E-05	Yes
Existing/Baseline	CT18A	Crotonaldehyde (or 2Butenal)	4170303	1.59E-04	No
Existing/Baseline	CT18A	Cumene	98828	4.62E-07	No
Existing/Baseline	CT18A	Decanal	112312	9.01E-04	No
Existing/Baseline	CT18A	Dimethyl napthalene	28804888	1.39E-05	No
Existing/Baseline	CT18A	Dodecenal	112549	4.50E-04	No
Existing/Baseline	CT18A	Elemental Carbon	7440440	3.04E-03	No
Existing/Baseline	CT18A	Ethane	74840	8.03E-05	No
Existing/Baseline	CT18A	Ethylbenzene	100414	2.68E-05	Yes
Existing/Baseline	CT18A	Ethylene	74851	2.38E-03	No
Existing/Baseline	CT18A	Formaldehyde	50000	1.90E-03	Yes
Existing/Baseline	CT18A	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	CT18A	Glyoxal	107222	2.80E-04	No
Existing/Baseline	CT18A	Heptadecane	629787	1.39E-06	No
Existing/Baseline	CT18A	Heptene	25339564	6.75E-05	No
Existing/Baseline	CT18A	Hexadecane	544763	7.55E-06	No
Existing/Baseline	CT18A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	CT18A	Indium	7440746	0.00E+00	No
Existing/Baseline	CT18A	Insolchlorine	7782505	1.01E-05	Yes
Existing/Baseline	CT18A	Iron	7439896	0.00E+00	No
Existing/Baseline	CT18A	Isovaleraldehyde	590863	4.93E-06	No
Existing/Baseline	CT18A	Magnesium	7439954	1.62E-05	No
Existing/Baseline	CT18A	Manganese	7439965	2.57E-06	Yes
Existing/Baseline	CT18A	Methane	74828	0.00E+00	No
Existing/Baseline	CT18A	Methanol	67561	2.78E-04	Yes
Existing/Baseline	CT18A	Methylglyoxal	78988	2.32E-04	No
Existing/Baseline	CT18A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	4.29E-05	No
Existing/Baseline	CT18A	Naphthalene	91203	8.34E-05	Yes
Existing/Baseline	CT18A	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	CT18A	Ndecane	124185	4.93E-05	No
Existing/Baseline	CT18A	Ndodecane	112403	7.12E-05	No
Existing/Baseline	CT18A	Nheptane	142825	9.87E-06	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CT18A	Nickel	7440020	5.16E-06	Yes
Existing/Baseline	CT18A	Nnonane	111842	9.56E-06	No
Existing/Baseline	CT18A	Noctane	111659	9.56E-06	No
Existing/Baseline	CT18A	Npentane	109660	3.05E-05	No
Existing/Baseline	CT18A	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	CT18A	Npropylbenzene	103651	8.17E-06	No
Existing/Baseline	CT18A	Ntridecane	629505	8.25E-05	No
Existing/Baseline	CT18A	Nundecane	1120214	6.84E-05	No
Existing/Baseline	CT18A	oTolualdehyde	529204	3.55E-05	No
Existing/Baseline	CT18A	Oxylene	95476	2.56E-05	Yes
Existing/Baseline	CT18A	Pentadecane	629629	2.67E-05	No
Existing/Baseline	CT18A	Phenol (carbolic acid)	108952	1.12E-04	Yes
Existing/Baseline	CT18A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	CT18A	Potassium ion	7440097	1.26E-05	No
Existing/Baseline	CT18A	Propane	74986	1.20E-05	No
Existing/Baseline	CT18A	Propionaldehyde	123386	1.12E-04	No
Existing/Baseline	CT18A	Propylene	115071	6.99E-04	Yes
Existing/Baseline	CT18A	pTolualdehyde	104870	7.40E-06	No
Existing/Baseline	CT18A	Silicon	7440213	5.62E-05	No
Existing/Baseline	CT18A	Silver	7440224	9.48E-06	No
Existing/Baseline	CT18A	Styrene	100425	4.76E-05	Yes
Existing/Baseline	CT18A	Sulfate	9960	3.24E-03	Yes
Existing/Baseline	CT18A	Sulfur	7704349	0.00E+00	No
Existing/Baseline	CT18A	Tetradecane	629594	6.41E-05	No
Existing/Baseline	CT18A	Thallium	7440280	0.00E+00	No
Existing/Baseline	CT18A	Titanium	7440326	7.42E-07	No
Existing/Baseline	CT18A	Toluene	108883	9.90E-05	Yes
Existing/Baseline	CT18A	Trans2hexene	4050457	4.62E-06	No
Existing/Baseline	CT18A	Trans2pentene	646048	5.53E-05	No
Existing/Baseline	CT18A	Valeraldehyde	110623	3.78E-05	No
Existing/Baseline	CT18A	Xylenes	1330207	4.35E-05	Yes
Existing/Baseline	CT18A	Zinc	7440666	2.28E-06	No
Existing/Baseline	CT18B	1,2,3trimethylbenzene	526738	6.87E-06	No
Existing/Baseline	CT18B	1,2,4Trimethylbenzene	95636	2.27E-05	No
Existing/Baseline	CT18B	1,3,5trimethylbenzene	108678	3.50E-06	No
Existing/Baseline	CT18B	1,3butadiene	106990	1.09E-04	Yes
Existing/Baseline	CT18B	1butene	106989	1.14E-04	No
Existing/Baseline	CT18B	1decene	872059	1.20E-05	No
Existing/Baseline	CT18B	1hexene	592416	4.77E-05	No
Existing/Baseline	CT18B	1Methyl2Ethylbenzene	611143	4.22E-06	No
Existing/Baseline	CT18B	1Methyl3Ethylbenzene	620144	9.99E-06	No
Existing/Baseline	CT18B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	4.15E-06	No
Existing/Baseline	CT18B	1Methylnaphthalene	90120	1.60E-05	No
Existing/Baseline	CT18B	1nonene	124118	1.60E-05	No
Existing/Baseline	CT18B	1octene	111660	1.79E-05	No
Existing/Baseline	CT18B	1pentene	109671	5.03E-05	No
Existing/Baseline	CT18B	2methyl1butene	563462	9.08E-06	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CT18B	2methyl1pentene	763291	2.20E-06	No
Existing/Baseline	CT18B	2methyl2butene	513359	1.20E-05	No
Existing/Baseline	CT18B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	2.78E-05	No
Existing/Baseline	CT18B	2methylnaphthalene	91576	1.34E-05	No
Existing/Baseline	CT18B	2Methylpentane	107835	2.65E-05	No
Existing/Baseline	CT18B	3methyl1butene	563451	7.26E-06	No
Existing/Baseline	CT18B	4methyl1pentene	691372	4.47E-06	No
Existing/Baseline	CT18B	Acetaldehyde	75070	2.77E-04	Yes
Existing/Baseline	CT18B	Acetone	67641	2.39E-05	No
Existing/Baseline	CT18B	Acetylene	74862	2.55E-04	No
Existing/Baseline	CT18B	Acrolein (2propenal)	107028	1.59E-04	Yes
Existing/Baseline	CT18B	Ammonium	14798039	4.28E-04	No
Existing/Baseline	CT18B	Antimony	7440360	0.00E+00	No
Existing/Baseline	CT18B	Benzaldehyde	100527	3.05E-05	No
Existing/Baseline	CT18B	Benzene	71432	1.09E-04	Yes
Existing/Baseline	CT18B	Bromine	7726956	1.19E-06	No
Existing/Baseline	CT18B	Butyraldehyde	123728	7.72E-06	No
Existing/Baseline	CT18B	Calcium	7440702	0.00E+00	No
Existing/Baseline	CT18B	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	CT18B	Chromium	7440473	1.57E-06	No
Existing/Baseline	CT18B	Cis2butene	590181	1.36E-05	No
Existing/Baseline	CT18B	Cis2pentene	627203	1.79E-05	No
Existing/Baseline	CT18B	Copper	7440508	1.29E-05	Yes
Existing/Baseline	CT18B	Crotonaldehyde (or 2Butenal)	4170303	6.70E-05	No
Existing/Baseline	CT18B	Cumene	98828	1.95E-07	No
Existing/Baseline	CT18B	Decanal	112312	3.79E-04	No
Existing/Baseline	CT18B	Dimethyl napthalene	28804888	5.84E-06	No
Existing/Baseline	CT18B	Dodecenal	112549	1.89E-04	No
Existing/Baseline	CT18B	Elemental Carbon	7440440	1.30E-03	No
Existing/Baseline	CT18B	Ethane	74840	3.38E-05	No
Existing/Baseline	CT18B	Ethylbenzene	100414	1.13E-05	Yes
Existing/Baseline	CT18B	Ethylene	74851	1.00E-03	No
Existing/Baseline	CT18B	Formaldehyde	50000	7.98E-04	Yes
Existing/Baseline	CT18B	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	CT18B	Glyoxal	107222	1.18E-04	No
Existing/Baseline	CT18B	Heptadecane	629787	5.84E-07	No
Existing/Baseline	CT18B	Heptene	25339564	2.84E-05	No
Existing/Baseline	CT18B	Hexadecane	544763	3.18E-06	No
Existing/Baseline	CT18B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	CT18B	Indium	7440746	0.00E+00	No
Existing/Baseline	CT18B	Insolchlorine	7782505	4.31E-06	Yes
Existing/Baseline	CT18B	Iron	7439896	0.00E+00	No
Existing/Baseline	CT18B	Isovaleraldehyde	590863	2.08E-06	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CT18B	Magnesium	7439954	6.91E-06	No
Existing/Baseline	CT18B	Manganese	7439965	1.10E-06	Yes
Existing/Baseline	CT18B	Methane	74828	0.00E+00	No
Existing/Baseline	CT18B	Methanol	67561	1.17E-04	Yes
Existing/Baseline	CT18B	Methylglyoxal	78988	9.75E-05	No
Existing/Baseline	CT18B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.80E-05	No
Existing/Baseline	CT18B	Naphthalene	91203	3.51E-05	Yes
Existing/Baseline	CT18B	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	CT18B	Ndecane	124185	2.08E-05	No
Existing/Baseline	CT18B	Ndodecane	112403	3.00E-05	No
Existing/Baseline	CT18B	Nheptane	142825	4.15E-06	No
Existing/Baseline	CT18B	Nickel	7440020	2.20E-06	Yes
Existing/Baseline	CT18B	Nnonane	111842	4.02E-06	No
Existing/Baseline	CT18B	Noctane	111659	4.02E-06	No
Existing/Baseline	CT18B	Npentane	109660	1.28E-05	No
Existing/Baseline	CT18B	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	CT18B	Npropylbenzene	103651	3.44E-06	No
Existing/Baseline	CT18B	Ntridecane	629505	3.47E-05	No
Existing/Baseline	CT18B	Nundecane	1120214	2.88E-05	No
Existing/Baseline	CT18B	oTolualdehyde	529204	1.49E-05	No
Existing/Baseline	CT18B	Oxylene	95476	1.08E-05	Yes
Existing/Baseline	CT18B	Pentadecane	629629	1.12E-05	No
Existing/Baseline	CT18B	Phenol (carbolic acid)	108952	4.71E-05	Yes
Existing/Baseline	CT18B	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	CT18B	Potassium ion	7440097	5.36E-06	No
Existing/Baseline	CT18B	Propane	74986	5.06E-06	No
Existing/Baseline	CT18B	Propionaldehyde	123386	4.71E-05	No
Existing/Baseline	CT18B	Propylene	115071	2.94E-04	Yes
Existing/Baseline	CT18B	pTolualdehyde	104870	3.11E-06	No
Existing/Baseline	CT18B	Silicon	7440213	2.40E-05	No
Existing/Baseline	CT18B	Silver	7440224	4.04E-06	No
Existing/Baseline	CT18B	Styrene	100425	2.00E-05	Yes
Existing/Baseline	CT18B	Sulfate	9960	1.38E-03	Yes
Existing/Baseline	CT18B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	CT18B	Tetradecane	629594	2.70E-05	No
Existing/Baseline	CT18B	Thallium	7440280	0.00E+00	No
Existing/Baseline	CT18B	Titanium	7440326	3.16E-07	No
Existing/Baseline	CT18B	Toluene	108883	4.16E-05	Yes
Existing/Baseline	CT18B	Trans2hexene	4050457	1.95E-06	No
Existing/Baseline	CT18B	Trans2pentene	646048	2.33E-05	No
Existing/Baseline	CT18B	Valeraldehyde	110623	1.59E-05	No
Existing/Baseline	CT18B	Xylenes	1330207	1.83E-05	Yes
Existing/Baseline	CT18B	Zinc	7440666	9.74E-07	No
Existing/Baseline	CT23A	1,2,3trimethylbenzene	526738	1.93E-06	No
Existing/Baseline	CT23A	1,2,4Trimethylbenzene	95636	6.38E-06	No
Existing/Baseline	CT23A	1,3,5trimethylbenzene	108678	9.85E-07	No
Existing/Baseline	CT23A	1,3butadiene	106990	3.08E-05	Yes

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CT23A	1butene	106989	3.20E-05	No
Existing/Baseline	CT23A	1decene	872059	3.37E-06	No
Existing/Baseline	CT23A	1hexene	592416	1.34E-05	No
Existing/Baseline	CT23A	1Methyl2Ethylbenzene	611143	1.19E-06	No
Existing/Baseline	CT23A	1Methyl3Ethylbenzene	620144	2.81E-06	No
Existing/Baseline	CT23A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.17E-06	No
Existing/Baseline	CT23A	1Methylnaphthalene	90120	4.50E-06	No
Existing/Baseline	CT23A	1nonene	124118	4.49E-06	No
Existing/Baseline	CT23A	1octene	111660	5.03E-06	No
Existing/Baseline	CT23A	1pentene	109671	1.41E-05	No
Existing/Baseline	CT23A	2methyl1butene	563462	2.55E-06	No
Existing/Baseline	CT23A	2methyl1pentene	763291	6.20E-07	No
Existing/Baseline	CT23A	2methyl2butene	513359	3.37E-06	No
Existing/Baseline	CT23A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	7.82E-06	No
Existing/Baseline	CT23A	2methylnaphthalene	91576	3.76E-06	No
Existing/Baseline	CT23A	2Methylpentane	107835	7.44E-06	No
Existing/Baseline	CT23A	3methyl1butene	563451	2.04E-06	No
Existing/Baseline	CT23A	4methyl1pentene	691372	1.26E-06	No
Existing/Baseline	CT23A	Acetaldehyde	75070	7.79E-05	Yes
Existing/Baseline	CT23A	Acetone	67641	6.73E-06	No
Existing/Baseline	CT23A	Acetylene	74862	7.18E-05	No
Existing/Baseline	CT23A	Acrolein (2propenal)	107028	4.47E-05	Yes
Existing/Baseline	CT23A	Ammonium	14798039	1.19E-04	No
Existing/Baseline	CT23A	Antimony	7440360	0.00E+00	No
Existing/Baseline	CT23A	Benzaldehyde	100527	8.57E-06	No
Existing/Baseline	CT23A	Benzene	71432	3.06E-05	Yes
Existing/Baseline	CT23A	Bromine	7726956	3.30E-07	No
Existing/Baseline	CT23A	Butyraldehyde	123728	2.17E-06	No
Existing/Baseline	CT23A	Calcium	7440702	0.00E+00	No
Existing/Baseline	CT23A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	CT23A	Chromium	7440473	4.35E-07	No
Existing/Baseline	CT23A	Cis2butene	590181	3.83E-06	No
Existing/Baseline	CT23A	Cis2pentene	627203	5.03E-06	No
Existing/Baseline	CT23A	Copper	7440508	3.59E-06	Yes
Existing/Baseline	CT23A	Crotonaldehyde (or 2Butenal)	4170303	1.88E-05	No
Existing/Baseline	CT23A	Cumene	98828	5.47E-08	No
Existing/Baseline	CT23A	Decanal	112312	1.07E-04	No
Existing/Baseline	CT23A	Dimethyl napthalene	28804888	1.64E-06	No
Existing/Baseline	CT23A	Dodecenal	112549	5.33E-05	No
Existing/Baseline	CT23A	Elemental Carbon	7440440	3.59E-04	No
Existing/Baseline	CT23A	Ethane	74840	9.50E-06	No
Existing/Baseline	CT23A	Ethylbenzene	100414	3.17E-06	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CT23A	Ethylene	74851	2.82E-04	No
Existing/Baseline	CT23A	Formaldehyde	50000	2.24E-04	Yes
Existing/Baseline	CT23A	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	CT23A	Glyoxal	107222	3.31E-05	No
Existing/Baseline	CT23A	Heptadecane	629787	1.64E-07	No
Existing/Baseline	CT23A	Heptene	25339564	7.99E-06	No
Existing/Baseline	CT23A	Hexadecane	544763	8.93E-07	No
Existing/Baseline	CT23A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	CT23A	Indium	7440746	0.00E+00	No
Existing/Baseline	CT23A	Insolchlorine	7782505	1.20E-06	Yes
Existing/Baseline	CT23A	Iron	7439896	0.00E+00	No
Existing/Baseline	CT23A	Isovaleraldehyde	590863	5.83E-07	No
Existing/Baseline	CT23A	Magnesium	7439954	1.92E-06	No
Existing/Baseline	CT23A	Manganese	7439965	3.04E-07	Yes
Existing/Baseline	CT23A	Methane	74828	0.00E+00	No
Existing/Baseline	CT23A	Methanol	67561	3.29E-05	Yes
Existing/Baseline	CT23A	Methylglyoxal	78988	2.74E-05	No
Existing/Baseline	CT23A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	5.07E-06	No
Existing/Baseline	CT23A	Naphthalene	91203	9.86E-06	Yes
Existing/Baseline	CT23A	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	CT23A	Ndecane	124185	5.83E-06	No
Existing/Baseline	CT23A	Ndodecane	112403	8.42E-06	No
Existing/Baseline	CT23A	Nheptane	142825	1.17E-06	No
Existing/Baseline	CT23A	Nickel	7440020	6.11E-07	Yes
Existing/Baseline	CT23A	Nnonane	111842	1.13E-06	No
Existing/Baseline	CT23A	Noctane	111659	1.13E-06	No
Existing/Baseline	CT23A	Npentane	109660	3.61E-06	No
Existing/Baseline	CT23A	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	CT23A	Npropylbenzene	103651	9.66E-07	No
Existing/Baseline	CT23A	Ntridecane	629505	9.75E-06	No
Existing/Baseline	CT23A	Nundecane	1120214	8.10E-06	No
Existing/Baseline	CT23A	oTolualdehyde	529204	4.19E-06	No
Existing/Baseline	CT23A	Oxylene	95476	3.03E-06	Yes
Existing/Baseline	CT23A	Pentadecane	629629	3.15E-06	No
Existing/Baseline	CT23A	Phenol (carbolic acid)	108952	1.32E-05	Yes
Existing/Baseline	CT23A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	CT23A	Potassium ion	7440097	1.49E-06	No
Existing/Baseline	CT23A	Propane	74986	1.42E-06	No
Existing/Baseline	CT23A	Propionaldehyde	123386	1.33E-05	No
Existing/Baseline	CT23A	Propylene	115071	8.27E-05	Yes
Existing/Baseline	CT23A	pTolualdehyde	104870	8.75E-07	No
Existing/Baseline	CT23A	Silicon	7440213	6.65E-06	No
Existing/Baseline	CT23A	Silver	7440224	1.12E-06	No
Existing/Baseline	CT23A	Styrene	100425	5.63E-06	Yes
Existing/Baseline	CT23A	Sulfate	9960	3.83E-04	Yes
Existing/Baseline	CT23A	Sulfur	7704349	0.00E+00	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CT23A	Tetradecane	629594	7.58E-06	No
Existing/Baseline	CT23A	Thallium	7440280	0.00E+00	No
Existing/Baseline	CT23A	Titanium	7440326	8.77E-08	No
Existing/Baseline	CT23A	Toluene	108883	1.17E-05	Yes
Existing/Baseline	CT23A	Trans2hexene	4050457	5.47E-07	No
Existing/Baseline	CT23A	Trans2pentene	646048	6.55E-06	No
Existing/Baseline	CT23A	Valeraldehyde	110623	4.47E-06	No
Existing/Baseline	CT23A	Xylenes	1330207	5.14E-06	Yes
Existing/Baseline	CT23A	Zinc	7440666	2.70E-07	No
Existing/Baseline	CT23B	1,2,3trimethylbenzene	526738	8.13E-07	No
Existing/Baseline	CT23B	1,2,4Trimethylbenzene	95636	2.68E-06	No
Existing/Baseline	CT23B	1,3,5trimethylbenzene	108678	4.14E-07	No
Existing/Baseline	CT23B	1,3butadiene	106990	1.29E-05	Yes
Existing/Baseline	CT23B	1butene	106989	1.35E-05	No
Existing/Baseline	CT23B	1decene	872059	1.42E-06	No
Existing/Baseline	CT23B	1hexene	592416	5.65E-06	No
Existing/Baseline	CT23B	1Methyl2Ethylbenzene	611143	4.99E-07	No
Existing/Baseline	CT23B	1Methyl3Ethylbenzene	620144	1.18E-06	No
Existing/Baseline	CT23B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	4.91E-07	No
Existing/Baseline	CT23B	1Methylnaphthalene	90120	1.89E-06	No
Existing/Baseline	CT23B	1nonene	124118	1.89E-06	No
Existing/Baseline	CT23B	1octene	111660	2.12E-06	No
Existing/Baseline	CT23B	1pentene	109671	5.95E-06	No
Existing/Baseline	CT23B	2methyl1butene	563462	1.07E-06	No
Existing/Baseline	CT23B	2methyl1pentene	763291	2.61E-07	No
Existing/Baseline	CT23B	2methyl2butene	513359	1.42E-06	No
Existing/Baseline	CT23B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	3.29E-06	No
Existing/Baseline	CT23B	2methylnaphthalene	91576	1.58E-06	No
Existing/Baseline	CT23B	2Methylpentane	107835	3.13E-06	No
Existing/Baseline	CT23B	3methyl1butene	563451	8.59E-07	No
Existing/Baseline	CT23B	4methyl1pentene	691372	5.29E-07	No
Existing/Baseline	CT23B	Acetaldehyde	75070	3.28E-05	Yes
Existing/Baseline	CT23B	Acetone	67641	2.83E-06	No
Existing/Baseline	CT23B	Acetylene	74862	3.02E-05	No
Existing/Baseline	CT23B	Acrolein (2propenal)	107028	1.88E-05	Yes
Existing/Baseline	CT23B	Ammonium	14798039	5.07E-05	No
Existing/Baseline	CT23B	Antimony	7440360	0.00E+00	No
Existing/Baseline	CT23B	Benzaldehyde	100527	3.60E-06	No
Existing/Baseline	CT23B	Benzene	71432	1.29E-05	Yes
Existing/Baseline	CT23B	Bromine	7726956	1.41E-07	No
Existing/Baseline	CT23B	Butyraldehyde	123728	9.13E-07	No
Existing/Baseline	CT23B	Calcium	7440702	0.00E+00	No
Existing/Baseline	CT23B	Chloride ion	16887006	0.00E+00	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CT23B	Chromium	7440473	1.86E-07	No
Existing/Baseline	CT23B	Cis2butene	590181	1.61E-06	No
Existing/Baseline	CT23B	Cis2pentene	627203	2.12E-06	No
Existing/Baseline	CT23B	Copper	7440508	1.53E-06	Yes
Existing/Baseline	CT23B	Crotonaldehyde (or 2Butenal)	4170303	7.92E-06	No
Existing/Baseline	CT23B	Cumene	98828	2.30E-08	No
Existing/Baseline	CT23B	Decanal	112312	4.48E-05	No
Existing/Baseline	CT23B	Dimethyl napthalene	28804888	6.90E-07	No
Existing/Baseline	CT23B	Dodecenal	112549	2.24E-05	No
Existing/Baseline	CT23B	Elemental Carbon	7440440	1.53E-04	No
Existing/Baseline	CT23B	Ethane	74840	4.00E-06	No
Existing/Baseline	CT23B	Ethylbenzene	100414	1.33E-06	Yes
Existing/Baseline	CT23B	Ethylene	74851	1.19E-04	No
Existing/Baseline	CT23B	Formaldehyde	50000	9.44E-05	Yes
Existing/Baseline	CT23B	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	CT23B	Glyoxal	107222	1.39E-05	No
Existing/Baseline	CT23B	Heptadecane	629787	6.90E-08	No
Existing/Baseline	CT23B	Heptene	25339564	3.36E-06	No
Existing/Baseline	CT23B	Hexadecane	544763	3.76E-07	No
Existing/Baseline	CT23B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	CT23B	Indium	7440746	0.00E+00	No
Existing/Baseline	CT23B	Insolchlorine	7782505	5.10E-07	Yes
Existing/Baseline	CT23B	Iron	7439896	0.00E+00	No
Existing/Baseline	CT23B	Isovaleraldehyde	590863	2.45E-07	No
Existing/Baseline	CT23B	Magnesium	7439954	8.18E-07	No
Existing/Baseline	CT23B	Manganese	7439965	1.30E-07	Yes
Existing/Baseline	CT23B	Methane	74828	0.00E+00	No
Existing/Baseline	CT23B	Methanol	67561	1.38E-05	Yes
Existing/Baseline	CT23B	Methylglyoxal	78988	1.15E-05	No
Existing/Baseline	CT23B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.13E-06	No
Existing/Baseline	CT23B	Naphthalene	91203	4.15E-06	Yes
Existing/Baseline	CT23B	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	CT23B	Ndecane	124185	2.45E-06	No
Existing/Baseline	CT23B	Ndodecane	112403	3.54E-06	No
Existing/Baseline	CT23B	Nheptane	142825	4.91E-07	No
Existing/Baseline	CT23B	Nickel	7440020	2.60E-07	Yes
Existing/Baseline	CT23B	Nnonane	111842	4.76E-07	No
Existing/Baseline	CT23B	Noctane	111659	4.76E-07	No
Existing/Baseline	CT23B	Npentane	109660	1.52E-06	No
Existing/Baseline	CT23B	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	CT23B	Npropylbenzene	103651	4.07E-07	No
Existing/Baseline	CT23B	Ntridecane	629505	4.10E-06	No
Existing/Baseline	CT23B	Nundecane	1120214	3.41E-06	No
Existing/Baseline	CT23B	oTolualdehyde	529204	1.76E-06	No
Existing/Baseline	CT23B	Oxylene	95476	1.27E-06	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CT23B	Pentadecane	629629	1.33E-06	No
Existing/Baseline	CT23B	Phenol (carbolic acid)	108952	5.57E-06	Yes
Existing/Baseline	CT23B	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	CT23B	Potassium ion	7440097	6.34E-07	No
Existing/Baseline	CT23B	Propane	74986	5.98E-07	No
Existing/Baseline	CT23B	Propionaldehyde	123386	5.58E-06	No
Existing/Baseline	CT23B	Propylene	115071	3.48E-05	Yes
Existing/Baseline	CT23B	pTolualdehyde	104870	3.68E-07	No
Existing/Baseline	CT23B	Silicon	7440213	2.84E-06	No
Existing/Baseline	CT23B	Silver	7440224	4.78E-07	No
Existing/Baseline	CT23B	Styrene	100425	2.37E-06	Yes
Existing/Baseline	CT23B	Sulfate	9960	1.63E-04	Yes
Existing/Baseline	CT23B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	CT23B	Tetradecane	629594	3.19E-06	No
Existing/Baseline	CT23B	Thallium	7440280	0.00E+00	No
Existing/Baseline	CT23B	Titanium	7440326	3.74E-08	No
Existing/Baseline	CT23B	Toluene	108883	4.92E-06	Yes
Existing/Baseline	CT23B	Trans2hexene	4050457	2.30E-07	No
Existing/Baseline	CT23B	Trans2pentene	646048	2.75E-06	No
Existing/Baseline	CT23B	Valeraldehyde	110623	1.88E-06	No
Existing/Baseline	CT23B	Xylenes	1330207	2.16E-06	Yes
Existing/Baseline	CT23B	Zinc	7440666	1.15E-07	No
Existing/Baseline	CT27A	1,2,3trimethylbenzene	526738	4.21E-08	No
Existing/Baseline	CT27A	1,2,4Trimethylbenzene	95636	1.39E-07	No
Existing/Baseline	CT27A	1,3,5trimethylbenzene	108678	2.14E-08	No
Existing/Baseline	CT27A	1,3butadiene	106990	6.70E-07	Yes
Existing/Baseline	CT27A	1butene	106989	6.96E-07	No
Existing/Baseline	CT27A	1decene	872059	7.34E-08	No
Existing/Baseline	CT27A	1hexene	592416	2.92E-07	No
Existing/Baseline	CT27A	1Methyl2Ethylbenzene	611143	2.58E-08	No
Existing/Baseline	CT27A	1Methyl3Ethylbenzene	620144	6.11E-08	No
Existing/Baseline	CT27A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	2.54E-08	No
Existing/Baseline	CT27A	1Methylnaphthalene	90120	9.80E-08	No
Existing/Baseline	CT27A	1nonene	124118	9.76E-08	No
Existing/Baseline	CT27A	1octene	111660	1.10E-07	No
Existing/Baseline	CT27A	1pentene	109671	3.08E-07	No
Existing/Baseline	CT27A	2methyl1butene	563462	5.56E-08	No
Existing/Baseline	CT27A	2methyl1pentene	763291	1.35E-08	No
Existing/Baseline	CT27A	2methyl2butene	513359	7.34E-08	No
Existing/Baseline	CT27A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.70E-07	No
Existing/Baseline	CT27A	2methylnaphthalene	91576	8.18E-08	No
Existing/Baseline	CT27A	2Methylpentane	107835	1.62E-07	No
Existing/Baseline	CT27A	3methyl1butene	563451	4.45E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CT27A	4methyl1pentene	691372	2.74E-08	No
Existing/Baseline	CT27A	Acetaldehyde	75070	1.70E-06	Yes
Existing/Baseline	CT27A	Acetone	67641	1.46E-07	No
Existing/Baseline	CT27A	Acetylene	74862	1.56E-06	No
Existing/Baseline	CT27A	Acrolein (2propenal)	107028	9.72E-07	Yes
Existing/Baseline	CT27A	Ammonium	14798039	2.59E-06	No
Existing/Baseline	CT27A	Antimony	7440360	0.00E+00	No
Existing/Baseline	CT27A	Benzaldehyde	100527	1.87E-07	No
Existing/Baseline	CT27A	Benzene	71432	6.67E-07	Yes
Existing/Baseline	CT27A	Bromine	7726956	7.19E-09	No
Existing/Baseline	CT27A	Butyraldehyde	123728	4.72E-08	No
Existing/Baseline	CT27A	Calcium	7440702	0.00E+00	No
Existing/Baseline	CT27A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	CT27A	Chromium	7440473	9.48E-09	No
Existing/Baseline	CT27A	Cis2butene	590181	8.34E-08	No
Existing/Baseline	CT27A	Cis2pentene	627203	1.10E-07	No
Existing/Baseline	CT27A	Copper	7440508	7.81E-08	Yes
Existing/Baseline	CT27A	Crotonaldehyde (or 2Butenal)	4170303	4.10E-07	No
Existing/Baseline	CT27A	Cumene	98828	1.19E-09	No
Existing/Baseline	CT27A	Decanal	112312	2.32E-06	No
Existing/Baseline	CT27A	Dimethyl napthalene	28804888	3.57E-08	No
Existing/Baseline	CT27A	Dodecenal	112549	1.16E-06	No
Existing/Baseline	CT27A	Elemental Carbon	7440440	7.83E-06	No
Existing/Baseline	CT27A	Ethane	74840	2.07E-07	No
Existing/Baseline	CT27A	Ethylbenzene	100414	6.91E-08	Yes
Existing/Baseline	CT27A	Ethylene	74851	6.14E-06	No
Existing/Baseline	CT27A	Formaldehyde	50000	4.89E-06	Yes
Existing/Baseline	CT27A	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	CT27A	Glyoxal	107222	7.21E-07	No
Existing/Baseline	CT27A	Heptadecane	629787	3.57E-09	No
Existing/Baseline	CT27A	Heptene	25339564	1.74E-07	No
Existing/Baseline	CT27A	Hexadecane	544763	1.95E-08	No
Existing/Baseline	CT27A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	CT27A	Indium	7440746	0.00E+00	No
Existing/Baseline	CT27A	Insolchlorine	7782505	2.60E-08	Yes
Existing/Baseline	CT27A	Iron	7439896	0.00E+00	No
Existing/Baseline	CT27A	Isovaleraldehyde	590863	1.27E-08	No
Existing/Baseline	CT27A	Magnesium	7439954	4.18E-08	No
Existing/Baseline	CT27A	Manganese	7439965	6.63E-09	Yes
Existing/Baseline	CT27A	Methane	74828	0.00E+00	No
Existing/Baseline	CT27A	Methanol	67561	7.16E-07	Yes
Existing/Baseline	CT27A	Methylglyoxal	78988	5.97E-07	No
Existing/Baseline	CT27A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.10E-07	No
Existing/Baseline	CT27A	Naphthalene	91203	2.15E-07	Yes
Existing/Baseline	CT27A	N-butylbenzene	104518	0.00E+00	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CT27A	Ndecane	124185	1.27E-07	No
Existing/Baseline	CT27A	Ndodecane	112403	1.83E-07	No
Existing/Baseline	CT27A	Nheptane	142825	2.54E-08	No
Existing/Baseline	CT27A	Nickel	7440020	1.33E-08	Yes
Existing/Baseline	CT27A	Nnonane	111842	2.46E-08	No
Existing/Baseline	CT27A	Noctane	111659	2.46E-08	No
Existing/Baseline	CT27A	Npentane	109660	7.86E-08	No
Existing/Baseline	CT27A	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	CT27A	Npropylbenzene	103651	2.10E-08	No
Existing/Baseline	CT27A	Ntridecane	629505	2.12E-07	No
Existing/Baseline	CT27A	Nundecane	1120214	1.76E-07	No
Existing/Baseline	CT27A	oTolualdehyde	529204	9.13E-08	No
Existing/Baseline	CT27A	Oxylene	95476	6.59E-08	Yes
Existing/Baseline	CT27A	Pentadecane	629629	6.87E-08	No
Existing/Baseline	CT27A	Phenol (carbolic acid)	108952	2.88E-07	Yes
Existing/Baseline	CT27A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	CT27A	Potassium ion	7440097	3.24E-08	No
Existing/Baseline	CT27A	Propane	74986	3.10E-08	No
Existing/Baseline	CT27A	Propionaldehyde	123386	2.89E-07	No
Existing/Baseline	CT27A	Propylene	115071	1.80E-06	Yes
Existing/Baseline	CT27A	pTolualdehyde	104870	1.91E-08	No
Existing/Baseline	CT27A	Silicon	7440213	1.45E-07	No
Existing/Baseline	CT27A	Silver	7440224	2.44E-08	No
Existing/Baseline	CT27A	Styrene	100425	1.23E-07	Yes
Existing/Baseline	CT27A	Sulfate	9960	8.33E-06	Yes
Existing/Baseline	CT27A	Sulfur	7704349	0.00E+00	No
Existing/Baseline	CT27A	Tetradecane	629594	1.65E-07	No
Existing/Baseline	CT27A	Thallium	7440280	0.00E+00	No
Existing/Baseline	CT27A	Titanium	7440326	1.91E-09	No
Existing/Baseline	CT27A	Toluene	108883	2.55E-07	Yes
Existing/Baseline	CT27A	Trans2hexene	4050457	1.19E-08	No
Existing/Baseline	CT27A	Trans2pentene	646048	1.43E-07	No
Existing/Baseline	CT27A	Valeraldehyde	110623	9.73E-08	No
Existing/Baseline	CT27A	Xylenes	1330207	1.12E-07	Yes
Existing/Baseline	CT27A	Zinc	7440666	5.88E-09	No
Existing/Baseline	CT27B	1,2,3trimethylbenzene	526738	1.77E-08	No
Existing/Baseline	CT27B	1,2,4Trimethylbenzene	95636	5.84E-08	No
Existing/Baseline	CT27B	1,3,5trimethylbenzene	108678	9.02E-09	No
Existing/Baseline	CT27B	1,3butadiene	106990	2.82E-07	Yes
Existing/Baseline	CT27B	1butene	106989	2.93E-07	No
Existing/Baseline	CT27B	1decene	872059	3.09E-08	No
Existing/Baseline	CT27B	1hexene	592416	1.23E-07	No
Existing/Baseline	CT27B	1Methyl2Ethylbenzene	611143	1.09E-08	No
Existing/Baseline	CT27B	1Methyl3Ethylbenzene	620144	2.57E-08	No
Existing/Baseline	CT27B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.07E-08	No
Existing/Baseline	CT27B	1Methylnaphthalene	90120	4.12E-08	No
Existing/Baseline	CT27B	1nonene	124118	4.11E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CT27B	1octene	111660	4.61E-08	No
Existing/Baseline	CT27B	1pentene	109671	1.30E-07	No
Existing/Baseline	CT27B	2methyl1butene	563462	2.34E-08	No
Existing/Baseline	CT27B	2methyl1pentene	763291	5.68E-09	No
Existing/Baseline	CT27B	2methyl2butene	513359	3.09E-08	No
Existing/Baseline	CT27B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	7.16E-08	No
Existing/Baseline	CT27B	2methylnaphthalene	91576	3.44E-08	No
Existing/Baseline	CT27B	2Methylpentane	107835	6.81E-08	No
Existing/Baseline	CT27B	3methyl1butene	563451	1.87E-08	No
Existing/Baseline	CT27B	4methyl1pentene	691372	1.15E-08	No
Existing/Baseline	CT27B	Acetaldehyde	75070	7.13E-07	Yes
Existing/Baseline	CT27B	Acetone	67641	6.16E-08	No
Existing/Baseline	CT27B	Acetylene	74862	6.58E-07	No
Existing/Baseline	CT27B	Acrolein (2propenal)	107028	4.09E-07	Yes
Existing/Baseline	CT27B	Ammonium	14798039	1.10E-06	No
Existing/Baseline	CT27B	Antimony	7440360	0.00E+00	No
Existing/Baseline	CT27B	Benzaldehyde	100527	7.85E-08	No
Existing/Baseline	CT27B	Benzene	71432	2.81E-07	Yes
Existing/Baseline	CT27B	Bromine	7726956	3.07E-09	No
Existing/Baseline	CT27B	Butyraldehyde	123728	1.99E-08	No
Existing/Baseline	CT27B	Calcium	7440702	0.00E+00	No
Existing/Baseline	CT27B	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	CT27B	Chromium	7440473	4.04E-09	No
Existing/Baseline	CT27B	Cis2butene	590181	3.51E-08	No
Existing/Baseline	CT27B	Cis2pentene	627203	4.61E-08	No
Existing/Baseline	CT27B	Copper	7440508	3.33E-08	Yes
Existing/Baseline	CT27B	Crotonaldehyde (or 2Butenal)	4170303	1.73E-07	No
Existing/Baseline	CT27B	Cumene	98828	5.01E-10	No
Existing/Baseline	CT27B	Decanal	112312	9.76E-07	No
Existing/Baseline	CT27B	Dimethyl napthalene	28804888	1.50E-08	No
Existing/Baseline	CT27B	Dodecenal	112549	4.88E-07	No
Existing/Baseline	CT27B	Elemental Carbon	7440440	3.34E-06	No
Existing/Baseline	CT27B	Ethane	74840	8.70E-08	No
Existing/Baseline	CT27B	Ethylbenzene	100414	2.91E-08	Yes
Existing/Baseline	CT27B	Ethylene	74851	2.58E-06	No
Existing/Baseline	CT27B	Formaldehyde	50000	2.06E-06	Yes
Existing/Baseline	CT27B	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	CT27B	Glyoxal	107222	3.03E-07	No
Existing/Baseline	CT27B	Heptadecane	629787	1.50E-09	No
Existing/Baseline	CT27B	Heptene	25339564	7.31E-08	No
Existing/Baseline	CT27B	Hexadecane	544763	8.18E-09	No
Existing/Baseline	CT27B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	CT27B	Indium	7440746	0.00E+00	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	CT27B	Insolchlorine	7782505	1.11E-08	Yes
Existing/Baseline	CT27B	Iron	7439896	0.00E+00	No
Existing/Baseline	CT27B	Isovaleraldehyde	590863	5.34E-09	No
Existing/Baseline	CT27B	Magnesium	7439954	1.78E-08	No
Existing/Baseline	CT27B	Manganese	7439965	2.83E-09	Yes
Existing/Baseline	CT27B	Methane	74828	0.00E+00	No
Existing/Baseline	CT27B	Methanol	67561	3.01E-07	Yes
Existing/Baseline	CT27B	Methylglyoxal	78988	2.51E-07	No
Existing/Baseline	CT27B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	4.64E-08	No
Existing/Baseline	CT27B	Naphthalene	91203	9.03E-08	Yes
Existing/Baseline	CT27B	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	CT27B	Ndecane	124185	5.34E-08	No
Existing/Baseline	CT27B	Ndodecane	112403	7.72E-08	No
Existing/Baseline	CT27B	Nheptane	142825	1.07E-08	No
Existing/Baseline	CT27B	Nickel	7440020	5.67E-09	Yes
Existing/Baseline	CT27B	Nnonane	111842	1.04E-08	No
Existing/Baseline	CT27B	Noctane	111659	1.04E-08	No
Existing/Baseline	CT27B	Npentane	109660	3.31E-08	No
Existing/Baseline	CT27B	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	CT27B	Npropylbenzene	103651	8.85E-09	No
Existing/Baseline	CT27B	Ntridecane	629505	8.93E-08	No
Existing/Baseline	CT27B	Nundecane	1120214	7.41E-08	No
Existing/Baseline	CT27B	oTolualdehyde	529204	3.84E-08	No
Existing/Baseline	CT27B	Oxylene	95476	2.77E-08	Yes
Existing/Baseline	CT27B	Pentadecane	629629	2.89E-08	No
Existing/Baseline	CT27B	Phenol (carbolic acid)	108952	1.21E-07	Yes
Existing/Baseline	CT27B	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	CT27B	Potassium ion	7440097	1.38E-08	No
Existing/Baseline	CT27B	Propane	74986	1.30E-08	No
Existing/Baseline	CT27B	Propionaldehyde	123386	1.21E-07	No
Existing/Baseline	CT27B	Propylene	115071	7.57E-07	Yes
Existing/Baseline	CT27B	pTolualdehyde	104870	8.02E-09	No
Existing/Baseline	CT27B	Silicon	7440213	6.17E-08	No
Existing/Baseline	CT27B	Silver	7440224	1.04E-08	No
Existing/Baseline	CT27B	Styrene	100425	5.16E-08	Yes
Existing/Baseline	CT27B	Sulfate	9960	3.55E-06	Yes
Existing/Baseline	CT27B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	CT27B	Tetradecane	629594	6.95E-08	No
Existing/Baseline	CT27B	Thallium	7440280	0.00E+00	No
Existing/Baseline	CT27B	Titanium	7440326	8.14E-10	No
Existing/Baseline	CT27B	Toluene	108883	1.07E-07	Yes
Existing/Baseline	CT27B	Trans2hexene	4050457	5.01E-09	No
Existing/Baseline	CT27B	Trans2pentene	646048	6.00E-08	No
Existing/Baseline	CT27B	Valeraldehyde	110623	4.09E-08	No
Existing/Baseline	CT27B	Xylenes	1330207	4.71E-08	Yes
Existing/Baseline	CT27B	Zinc	7440666	2.51E-09	No
Existing/Baseline	GARAMP	(1Methylpropyl)Benzene	68411449	5.49E-06	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	GARAMP	(2Methylpropyl)Benzene	538932	3.66E-06	No
Existing/Baseline	GARAMP	1,2,3trimethylbenzene	526738	1.58E-04	No
Existing/Baseline	GARAMP	1,2,4Trimethylbenzene	95636	7.61E-04	No
Existing/Baseline	GARAMP	1,2Diethylbenzene (Ortho)	135013	2.20E-05	No
Existing/Baseline	GARAMP	1,2Propadiene	463490	1.48E-04	No
Existing/Baseline	GARAMP	1,3,5trimethylbenzene	108678	1.83E-04	No
Existing/Baseline	GARAMP	1,3butadiene	106990	1.47E-03	Yes
Existing/Baseline	GARAMP	1butene	106989	1.46E-03	No
Existing/Baseline	GARAMP	1decene	872059	1.39E-04	No
Existing/Baseline	GARAMP	1hexene	592416	5.54E-04	No
Existing/Baseline	GARAMP	1Methyl2Ethylbenzene	611143	1.66E-04	No
Existing/Baseline	GARAMP	1Methyl3Ethylbenzene	620144	3.78E-04	No
Existing/Baseline	GARAMP	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	4.82E-05	No
Existing/Baseline	GARAMP	1Methylnaphthalene	90120	1.86E-04	No
Existing/Baseline	GARAMP	1nonene	124118	1.85E-04	No
Existing/Baseline	GARAMP	1octene	111660	2.08E-04	No
Existing/Baseline	GARAMP	1pentene	109671	6.22E-04	No
Existing/Baseline	GARAMP	2,2,4Trimethylpentane	540841	1.15E-04	No
Existing/Baseline	GARAMP	2,2Dimethylbutane	75832	5.85E-05	No
Existing/Baseline	GARAMP	2,3,4Trimethylpentane	565753	6.40E-05	No
Existing/Baseline	GARAMP	2,3Dimethyl1Butene	563780	3.48E-05	No
Existing/Baseline	GARAMP	2,3Dimethylhexane	584941	2.01E-05	No
Existing/Baseline	GARAMP	2,3Dimethylpentane	565593	5.85E-05	No
Existing/Baseline	GARAMP	2,4Dimethylhexane	589435	4.57E-05	No
Existing/Baseline	GARAMP	2,4Dimethylpentane	108087	5.12E-05	No
Existing/Baseline	GARAMP	2methyl1butene	563462	1.05E-04	No
Existing/Baseline	GARAMP	2methyl1pentene	763291	2.56E-05	No
Existing/Baseline	GARAMP	2methyl2butene	513359	1.39E-04	No
Existing/Baseline	GARAMP	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	3.23E-04	No
Existing/Baseline	GARAMP	2Methylheptane	592278	5.85E-05	No
Existing/Baseline	GARAMP	2Methylhexane	591764	1.28E-04	No
Existing/Baseline	GARAMP	2methylnaphthalene	91576	1.55E-04	No
Existing/Baseline	GARAMP	2Methylpentane	107835	5.65E-04	No
Existing/Baseline	GARAMP	3methyl1butene	563451	8.43E-05	No
Existing/Baseline	GARAMP	3Methylhexane	589344	1.37E-04	No
Existing/Baseline	GARAMP	3Methylpentane	96140	1.61E-04	No
Existing/Baseline	GARAMP	4methyl1pentene	691372	5.19E-05	No
Existing/Baseline	GARAMP	Acetaldehyde	75070	3.27E-03	Yes
Existing/Baseline	GARAMP	Acetone	67641	3.40E-04	No
Existing/Baseline	GARAMP	Acetylene	74862	4.35E-03	No
Existing/Baseline	GARAMP	Acrolein (2propenal)	107028	1.84E-03	Yes
Existing/Baseline	GARAMP	Ammonium	14798039	5.03E-04	No
Existing/Baseline	GARAMP	Antimony	7440360	0.00E+00	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	GARAMP	Benzaldehyde	100527	3.70E-04	No
Existing/Baseline	GARAMP	Benzene	71432	2.19E-03	Yes
Existing/Baseline	GARAMP	BMethylstyrene	637503	2.93E-05	No
Existing/Baseline	GARAMP	Bromine	7726956	1.40E-06	No
Existing/Baseline	GARAMP	Butyraldehyde	123728	9.14E-05	No
Existing/Baseline	GARAMP	Calcium	7440702	0.00E+00	No
Existing/Baseline	GARAMP	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	GARAMP	Chromium	7440473	1.84E-06	No
Existing/Baseline	GARAMP	Cis2butene	590181	1.84E-04	No
Existing/Baseline	GARAMP	Cis2pentene	627203	2.53E-04	No
Existing/Baseline	GARAMP	Copper	7440508	1.52E-05	Yes
Existing/Baseline	GARAMP	Crotonaldehyde (or 2Butenal)	4170303	7.77E-04	No
Existing/Baseline	GARAMP	Cumene	98828	1.51E-05	No
Existing/Baseline	GARAMP	Cyclohexane	110827	7.32E-06	No
Existing/Baseline	GARAMP	Cyclohexanone	108941	3.66E-06	No
Existing/Baseline	GARAMP	Cyclopentane	287923	3.48E-05	No
Existing/Baseline	GARAMP	Decanal	112312	4.40E-03	No
Existing/Baseline	GARAMP	Dimethyl napthalene	28804888	6.77E-05	No
Existing/Baseline	GARAMP	Dodecenal	112549	2.20E-03	No
Existing/Baseline	GARAMP	DPM	9901	1.41E-03	Yes
Existing/Baseline	GARAMP	Elemental Carbon	7440440	1.52E-03	No
Existing/Baseline	GARAMP	Ethane	74840	5.44E-04	No
Existing/Baseline	GARAMP	Ethyl Alcohol	64175	3.66E-06	No
Existing/Baseline	GARAMP	Ethylbenzene	100414	4.42E-04	Yes
Existing/Baseline	GARAMP	Ethylene	74851	1.29E-02	No
Existing/Baseline	GARAMP	Ethylhexane	619998	5.85E-05	No
Existing/Baseline	GARAMP	Formaldehyde	50000	9.47E-03	Yes
Existing/Baseline	GARAMP	Furfuryl alcohol	98000	6.96E-08	No
Existing/Baseline	GARAMP	Glyoxal	107222	1.37E-03	No
Existing/Baseline	GARAMP	Heptadecane	629787	6.77E-06	No
Existing/Baseline	GARAMP	Heptene	25339564	3.30E-04	No
Existing/Baseline	GARAMP	Hexadecane	544763	3.69E-05	No
Existing/Baseline	GARAMP	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	7.69E-09	No
Existing/Baseline	GARAMP	Indan	496117	5.12E-05	No
Existing/Baseline	GARAMP	Indium	7440746	0.00E+00	No
Existing/Baseline	GARAMP	Insolchlorine	7782505	5.06E-06	Yes
Existing/Baseline	GARAMP	Iron	7439896	0.00E+00	No
Existing/Baseline	GARAMP	Isobutane	75285	4.57E-05	No
Existing/Baseline	GARAMP	Isobutylene	115117	2.01E-04	No
Existing/Baseline	GARAMP	Isomers Of Diethylbenzene	25340174	3.66E-05	No
Existing/Baseline	GARAMP	Isopentane	78784	4.39E-04	No
Existing/Baseline	GARAMP	Isovaleraldehyde	590863	2.41E-05	No
Existing/Baseline	GARAMP	Magnesium	7439954	8.12E-06	No
Existing/Baseline	GARAMP	Manganese	7439965	1.29E-06	Yes
Existing/Baseline	GARAMP	Methane	74828	1.16E-03	No
Existing/Baseline	GARAMP	Methanol	67561	1.38E-03	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	GARAMP	Methyl Ethyl Ketone {2Butanone}	78933	1.10E-05	Yes
Existing/Baseline	GARAMP	Methyl NButyl Ketone	591786	3.66E-05	No
Existing/Baseline	GARAMP	Methylcyclohexane	108872	6.95E-05	No
Existing/Baseline	GARAMP	Methylcyclopentane	96377	1.99E-04	No
Existing/Baseline	GARAMP	Methylglyoxal	78988	1.13E-03	No
Existing/Baseline	GARAMP	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.09E-04	No
Existing/Baseline	GARAMP	MXylene	108383	5.49E-04	Yes
Existing/Baseline	GARAMP	Naphthalene	91203	4.22E-04	Yes
Existing/Baseline	GARAMP	NButane	106978	1.12E-04	No
Existing/Baseline	GARAMP	N-butylbenzene	104518	6.59E-05	No
Existing/Baseline	GARAMP	Ndecane	124185	2.81E-04	No
Existing/Baseline	GARAMP	Ndodecane	112403	3.48E-04	No
Existing/Baseline	GARAMP	Nheptane	142825	1.43E-04	No
Existing/Baseline	GARAMP	n-Hexane	110543	2.03E-04	Yes
Existing/Baseline	GARAMP	Nickel	7440020	2.58E-06	Yes
Existing/Baseline	GARAMP	Nnonane	111842	1.22E-04	No
Existing/Baseline	GARAMP	Noctane	111659	1.05E-04	No
Existing/Baseline	GARAMP	Npentane	109660	3.37E-04	No
Existing/Baseline	GARAMP	Npentylbenzene	538681	6.54E-09	No
Existing/Baseline	GARAMP	Npropylbenzene	103651	1.04E-04	No
Existing/Baseline	GARAMP	Ntridecane	629505	4.03E-04	No
Existing/Baseline	GARAMP	Nundecane	1120214	3.71E-04	No
Existing/Baseline	GARAMP	oTolualdehyde	529204	1.73E-04	No
Existing/Baseline	GARAMP	Oxylene	95476	5.64E-04	Yes
Existing/Baseline	GARAMP	Pentadecane	629629	1.30E-04	No
Existing/Baseline	GARAMP	Phenol (carbolic acid)	108952	5.46E-04	Yes
Existing/Baseline	GARAMP	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	GARAMP	Potassium ion	7440097	6.30E-06	No
Existing/Baseline	GARAMP	Propane	74986	1.85E-04	No
Existing/Baseline	GARAMP	Propionaldehyde	123386	5.75E-04	No
Existing/Baseline	GARAMP	Propylene	115071	4.02E-03	Yes
Existing/Baseline	GARAMP	pTolualdehyde	104870	3.61E-05	No
Existing/Baseline	GARAMP	PXylene	106423	3.68E-04	Yes
Existing/Baseline	GARAMP	Silicon	7440213	2.81E-05	No
Existing/Baseline	GARAMP	Silver	7440224	4.75E-06	No
Existing/Baseline	GARAMP	Styrene	100425	2.69E-04	Yes
Existing/Baseline	GARAMP	Sulfate	9960	1.62E-03	Yes
Existing/Baseline	GARAMP	Sulfur	7704349	0.00E+00	No
Existing/Baseline	GARAMP	Tetradecane	629594	3.13E-04	No
Existing/Baseline	GARAMP	Thallium	7440280	0.00E+00	No
Existing/Baseline	GARAMP	Titanium	7440326	3.71E-07	No
Existing/Baseline	GARAMP	Toluene	108883	1.91E-03	Yes
Existing/Baseline	GARAMP	Trans2Butene	624646	3.66E-05	No
Existing/Baseline	GARAMP	Trans2hexene	4050457	2.26E-05	No
Existing/Baseline	GARAMP	Trans2pentene	646048	3.32E-04	No
Existing/Baseline	GARAMP	Valeraldehyde	110623	1.84E-04	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	GARAMP	Xylenes	1330207	2.12E-04	Yes
Existing/Baseline	GARAMP	Zinc	7440666	1.14E-06	No
Existing/Baseline	GASDSP	Benzene	71432	2.42E-05	Yes
Existing/Baseline	GASDSP	Naphthalene	91203	5.33E-06	Yes
Existing/Baseline	GASDSP	n-Hexane	110543	3.88E-05	Yes
Existing/Baseline	GASDSP	Styrene	100425	1.94E-05	Yes
Existing/Baseline	GASDSP	Toluene	108883	1.70E-04	Yes
Existing/Baseline	GASDSP	Xylenes	1330207	1.21E-04	Yes
Existing/Baseline	GT21A	1,2,3trimethylbenzene	526738	7.10E-09	No
Existing/Baseline	GT21A	1,2,4Trimethylbenzene	95636	2.35E-08	No
Existing/Baseline	GT21A	1,3,5trimethylbenzene	108678	3.62E-09	No
Existing/Baseline	GT21A	1,3butadiene	106990	1.84E-04	Yes
Existing/Baseline	GT21A	1butene	106989	2.09E-04	No
Existing/Baseline	GT21A	1decene	872059	1.75E-05	No
Existing/Baseline	GT21A	1hexene	592416	8.89E-05	No
Existing/Baseline	GT21A	1Methyl2Ethylbenzene	611143	4.36E-09	No
Existing/Baseline	GT21A	1Methyl3Ethylbenzene	620144	1.03E-08	No
Existing/Baseline	GT21A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	4.29E-09	No
Existing/Baseline	GT21A	1Methylnaphthalene	90120	1.66E-08	No
Existing/Baseline	GT21A	1nonene	124118	2.57E-05	No
Existing/Baseline	GT21A	1octene	111660	2.92E-05	No
Existing/Baseline	GT21A	1pentene	109671	8.77E-05	No
Existing/Baseline	GT21A	2methyl1butene	563462	9.38E-09	No
Existing/Baseline	GT21A	2methyl1pentene	763291	2.28E-09	No
Existing/Baseline	GT21A	2methyl2butene	513359	2.10E-05	No
Existing/Baseline	GT21A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	2.87E-08	No
Existing/Baseline	GT21A	2methylnaphthalene	91576	1.38E-08	No
Existing/Baseline	GT21A	2Methylpentane	107835	4.09E-05	No
Existing/Baseline	GT21A	3methyl1butene	563451	7.51E-09	No
Existing/Baseline	GT21A	4methyl1pentene	691372	4.62E-09	No
Existing/Baseline	GT21A	Acetaldehyde	75070	5.05E-04	Yes
Existing/Baseline	GT21A	Acetone	67641	3.42E-04	No
Existing/Baseline	GT21A	Acetylene	74862	4.31E-04	No
Existing/Baseline	GT21A	Acrolein (2propenal)	107028	2.41E-04	Yes
Existing/Baseline	GT21A	Ammonium	14798039	1.84E-05	No
Existing/Baseline	GT21A	Antimony	7440360	0.00E+00	No
Existing/Baseline	GT21A	Benzaldehyde	100527	6.20E-05	No
Existing/Baseline	GT21A	Benzene	71432	2.09E-04	Yes
Existing/Baseline	GT21A	Bromine	7726956	5.12E-08	No
Existing/Baseline	GT21A	Butyraldehyde	123728	1.39E-04	No
Existing/Baseline	GT21A	Calcium	7440702	0.00E+00	No
Existing/Baseline	GT21A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	GT21A	Chromium	7440473	6.74E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	GT21A	Cis2butene	590181	5.26E-05	No
Existing/Baseline	GT21A	Cis2pentene	627203	1.85E-08	No
Existing/Baseline	GT21A	Copper	7440508	5.56E-07	Yes
Existing/Baseline	GT21A	Crotonaldehyde (or 2Butenal)	4170303	6.92E-08	No
Existing/Baseline	GT21A	Cumene	98828	2.01E-10	No
Existing/Baseline	GT21A	Decanal	112312	3.92E-07	No
Existing/Baseline	GT21A	Dimethyl napthalene	28804888	6.03E-09	No
Existing/Baseline	GT21A	Dodecenal	112549	1.96E-07	No
Existing/Baseline	GT21A	Elemental Carbon	7440440	5.57E-05	No
Existing/Baseline	GT21A	Ethane	74840	1.08E-04	No
Existing/Baseline	GT21A	Ethylbenzene	100414	1.75E-05	Yes
Existing/Baseline	GT21A	Ethylene	74851	1.81E-03	No
Existing/Baseline	GT21A	Formaldehyde	50000	1.65E-03	Yes
Existing/Baseline	GT21A	Furfuryl alcohol	98000	2.11E-04	No
Existing/Baseline	GT21A	Glyoxal	107222	2.96E-04	No
Existing/Baseline	GT21A	Heptadecane	629787	1.17E-06	No
Existing/Baseline	GT21A	Heptene	25339564	6.08E-05	No
Existing/Baseline	GT21A	Hexadecane	544763	1.64E-05	No
Existing/Baseline	GT21A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	2.34E-05	No
Existing/Baseline	GT21A	Indium	7440746	0.00E+00	No
Existing/Baseline	GT21A	Insolchlorine	7782505	1.85E-07	Yes
Existing/Baseline	GT21A	Iron	7439896	0.00E+00	No
Existing/Baseline	GT21A	Isovaleraldehyde	590863	2.14E-09	No
Existing/Baseline	GT21A	Lead	7439921	5.33E-04	Yes
Existing/Baseline	GT21A	Magnesium	7439954	2.97E-07	No
Existing/Baseline	GT21A	Manganese	7439965	4.72E-08	Yes
Existing/Baseline	GT21A	Methane	74828	1.28E-03	No
Existing/Baseline	GT21A	Methanol	67561	1.21E-07	Yes
Existing/Baseline	GT21A	Methylglyoxal	78988	1.01E-07	No
Existing/Baseline	GT21A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.86E-08	No
Existing/Baseline	GT21A	Naphthalene	91203	5.96E-05	Yes
Existing/Baseline	GT21A	N-butylbenzene	104518	2.57E-05	No
Existing/Baseline	GT21A	Ndecane	124185	4.91E-05	No
Existing/Baseline	GT21A	Ndodecane	112403	1.41E-04	No
Existing/Baseline	GT21A	Nheptane	142825	7.02E-06	No
Existing/Baseline	GT21A	Nickel	7440020	9.46E-08	Yes
Existing/Baseline	GT21A	Nnonane	111842	1.75E-05	No
Existing/Baseline	GT21A	Noctane	111659	4.68E-06	No
Existing/Baseline	GT21A	Npentane	109660	2.22E-05	No
Existing/Baseline	GT21A	Npentylbenzene	538681	1.99E-05	No
Existing/Baseline	GT21A	Npropylbenzene	103651	3.55E-09	No
Existing/Baseline	GT21A	Ntridecane	629505	7.72E-05	No
Existing/Baseline	GT21A	Nundecane	1120214	6.08E-05	No
Existing/Baseline	GT21A	oTolualdehyde	529204	1.54E-08	No
Existing/Baseline	GT21A	Oxylene	95476	2.10E-05	Yes

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	GT21A	Pentadecane	629629	3.16E-05	No
Existing/Baseline	GT21A	Phenol (carbolic acid)	108952	2.58E-05	Yes
Existing/Baseline	GT21A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	GT21A	Potassium ion	7440097	2.31E-07	No
Existing/Baseline	GT21A	Propane	74986	2.34E-05	No
Existing/Baseline	GT21A	Propionaldehyde	123386	1.05E-04	No
Existing/Baseline	GT21A	Propylene	115071	5.37E-04	Yes
Existing/Baseline	GT21A	pTolualdehyde	104870	3.22E-09	No
Existing/Baseline	GT21A	Silicon	7440213	1.03E-06	No
Existing/Baseline	GT21A	Silver	7440224	1.74E-07	No
Existing/Baseline	GT21A	Styrene	100425	4.33E-05	Yes
Existing/Baseline	GT21A	Sulfate	9960	5.93E-05	Yes
Existing/Baseline	GT21A	Sulfur	7704349	0.00E+00	No
Existing/Baseline	GT21A	Tetradecane	629594	6.90E-05	No
Existing/Baseline	GT21A	Thallium	7440280	0.00E+00	No
Existing/Baseline	GT21A	Titanium	7440326	1.36E-08	No
Existing/Baseline	GT21A	Toluene	108883	5.73E-05	Yes
Existing/Baseline	GT21A	Trans2hexene	4050457	2.01E-09	No
Existing/Baseline	GT21A	Trans2pentene	646048	2.41E-08	No
Existing/Baseline	GT21A	Valeraldehyde	110623	1.64E-08	No
Existing/Baseline	GT21A	Xylenes	1330207	3.04E-05	Yes
Existing/Baseline	GT21A	Zinc	7440666	4.18E-08	No
Existing/Baseline	GT21B	1,2,3trimethylbenzene	526738	3.92E-09	No
Existing/Baseline	GT21B	1,2,4Trimethylbenzene	95636	1.29E-08	No
Existing/Baseline	GT21B	1,3,5trimethylbenzene	108678	2.00E-09	No
Existing/Baseline	GT21B	1,3butadiene	106990	7.41E-05	Yes
Existing/Baseline	GT21B	1butene	106989	8.44E-05	No
Existing/Baseline	GT21B	1decene	872059	7.08E-06	No
Existing/Baseline	GT21B	1hexene	592416	3.59E-05	No
Existing/Baseline	GT21B	1Methyl2Ethylbenzene	611143	2.40E-09	No
Existing/Baseline	GT21B	1Methyl3Ethylbenzene	620144	5.69E-09	No
Existing/Baseline	GT21B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	2.37E-09	No
Existing/Baseline	GT21B	1Methylnaphthalene	90120	9.13E-09	No
Existing/Baseline	GT21B	1nonene	124118	1.04E-05	No
Existing/Baseline	GT21B	1octene	111660	1.18E-05	No
Existing/Baseline	GT21B	1pentene	109671	3.54E-05	No
Existing/Baseline	GT21B	2methyl1butene	563462	5.17E-09	No
Existing/Baseline	GT21B	2methyl1pentene	763291	1.26E-09	No
Existing/Baseline	GT21B	2methyl2butene	513359	8.49E-06	No
Existing/Baseline	GT21B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.59E-08	No
Existing/Baseline	GT21B	2methylnaphthalene	91576	7.61E-09	No
Existing/Baseline	GT21B	2Methylpentane	107835	1.65E-05	No
Existing/Baseline	GT21B	3methyl1butene	563451	4.14E-09	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	GT21B	4methyl1pentene	691372	2.55E-09	No
Existing/Baseline	GT21B	Acetaldehyde	75070	2.04E-04	Yes
Existing/Baseline	GT21B	Acetone	67641	1.38E-04	No
Existing/Baseline	GT21B	Acetylene	74862	1.74E-04	No
Existing/Baseline	GT21B	Acrolein (2propenal)	107028	9.72E-05	Yes
Existing/Baseline	GT21B	Ammonium	14798039	1.07E-05	No
Existing/Baseline	GT21B	Antimony	7440360	0.00E+00	No
Existing/Baseline	GT21B	Benzaldehyde	100527	2.50E-05	No
Existing/Baseline	GT21B	Benzene	71432	8.44E-05	Yes
Existing/Baseline	GT21B	Bromine	7726956	2.97E-08	No
Existing/Baseline	GT21B	Butyraldehyde	123728	5.61E-05	No
Existing/Baseline	GT21B	Calcium	7440702	0.00E+00	No
Existing/Baseline	GT21B	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	GT21B	Chromium	7440473	3.92E-08	No
Existing/Baseline	GT21B	Cis2butene	590181	2.12E-05	No
Existing/Baseline	GT21B	Cis2pentene	627203	1.02E-08	No
Existing/Baseline	GT21B	Copper	7440508	3.23E-07	Yes
Existing/Baseline	GT21B	Crotonaldehyde (or 2Butenal)	4170303	3.82E-08	No
Existing/Baseline	GT21B	Cumene	98828	1.11E-10	No
Existing/Baseline	GT21B	Decanal	112312	2.16E-07	No
Existing/Baseline	GT21B	Dimethyl napthalene	28804888	3.33E-09	No
Existing/Baseline	GT21B	Dodecenal	112549	1.08E-07	No
Existing/Baseline	GT21B	Elemental Carbon	7440440	3.23E-05	No
Existing/Baseline	GT21B	Ethane	74840	4.34E-05	No
Existing/Baseline	GT21B	Ethylbenzene	100414	7.08E-06	Yes
Existing/Baseline	GT21B	Ethylene	74851	7.31E-04	No
Existing/Baseline	GT21B	Formaldehyde	50000	6.67E-04	Yes
Existing/Baseline	GT21B	Furfuryl alcohol	98000	8.53E-05	No
Existing/Baseline	GT21B	Glyoxal	107222	1.19E-04	No
Existing/Baseline	GT21B	Heptadecane	629787	4.72E-07	No
Existing/Baseline	GT21B	Heptene	25339564	2.45E-05	No
Existing/Baseline	GT21B	Hexadecane	544763	6.60E-06	No
Existing/Baseline	GT21B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	9.43E-06	No
Existing/Baseline	GT21B	Indium	7440746	0.00E+00	No
Existing/Baseline	GT21B	Insolchlorine	7782505	1.08E-07	Yes
Existing/Baseline	GT21B	Iron	7439896	0.00E+00	No
Existing/Baseline	GT21B	Isovaleraldehyde	590863	1.18E-09	No
Existing/Baseline	GT21B	Lead	7439921	2.18E-04	Yes
Existing/Baseline	GT21B	Magnesium	7439954	1.73E-07	No
Existing/Baseline	GT21B	Manganese	7439965	2.74E-08	Yes
Existing/Baseline	GT21B	Methane	74828	5.16E-04	No
Existing/Baseline	GT21B	Methanol	67561	6.67E-08	Yes
Existing/Baseline	GT21B	Methylglyoxal	78988	5.55E-08	No
Existing/Baseline	GT21B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.03E-08	No
Existing/Baseline	GT21B	Naphthalene	91203	2.41E-05	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	GT21B	N-butylbenzene	104518	1.04E-05	No
Existing/Baseline	GT21B	Ndecane	124185	1.98E-05	No
Existing/Baseline	GT21B	Ndodecane	112403	5.71E-05	No
Existing/Baseline	GT21B	Nheptane	142825	2.83E-06	No
Existing/Baseline	GT21B	Nickel	7440020	5.50E-08	Yes
Existing/Baseline	GT21B	Nnonane	111842	7.07E-06	No
Existing/Baseline	GT21B	Noctane	111659	1.89E-06	No
Existing/Baseline	GT21B	Npentane	109660	8.96E-06	No
Existing/Baseline	GT21B	Npentylbenzene	538681	8.01E-06	No
Existing/Baseline	GT21B	Npropylbenzene	103651	1.96E-09	No
Existing/Baseline	GT21B	Ntridecane	629505	3.11E-05	No
Existing/Baseline	GT21B	Nundecane	1120214	2.45E-05	No
Existing/Baseline	GT21B	oTolualdehyde	529204	8.50E-09	No
Existing/Baseline	GT21B	Oxylene	95476	8.49E-06	Yes
Existing/Baseline	GT21B	Pentadecane	629629	1.27E-05	No
Existing/Baseline	GT21B	Phenol (carbolic acid)	108952	1.04E-05	Yes
Existing/Baseline	GT21B	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	GT21B	Potassium ion	7440097	1.34E-07	No
Existing/Baseline	GT21B	Propane	74986	9.43E-06	No
Existing/Baseline	GT21B	Propionaldehyde	123386	4.25E-05	No
Existing/Baseline	GT21B	Propylene	115071	2.17E-04	Yes
Existing/Baseline	GT21B	pTolualdehyde	104870	1.77E-09	No
Existing/Baseline	GT21B	Silicon	7440213	5.98E-07	No
Existing/Baseline	GT21B	Silver	7440224	1.01E-07	No
Existing/Baseline	GT21B	Styrene	100425	1.75E-05	Yes
Existing/Baseline	GT21B	Sulfate	9960	3.44E-05	Yes
Existing/Baseline	GT21B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	GT21B	Tetradecane	629594	2.78E-05	No
Existing/Baseline	GT21B	Thallium	7440280	0.00E+00	No
Existing/Baseline	GT21B	Titanium	7440326	7.89E-09	No
Existing/Baseline	GT21B	Toluene	108883	2.31E-05	Yes
Existing/Baseline	GT21B	Trans2hexene	4050457	1.11E-09	No
Existing/Baseline	GT21B	Trans2pentene	646048	1.33E-08	No
Existing/Baseline	GT21B	Valeraldehyde	110623	9.05E-09	No
Existing/Baseline	GT21B	Xylenes	1330207	1.23E-05	Yes
Existing/Baseline	GT21B	Zinc	7440666	2.43E-08	No
Existing/Baseline	GT23A	1,2,3trimethylbenzene	526738	7.81E-10	No
Existing/Baseline	GT23A	1,2,4Trimethylbenzene	95636	2.58E-09	No
Existing/Baseline	GT23A	1,3,5trimethylbenzene	108678	3.98E-10	No
Existing/Baseline	GT23A	1,3butadiene	106990	2.02E-05	Yes
Existing/Baseline	GT23A	1butene	106989	2.30E-05	No
Existing/Baseline	GT23A	1decene	872059	1.93E-06	No
Existing/Baseline	GT23A	1hexene	592416	9.77E-06	No
Existing/Baseline	GT23A	1Methyl2Ethylbenzene	611143	4.79E-10	No
Existing/Baseline	GT23A	1Methyl3Ethylbenzene	620144	1.13E-09	No
Existing/Baseline	GT23A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	4.71E-10	No
Existing/Baseline	GT23A	1Methylnaphthalene	90120	1.82E-09	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	GT23A	1nonene	124118	2.83E-06	No
Existing/Baseline	GT23A	1octene	111660	3.21E-06	No
Existing/Baseline	GT23A	1pentene	109671	9.64E-06	No
Existing/Baseline	GT23A	2methyl1butene	563462	1.03E-09	No
Existing/Baseline	GT23A	2methyl1pentene	763291	2.50E-10	No
Existing/Baseline	GT23A	2methyl2butene	513359	2.31E-06	No
Existing/Baseline	GT23A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	3.16E-09	No
Existing/Baseline	GT23A	2methylnaphthalene	91576	1.52E-09	No
Existing/Baseline	GT23A	2Methylpentane	107835	4.50E-06	No
Existing/Baseline	GT23A	3methyl1butene	563451	8.25E-10	No
Existing/Baseline	GT23A	4methyl1pentene	691372	5.08E-10	No
Existing/Baseline	GT23A	Acetaldehyde	75070	5.55E-05	Yes
Existing/Baseline	GT23A	Acetone	67641	3.76E-05	No
Existing/Baseline	GT23A	Acetylene	74862	4.74E-05	No
Existing/Baseline	GT23A	Acrolein (2propenal)	107028	2.65E-05	Yes
Existing/Baseline	GT23A	Ammonium	14798039	2.02E-06	No
Existing/Baseline	GT23A	Antimony	7440360	0.00E+00	No
Existing/Baseline	GT23A	Benzaldehyde	100527	6.81E-06	No
Existing/Baseline	GT23A	Benzene	71432	2.30E-05	Yes
Existing/Baseline	GT23A	Bromine	7726956	5.63E-09	No
Existing/Baseline	GT23A	Butyraldehyde	123728	1.53E-05	No
Existing/Baseline	GT23A	Calcium	7440702	0.00E+00	No
Existing/Baseline	GT23A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	GT23A	Chromium	7440473	7.41E-09	No
Existing/Baseline	GT23A	Cis2butene	590181	5.78E-06	No
Existing/Baseline	GT23A	Cis2pentene	627203	2.03E-09	No
Existing/Baseline	GT23A	Copper	7440508	6.11E-08	Yes
Existing/Baseline	GT23A	Crotonaldehyde (or 2Butenal)	4170303	7.61E-09	No
Existing/Baseline	GT23A	Cumene	98828	2.21E-11	No
Existing/Baseline	GT23A	Decanal	112312	4.30E-08	No
Existing/Baseline	GT23A	Dimethyl napthalene	28804888	6.63E-10	No
Existing/Baseline	GT23A	Dodecenal	112549	2.15E-08	No
Existing/Baseline	GT23A	Elemental Carbon	7440440	6.12E-06	No
Existing/Baseline	GT23A	Ethane	74840	1.18E-05	No
Existing/Baseline	GT23A	Ethylbenzene	100414	1.93E-06	Yes
Existing/Baseline	GT23A	Ethylene	74851	1.99E-04	No
Existing/Baseline	GT23A	Formaldehyde	50000	1.82E-04	Yes
Existing/Baseline	GT23A	Furfuryl alcohol	98000	2.32E-05	No
Existing/Baseline	GT23A	Glyoxal	107222	3.25E-05	No
Existing/Baseline	GT23A	Heptadecane	629787	1.28E-07	No
Existing/Baseline	GT23A	Heptene	25339564	6.68E-06	No
Existing/Baseline	GT23A	Hexadecane	544763	1.80E-06	No
Existing/Baseline	GT23A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	2.57E-06	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	GT23A	Indium	7440746	0.00E+00	No
Existing/Baseline	GT23A	Insolchlorine	7782505	2.04E-08	Yes
Existing/Baseline	GT23A	Iron	7439896	0.00E+00	No
Existing/Baseline	GT23A	Isovaleraldehyde	590863	2.36E-10	No
Existing/Baseline	GT23A	Lead	7439921	5.86E-05	Yes
Existing/Baseline	GT23A	Magnesium	7439954	3.27E-08	No
Existing/Baseline	GT23A	Manganese	7439965	5.19E-09	Yes
Existing/Baseline	GT23A	Methane	74828	1.41E-04	No
Existing/Baseline	GT23A	Methanol	67561	1.33E-08	Yes
Existing/Baseline	GT23A	Methylglyoxal	78988	1.11E-08	No
Existing/Baseline	GT23A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.05E-09	No
Existing/Baseline	GT23A	Naphthalene	91203	6.55E-06	Yes
Existing/Baseline	GT23A	N-butylbenzene	104518	2.83E-06	No
Existing/Baseline	GT23A	Ndecane	124185	5.40E-06	No
Existing/Baseline	GT23A	Ndodecane	112403	1.55E-05	No
Existing/Baseline	GT23A	Nheptane	142825	7.71E-07	No
Existing/Baseline	GT23A	Nickel	7440020	1.04E-08	Yes
Existing/Baseline	GT23A	Nnonane	111842	1.93E-06	No
Existing/Baseline	GT23A	Noctane	111659	5.14E-07	No
Existing/Baseline	GT23A	Npentane	109660	2.44E-06	No
Existing/Baseline	GT23A	Npentylbenzene	538681	2.18E-06	No
Existing/Baseline	GT23A	Npropylbenzene	103651	3.90E-10	No
Existing/Baseline	GT23A	Ntridecane	629505	8.48E-06	No
Existing/Baseline	GT23A	Nundecane	1120214	6.68E-06	No
Existing/Baseline	GT23A	oTolualdehyde	529204	1.69E-09	No
Existing/Baseline	GT23A	Oxylene	95476	2.31E-06	Yes
Existing/Baseline	GT23A	Pentadecane	629629	3.47E-06	No
Existing/Baseline	GT23A	Phenol (carbolic acid)	108952	2.83E-06	Yes
Existing/Baseline	GT23A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	GT23A	Potassium ion	7440097	2.53E-08	No
Existing/Baseline	GT23A	Propane	74986	2.57E-06	No
Existing/Baseline	GT23A	Propionaldehyde	123386	1.16E-05	No
Existing/Baseline	GT23A	Propylene	115071	5.90E-05	Yes
Existing/Baseline	GT23A	pTolualdehyde	104870	3.54E-10	No
Existing/Baseline	GT23A	Silicon	7440213	1.13E-07	No
Existing/Baseline	GT23A	Silver	7440224	1.91E-08	No
Existing/Baseline	GT23A	Styrene	100425	4.75E-06	Yes
Existing/Baseline	GT23A	Sulfate	9960	6.52E-06	Yes
Existing/Baseline	GT23A	Sulfur	7704349	0.00E+00	No
Existing/Baseline	GT23A	Tetradecane	629594	7.58E-06	No
Existing/Baseline	GT23A	Thallium	7440280	0.00E+00	No
Existing/Baseline	GT23A	Titanium	7440326	1.49E-09	No
Existing/Baseline	GT23A	Toluene	108883	6.30E-06	Yes
Existing/Baseline	GT23A	Trans2hexene	4050457	2.21E-10	No
Existing/Baseline	GT23A	Trans2pentene	646048	2.64E-09	No
Existing/Baseline	GT23A	Valeraldehyde	110623	1.80E-09	No
Existing/Baseline	GT23A	Xylenes	1330207	3.34E-06	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	GT23A	Zinc	7440666	4.60E-09	No
Existing/Baseline	GT23B	1,2,3trimethylbenzene	526738	4.31E-10	No
Existing/Baseline	GT23B	1,2,4Trimethylbenzene	95636	1.42E-09	No
Existing/Baseline	GT23B	1,3,5trimethylbenzene	108678	2.19E-10	No
Existing/Baseline	GT23B	1,3butadiene	106990	8.14E-06	Yes
Existing/Baseline	GT23B	1butene	106989	9.28E-06	No
Existing/Baseline	GT23B	1decene	872059	7.78E-07	No
Existing/Baseline	GT23B	1hexene	592416	3.94E-06	No
Existing/Baseline	GT23B	1Methyl2Ethylbenzene	611143	2.64E-10	No
Existing/Baseline	GT23B	1Methyl3Ethylbenzene	620144	6.26E-10	No
Existing/Baseline	GT23B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	2.60E-10	No
Existing/Baseline	GT23B	1Methylnaphthalene	90120	1.00E-09	No
Existing/Baseline	GT23B	1nonene	124118	1.14E-06	No
Existing/Baseline	GT23B	1octene	111660	1.30E-06	No
Existing/Baseline	GT23B	1pentene	109671	3.89E-06	No
Existing/Baseline	GT23B	2methyl1butene	563462	5.69E-10	No
Existing/Baseline	GT23B	2methyl1pentene	763291	1.38E-10	No
Existing/Baseline	GT23B	2methyl2butene	513359	9.33E-07	No
Existing/Baseline	GT23B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.74E-09	No
Existing/Baseline	GT23B	2methylnaphthalene	91576	8.37E-10	No
Existing/Baseline	GT23B	2Methylpentane	107835	1.82E-06	No
Existing/Baseline	GT23B	3methyl1butene	563451	4.55E-10	No
Existing/Baseline	GT23B	4methyl1pentene	691372	2.80E-10	No
Existing/Baseline	GT23B	Acetaldehyde	75070	2.24E-05	Yes
Existing/Baseline	GT23B	Acetone	67641	1.52E-05	No
Existing/Baseline	GT23B	Acetylene	74862	1.91E-05	No
Existing/Baseline	GT23B	Acrolein (2propenal)	107028	1.07E-05	Yes
Existing/Baseline	GT23B	Ammonium	14798039	1.18E-06	No
Existing/Baseline	GT23B	Antimony	7440360	0.00E+00	No
Existing/Baseline	GT23B	Benzaldehyde	100527	2.75E-06	No
Existing/Baseline	GT23B	Benzene	71432	9.28E-06	Yes
Existing/Baseline	GT23B	Bromine	7726956	3.27E-09	No
Existing/Baseline	GT23B	Butyraldehyde	123728	6.17E-06	No
Existing/Baseline	GT23B	Calcium	7440702	0.00E+00	No
Existing/Baseline	GT23B	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	GT23B	Chromium	7440473	4.30E-09	No
Existing/Baseline	GT23B	Cis2butene	590181	2.33E-06	No
Existing/Baseline	GT23B	Cis2pentene	627203	1.12E-09	No
Existing/Baseline	GT23B	Copper	7440508	3.55E-08	Yes
Existing/Baseline	GT23B	Crotonaldehyde (or 2Butenal)	4170303	4.20E-09	No
Existing/Baseline	GT23B	Cumene	98828	1.22E-11	No
Existing/Baseline	GT23B	Decanal	112312	2.37E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	GT23B	Dimethyl napthalene	28804888	3.66E-10	No
Existing/Baseline	GT23B	Dodecenal	112549	1.19E-08	No
Existing/Baseline	GT23B	Elemental Carbon	7440440	3.56E-06	No
Existing/Baseline	GT23B	Ethane	74840	4.77E-06	No
Existing/Baseline	GT23B	Ethylbenzene	100414	7.78E-07	Yes
Existing/Baseline	GT23B	Ethylene	74851	8.04E-05	No
Existing/Baseline	GT23B	Formaldehyde	50000	7.33E-05	Yes
Existing/Baseline	GT23B	Furfuryl alcohol	98000	9.38E-06	No
Existing/Baseline	GT23B	Glyoxal	107222	1.31E-05	No
Existing/Baseline	GT23B	Heptadecane	629787	5.18E-08	No
Existing/Baseline	GT23B	Heptene	25339564	2.70E-06	No
Existing/Baseline	GT23B	Hexadecane	544763	7.26E-07	No
Existing/Baseline	GT23B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	1.04E-06	No
Existing/Baseline	GT23B	Indium	7440746	0.00E+00	No
Existing/Baseline	GT23B	Insolchlorine	7782505	1.18E-08	Yes
Existing/Baseline	GT23B	Iron	7439896	0.00E+00	No
Existing/Baseline	GT23B	Isovaleraldehyde	590863	1.30E-10	No
Existing/Baseline	GT23B	Lead	7439921	2.39E-05	Yes
Existing/Baseline	GT23B	Magnesium	7439954	1.90E-08	No
Existing/Baseline	GT23B	Manganese	7439965	3.01E-09	Yes
Existing/Baseline	GT23B	Methane	74828	5.67E-05	No
Existing/Baseline	GT23B	Methanol	67561	7.33E-09	Yes
Existing/Baseline	GT23B	Methylglyoxal	78988	6.11E-09	No
Existing/Baseline	GT23B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.13E-09	No
Existing/Baseline	GT23B	Naphthalene	91203	2.64E-06	Yes
Existing/Baseline	GT23B	N-butylbenzene	104518	1.14E-06	No
Existing/Baseline	GT23B	Ndecane	124185	2.18E-06	No
Existing/Baseline	GT23B	Ndodecane	112403	6.27E-06	No
Existing/Baseline	GT23B	Nheptane	142825	3.11E-07	No
Existing/Baseline	GT23B	Nickel	7440020	6.04E-09	Yes
Existing/Baseline	GT23B	Nnonane	111842	7.77E-07	No
Existing/Baseline	GT23B	Noctane	111659	2.08E-07	No
Existing/Baseline	GT23B	Npentane	109660	9.85E-07	No
Existing/Baseline	GT23B	Npentylbenzene	538681	8.81E-07	No
Existing/Baseline	GT23B	Npropylbenzene	103651	2.15E-10	No
Existing/Baseline	GT23B	Ntridecane	629505	3.42E-06	No
Existing/Baseline	GT23B	Nundecane	1120214	2.70E-06	No
Existing/Baseline	GT23B	oTolualdehyde	529204	9.34E-10	No
Existing/Baseline	GT23B	Oxylene	95476	9.33E-07	Yes
Existing/Baseline	GT23B	Pentadecane	629629	1.40E-06	No
Existing/Baseline	GT23B	Phenol (carbolic acid)	108952	1.14E-06	Yes
Existing/Baseline	GT23B	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	GT23B	Potassium ion	7440097	1.47E-08	No
Existing/Baseline	GT23B	Propane	74986	1.04E-06	No
Existing/Baseline	GT23B	Propionaldehyde	123386	4.67E-06	No
Existing/Baseline	GT23B	Propylene	115071	2.38E-05	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	GT23B	pTolualdehyde	104870	1.95E-10	No
Existing/Baseline	GT23B	Silicon	7440213	6.58E-08	No
Existing/Baseline	GT23B	Silver	7440224	1.11E-08	No
Existing/Baseline	GT23B	Styrene	100425	1.92E-06	Yes
Existing/Baseline	GT23B	Sulfate	9960	3.78E-06	Yes
Existing/Baseline	GT23B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	GT23B	Tetradecane	629594	3.06E-06	No
Existing/Baseline	GT23B	Thallium	7440280	0.00E+00	No
Existing/Baseline	GT23B	Titanium	7440326	8.68E-10	No
Existing/Baseline	GT23B	Toluene	108883	2.54E-06	Yes
Existing/Baseline	GT23B	Trans2hexene	4050457	1.22E-10	No
Existing/Baseline	GT23B	Trans2pentene	646048	1.46E-09	No
Existing/Baseline	GT23B	Valeraldehyde	110623	9.95E-10	No
Existing/Baseline	GT23B	Xylenes	1330207	1.35E-06	Yes
Existing/Baseline	GT23B	Zinc	7440666	2.67E-09	No
Existing/Baseline	MT35A	1,2,3trimethylbenzene	526738	1.17E-08	No
Existing/Baseline	MT35A	1,2,4Trimethylbenzene	95636	3.87E-08	No
Existing/Baseline	MT35A	1,3,5trimethylbenzene	108678	5.98E-09	No
Existing/Baseline	MT35A	1,3butadiene	106990	1.87E-07	Yes
Existing/Baseline	MT35A	1butene	106989	1.94E-07	No
Existing/Baseline	MT35A	1decene	872059	2.05E-08	No
Existing/Baseline	MT35A	1hexene	592416	8.15E-08	No
Existing/Baseline	MT35A	1Methyl2Ethylbenzene	611143	7.19E-09	No
Existing/Baseline	MT35A	1Methyl3Ethylbenzene	620144	1.70E-08	No
Existing/Baseline	MT35A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	7.08E-09	No
Existing/Baseline	MT35A	1Methylnaphthalene	90120	2.73E-08	No
Existing/Baseline	MT35A	1nonene	124118	2.72E-08	No
Existing/Baseline	MT35A	1octene	111660	3.05E-08	No
Existing/Baseline	MT35A	1pentene	109671	8.59E-08	No
Existing/Baseline	MT35A	2methyl1butene	563462	1.55E-08	No
Existing/Baseline	MT35A	2methyl1pentene	763291	3.76E-09	No
Existing/Baseline	MT35A	2methyl2butene	513359	2.05E-08	No
Existing/Baseline	MT35A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	4.75E-08	No
Existing/Baseline	MT35A	2methylnaphthalene	91576	2.28E-08	No
Existing/Baseline	MT35A	2Methylpentane	107835	4.52E-08	No
Existing/Baseline	MT35A	3methyl1butene	563451	1.24E-08	No
Existing/Baseline	MT35A	4methyl1pentene	691372	7.64E-09	No
Existing/Baseline	MT35A	Acetaldehyde	75070	4.73E-07	Yes
Existing/Baseline	MT35A	Acetone	67641	4.08E-08	No
Existing/Baseline	MT35A	Acetylene	74862	4.36E-07	No
Existing/Baseline	MT35A	Acrolein (2propenal)	107028	2.71E-07	Yes
Existing/Baseline	MT35A	Ammonium	14798039	6.89E-07	No
Existing/Baseline	MT35A	Antimony	7440360	0.00E+00	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	MT35A	Benzaldehyde	100527	5.20E-08	No
Existing/Baseline	MT35A	Benzene	71432	1.86E-07	Yes
Existing/Baseline	MT35A	Bromine	7726956	1.91E-09	No
Existing/Baseline	MT35A	Butyraldehyde	123728	1.32E-08	No
Existing/Baseline	MT35A	Calcium	7440702	0.00E+00	No
Existing/Baseline	MT35A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	MT35A	Chromium	7440473	2.52E-09	No
Existing/Baseline	MT35A	Cis2butene	590181	2.32E-08	No
Existing/Baseline	MT35A	Cis2pentene	627203	3.05E-08	No
Existing/Baseline	MT35A	Copper	7440508	2.08E-08	Yes
Existing/Baseline	MT35A	Crotonaldehyde (or 2Butenal)	4170303	1.14E-07	No
Existing/Baseline	MT35A	Cumene	98828	3.32E-10	No
Existing/Baseline	MT35A	Decanal	112312	6.47E-07	No
Existing/Baseline	MT35A	Dimethyl napthalene	28804888	9.96E-09	No
Existing/Baseline	MT35A	Dodecenal	112549	3.23E-07	No
Existing/Baseline	MT35A	Elemental Carbon	7440440	2.08E-06	No
Existing/Baseline	MT35A	Ethane	74840	5.77E-08	No
Existing/Baseline	MT35A	Ethylbenzene	100414	1.93E-08	Yes
Existing/Baseline	MT35A	Ethylene	74851	1.71E-06	No
Existing/Baseline	MT35A	Formaldehyde	50000	1.36E-06	Yes
Existing/Baseline	MT35A	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	MT35A	Glyoxal	107222	2.01E-07	No
Existing/Baseline	MT35A	Heptadecane	629787	9.96E-10	No
Existing/Baseline	MT35A	Heptene	25339564	4.85E-08	No
Existing/Baseline	MT35A	Hexadecane	544763	5.42E-09	No
Existing/Baseline	MT35A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	MT35A	Indium	7440746	0.00E+00	No
Existing/Baseline	MT35A	Insolchlorine	7782505	6.93E-09	Yes
Existing/Baseline	MT35A	Iron	7439896	0.00E+00	No
Existing/Baseline	MT35A	Isovaleraldehyde	590863	3.54E-09	No
Existing/Baseline	MT35A	Magnesium	7439954	1.11E-08	No
Existing/Baseline	MT35A	Manganese	7439965	1.77E-09	Yes
Existing/Baseline	MT35A	Methane	74828	0.00E+00	No
Existing/Baseline	MT35A	Methanol	67561	2.00E-07	Yes
Existing/Baseline	MT35A	Methylglyoxal	78988	1.66E-07	No
Existing/Baseline	MT35A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	3.08E-08	No
Existing/Baseline	MT35A	Naphthalene	91203	5.99E-08	Yes
Existing/Baseline	MT35A	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	MT35A	Ndecane	124185	3.54E-08	No
Existing/Baseline	MT35A	Ndodecane	112403	5.11E-08	No
Existing/Baseline	MT35A	Nheptane	142825	7.08E-09	No
Existing/Baseline	MT35A	Nickel	7440020	3.54E-09	Yes
Existing/Baseline	MT35A	Nnonane	111842	6.86E-09	No
Existing/Baseline	MT35A	Noctane	111659	6.86E-09	No
Existing/Baseline	MT35A	Npentane	109660	2.19E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	MT35A	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	MT35A	Npropylbenzene	103651	5.87E-09	No
Existing/Baseline	MT35A	Ntridecane	629505	5.92E-08	No
Existing/Baseline	MT35A	Nundecane	1120214	4.91E-08	No
Existing/Baseline	MT35A	oTolualdehyde	529204	2.55E-08	No
Existing/Baseline	MT35A	Oxylene	95476	1.84E-08	Yes
Existing/Baseline	MT35A	Pentadecane	629629	1.91E-08	No
Existing/Baseline	MT35A	Phenol (carbolic acid)	108952	8.03E-08	Yes
Existing/Baseline	MT35A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	MT35A	Potassium ion	7440097	8.63E-09	No
Existing/Baseline	MT35A	Propane	74986	8.63E-09	No
Existing/Baseline	MT35A	Propionaldehyde	123386	8.05E-08	No
Existing/Baseline	MT35A	Propylene	115071	5.02E-07	Yes
Existing/Baseline	MT35A	pTolualdehyde	104870	5.31E-09	No
Existing/Baseline	MT35A	Silicon	7440213	3.86E-08	No
Existing/Baseline	MT35A	Silver	7440224	6.50E-09	No
Existing/Baseline	MT35A	Styrene	100425	3.42E-08	Yes
Existing/Baseline	MT35A	Sulfate	9960	2.22E-06	Yes
Existing/Baseline	MT35A	Sulfur	7704349	0.00E+00	No
Existing/Baseline	MT35A	Tetradecane	629594	4.60E-08	No
Existing/Baseline	MT35A	Thallium	7440280	0.00E+00	No
Existing/Baseline	MT35A	Titanium	7440326	5.09E-10	No
Existing/Baseline	MT35A	Toluene	108883	7.10E-08	Yes
Existing/Baseline	MT35A	Trans2hexene	4050457	3.32E-09	No
Existing/Baseline	MT35A	Trans2pentene	646048	3.97E-08	No
Existing/Baseline	MT35A	Valeraldehyde	110623	2.71E-08	No
Existing/Baseline	MT35A	Xylenes	1330207	3.12E-08	Yes
Existing/Baseline	MT35A	Zinc	7440666	1.57E-09	No
Existing/Baseline	MT35B	1,2,3trimethylbenzene	526738	4.34E-08	No
Existing/Baseline	MT35B	1,2,4Trimethylbenzene	95636	1.43E-07	No
Existing/Baseline	MT35B	1,3,5trimethylbenzene	108678	2.21E-08	No
Existing/Baseline	MT35B	1,3butadiene	106990	6.91E-07	Yes
Existing/Baseline	MT35B	1butene	106989	7.18E-07	No
Existing/Baseline	MT35B	1decene	872059	7.58E-08	No
Existing/Baseline	MT35B	1hexene	592416	3.01E-07	No
Existing/Baseline	MT35B	1Methyl2Ethylbenzene	611143	2.66E-08	No
Existing/Baseline	MT35B	1Methyl3Ethylbenzene	620144	6.31E-08	No
Existing/Baseline	MT35B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	2.62E-08	No
Existing/Baseline	MT35B	1Methylnaphthalene	90120	1.01E-07	No
Existing/Baseline	MT35B	1nonene	124118	1.01E-07	No
Existing/Baseline	MT35B	1octene	111660	1.13E-07	No
Existing/Baseline	MT35B	1pentene	109671	3.18E-07	No
Existing/Baseline	MT35B	2methyl1butene	563462	5.73E-08	No
Existing/Baseline	MT35B	2methyl1pentene	763291	1.39E-08	No
Existing/Baseline	MT35B	2methyl2butene	513359	7.58E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	MT35B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.76E-07	No
Existing/Baseline	MT35B	2methylnaphthalene	91576	8.44E-08	No
Existing/Baseline	MT35B	2Methylpentane	107835	1.67E-07	No
Existing/Baseline	MT35B	3methyl1butene	563451	4.59E-08	No
Existing/Baseline	MT35B	4methyl1pentene	691372	2.83E-08	No
Existing/Baseline	MT35B	Acetaldehyde	75070	1.75E-06	Yes
Existing/Baseline	MT35B	Acetone	67641	1.51E-07	No
Existing/Baseline	MT35B	Acetylene	74862	1.61E-06	No
Existing/Baseline	MT35B	Acrolein (2propenal)	107028	1.00E-06	Yes
Existing/Baseline	MT35B	Ammonium	14798039	4.27E-07	No
Existing/Baseline	MT35B	Antimony	7440360	0.00E+00	No
Existing/Baseline	MT35B	Benzaldehyde	100527	1.93E-07	No
Existing/Baseline	MT35B	Benzene	71432	6.89E-07	Yes
Existing/Baseline	MT35B	Bromine	7726956	1.19E-09	No
Existing/Baseline	MT35B	Butyraldehyde	123728	4.87E-08	No
Existing/Baseline	MT35B	Calcium	7440702	0.00E+00	No
Existing/Baseline	MT35B	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	MT35B	Chromium	7440473	1.56E-09	No
Existing/Baseline	MT35B	Cis2butene	590181	8.60E-08	No
Existing/Baseline	MT35B	Cis2pentene	627203	1.13E-07	No
Existing/Baseline	MT35B	Copper	7440508	1.29E-08	Yes
Existing/Baseline	MT35B	Crotonaldehyde (or 2Butenal)	4170303	4.23E-07	No
Existing/Baseline	MT35B	Cumene	98828	1.23E-09	No
Existing/Baseline	MT35B	Decanal	112312	2.39E-06	No
Existing/Baseline	MT35B	Dimethyl napthalene	28804888	3.69E-08	No
Existing/Baseline	MT35B	Dodecenal	112549	1.20E-06	No
Existing/Baseline	MT35B	Elemental Carbon	7440440	1.29E-06	No
Existing/Baseline	MT35B	Ethane	74840	2.13E-07	No
Existing/Baseline	MT35B	Ethylbenzene	100414	7.13E-08	Yes
Existing/Baseline	MT35B	Ethylene	74851	6.33E-06	No
Existing/Baseline	MT35B	Formaldehyde	50000	5.04E-06	Yes
Existing/Baseline	MT35B	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	MT35B	Glyoxal	107222	7.44E-07	No
Existing/Baseline	MT35B	Heptadecane	629787	3.69E-09	No
Existing/Baseline	MT35B	Heptene	25339564	1.79E-07	No
Existing/Baseline	MT35B	Hexadecane	544763	2.01E-08	No
Existing/Baseline	MT35B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	MT35B	Indium	7440746	0.00E+00	No
Existing/Baseline	MT35B	Insolchlorine	7782505	4.29E-09	Yes
Existing/Baseline	MT35B	Iron	7439896	0.00E+00	No
Existing/Baseline	MT35B	Isovaleraldehyde	590863	1.31E-08	No
Existing/Baseline	MT35B	Magnesium	7439954	6.89E-09	No
Existing/Baseline	MT35B	Manganese	7439965	1.09E-09	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	MT35B	Methane	74828	0.00E+00	No
Existing/Baseline	MT35B	Methanol	67561	7.39E-07	Yes
Existing/Baseline	MT35B	Methylglyoxal	78988	6.16E-07	No
Existing/Baseline	MT35B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.14E-07	No
Existing/Baseline	MT35B	Naphthalene	91203	2.22E-07	Yes
Existing/Baseline	MT35B	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	MT35B	Ndecane	124185	1.31E-07	No
Existing/Baseline	MT35B	Ndodecane	112403	1.89E-07	No
Existing/Baseline	MT35B	Nheptane	142825	2.62E-08	No
Existing/Baseline	MT35B	Nickel	7440020	2.19E-09	Yes
Existing/Baseline	MT35B	Nnonane	111842	2.54E-08	No
Existing/Baseline	MT35B	Noctane	111659	2.54E-08	No
Existing/Baseline	MT35B	Npentane	109660	8.11E-08	No
Existing/Baseline	MT35B	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	MT35B	Npropylbenzene	103651	2.17E-08	No
Existing/Baseline	MT35B	Ntridecane	629505	2.19E-07	No
Existing/Baseline	MT35B	Nundecane	1120214	1.82E-07	No
Existing/Baseline	MT35B	oTolualdehyde	529204	9.42E-08	No
Existing/Baseline	MT35B	Oxylene	95476	6.80E-08	Yes
Existing/Baseline	MT35B	Pentadecane	629629	7.09E-08	No
Existing/Baseline	MT35B	Phenol (carbolic acid)	108952	2.97E-07	Yes
Existing/Baseline	MT35B	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	MT35B	Potassium ion	7440097	5.34E-09	No
Existing/Baseline	MT35B	Propane	74986	3.20E-08	No
Existing/Baseline	MT35B	Propionaldehyde	123386	2.98E-07	No
Existing/Baseline	MT35B	Propylene	115071	1.86E-06	Yes
Existing/Baseline	MT35B	pTolualdehyde	104870	1.97E-08	No
Existing/Baseline	MT35B	Silicon	7440213	2.39E-08	No
Existing/Baseline	MT35B	Silver	7440224	4.03E-09	No
Existing/Baseline	MT35B	Styrene	100425	1.27E-07	Yes
Existing/Baseline	MT35B	Sulfate	9960	1.37E-06	Yes
Existing/Baseline	MT35B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	MT35B	Tetradecane	629594	1.70E-07	No
Existing/Baseline	MT35B	Thallium	7440280	0.00E+00	No
Existing/Baseline	MT35B	Titanium	7440326	3.15E-10	No
Existing/Baseline	MT35B	Toluene	108883	2.63E-07	Yes
Existing/Baseline	MT35B	Trans2hexene	4050457	1.23E-08	No
Existing/Baseline	MT35B	Trans2pentene	646048	1.47E-07	No
Existing/Baseline	MT35B	Valeraldehyde	110623	1.00E-07	No
Existing/Baseline	MT35B	Xylenes	1330207	1.16E-07	Yes
Existing/Baseline	MT35B	Zinc	7440666	9.70E-10	No
Existing/Baseline	RA	1,2,3trimethylbenzene	526738	2.29E-05	No
Existing/Baseline	RA	1,2,4Trimethylbenzene	95636	7.55E-05	No
Existing/Baseline	RA	1,3,5trimethylbenzene	108678	1.16E-05	No
Existing/Baseline	RA	1,3butadiene	106990	3.79E-04	Yes
Existing/Baseline	RA	1butene	106989	3.95E-04	No
Existing/Baseline	RA	1decene	872059	4.13E-05	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	RA	1hexene	592416	1.66E-04	No
Existing/Baseline	RA	1Methyl2Ethylbenzene	611143	1.40E-05	No
Existing/Baseline	RA	1Methyl3Ethylbenzene	620144	3.32E-05	No
Existing/Baseline	RA	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.38E-05	No
Existing/Baseline	RA	1Methylnaphthalene	90120	5.33E-05	No
Existing/Baseline	RA	1nonene	124118	5.51E-05	No
Existing/Baseline	RA	1octene	111660	6.19E-05	No
Existing/Baseline	RA	1pentene	109671	1.74E-04	No
Existing/Baseline	RA	2methyl1butene	563462	3.02E-05	No
Existing/Baseline	RA	2methyl1pentene	763291	7.33E-06	No
Existing/Baseline	RA	2methyl2butene	513359	4.16E-05	No
Existing/Baseline	RA	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	9.25E-05	No
Existing/Baseline	RA	2methylnaphthalene	91576	4.44E-05	No
Existing/Baseline	RA	2Methylpentane	107835	9.13E-05	No
Existing/Baseline	RA	3methyl1butene	563451	2.42E-05	No
Existing/Baseline	RA	4methyl1pentene	691372	1.49E-05	No
Existing/Baseline	RA	Acetaldehyde	75070	9.62E-04	Yes
Existing/Baseline	RA	Acetone	67641	1.07E-04	No
Existing/Baseline	RA	Acetylene	74862	8.84E-04	No
Existing/Baseline	RA	Acrolein (2propenal)	107028	5.48E-04	Yes
Existing/Baseline	RA	Ammonium	14798039	6.56E-04	No
Existing/Baseline	RA	Antimony	7440360	0.00E+00	No
Existing/Baseline	RA	Benzaldehyde	100527	1.06E-04	No
Existing/Baseline	RA	Benzene	71432	3.79E-04	Yes
Existing/Baseline	RA	Bromine	7726956	1.82E-06	No
Existing/Baseline	RA	Butyraldehyde	123728	3.69E-05	No
Existing/Baseline	RA	Calcium	7440702	0.00E+00	No
Existing/Baseline	RA	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	RA	Chromium	7440473	2.40E-06	No
Existing/Baseline	RA	Cis2butene	590181	4.95E-05	No
Existing/Baseline	RA	Cis2pentene	627203	5.95E-05	No
Existing/Baseline	RA	Copper	7440508	1.98E-05	Yes
Existing/Baseline	RA	Crotonaldehyde (or 2Butenal)	4170303	2.23E-04	No
Existing/Baseline	RA	Cumene	98828	6.47E-07	No
Existing/Baseline	RA	Decanal	112312	1.26E-03	No
Existing/Baseline	RA	Dimethyl napthalene	28804888	1.94E-05	No
Existing/Baseline	RA	Dodecenal	112549	6.30E-04	No
Existing/Baseline	RA	Elemental Carbon	7440440	1.99E-03	No
Existing/Baseline	RA	Ethane	74840	1.21E-04	No
Existing/Baseline	RA	Ethylbenzene	100414	3.89E-05	Yes
Existing/Baseline	RA	Ethylene	74851	3.48E-03	No
Existing/Baseline	RA	Formaldehyde	50000	2.79E-03	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	RA	Furfuryl alcohol	98000	1.71E-05	No
Existing/Baseline	RA	Glyoxal	107222	4.16E-04	No
Existing/Baseline	RA	Heptadecane	629787	2.04E-06	No
Existing/Baseline	RA	Heptene	25339564	9.94E-05	No
Existing/Baseline	RA	Hexadecane	544763	1.19E-05	No
Existing/Baseline	RA	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	1.89E-06	No
Existing/Baseline	RA	Indium	7440746	0.00E+00	No
Existing/Baseline	RA	Insolchlorine	7782505	6.60E-06	Yes
Existing/Baseline	RA	Iron	7439896	0.00E+00	No
Existing/Baseline	RA	Isovaleraldehyde	590863	6.90E-06	No
Existing/Baseline	RA	Lead	7439921	4.51E-05	Yes
Existing/Baseline	RA	Magnesium	7439954	1.06E-05	No
Existing/Baseline	RA	Manganese	7439965	1.68E-06	Yes
Existing/Baseline	RA	Methane	74828	1.04E-04	No
Existing/Baseline	RA	Methanol	67561	3.89E-04	Yes
Existing/Baseline	RA	Methylglyoxal	78988	3.24E-04	No
Existing/Baseline	RA	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	5.99E-05	No
Existing/Baseline	RA	Naphthalene	91203	1.21E-04	Yes
Existing/Baseline	RA	N-butylbenzene	104518	2.08E-06	No
Existing/Baseline	RA	Ndecane	124185	7.30E-05	No
Existing/Baseline	RA	Ndodecane	112403	1.11E-04	No
Existing/Baseline	RA	Nheptane	142825	1.44E-05	No
Existing/Baseline	RA	Nickel	7440020	3.37E-06	Yes
Existing/Baseline	RA	Nnonane	111842	1.48E-05	No
Existing/Baseline	RA	Noctane	111659	1.37E-05	No
Existing/Baseline	RA	Npentane	109660	4.45E-05	No
Existing/Baseline	RA	Npentylbenzene	538681	1.61E-06	No
Existing/Baseline	RA	Npropylbenzene	103651	1.14E-05	No
Existing/Baseline	RA	Ntridecane	629505	1.22E-04	No
Existing/Baseline	RA	Nundecane	1120214	1.01E-04	No
Existing/Baseline	RA	oTolualdehyde	529204	4.96E-05	No
Existing/Baseline	RA	Oxylene	95476	3.75E-05	Yes
Existing/Baseline	RA	Pentadecane	629629	3.99E-05	No
Existing/Baseline	RA	Phenol (carbolic acid)	108952	1.59E-04	Yes
Existing/Baseline	RA	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	RA	Potassium ion	7440097	8.22E-06	No
Existing/Baseline	RA	Propane	74986	1.87E-05	No
Existing/Baseline	RA	Propionaldehyde	123386	1.65E-04	No
Existing/Baseline	RA	Propylene	115071	1.02E-03	Yes
Existing/Baseline	RA	pTolualdehyde	104870	1.04E-05	No
Existing/Baseline	RA	Silicon	7440213	3.67E-05	No
Existing/Baseline	RA	Silver	7440224	6.20E-06	No
Existing/Baseline	RA	Styrene	100425	7.01E-05	Yes
Existing/Baseline	RA	Sulfate	9960	2.11E-03	Yes
Existing/Baseline	RA	Sulfur	7704349	0.00E+00	No
Existing/Baseline	RA	Tetradecane	629594	9.53E-05	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	RA	Thallium	7440280	0.00E+00	No
Existing/Baseline	RA	Titanium	7440326	4.85E-07	No
Existing/Baseline	RA	Toluene	108883	1.43E-04	Yes
Existing/Baseline	RA	Trans2hexene	4050457	6.47E-06	No
Existing/Baseline	RA	Trans2pentene	646048	7.74E-05	No
Existing/Baseline	RA	Valeraldehyde	110623	5.28E-05	No
Existing/Baseline	RA	Xylenes	1330207	6.33E-05	Yes
Existing/Baseline	RA	Zinc	7440666	1.49E-06	No
Existing/Baseline	RB	1,2,3trimethylbenzene	526738	2.96E-05	No
Existing/Baseline	RB	1,2,4Trimethylbenzene	95636	9.76E-05	No
Existing/Baseline	RB	1,3,5trimethylbenzene	108678	1.51E-05	No
Existing/Baseline	RB	1,3butadiene	106990	4.90E-04	Yes
Existing/Baseline	RB	1butene	106989	5.11E-04	No
Existing/Baseline	RB	1decene	872059	5.34E-05	No
Existing/Baseline	RB	1hexene	592416	2.14E-04	No
Existing/Baseline	RB	1Methyl2Ethylbenzene	611143	1.81E-05	No
Existing/Baseline	RB	1Methyl3Ethylbenzene	620144	4.29E-05	No
Existing/Baseline	RB	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.78E-05	No
Existing/Baseline	RB	1Methylnaphthalene	90120	6.89E-05	No
Existing/Baseline	RB	1nonene	124118	7.13E-05	No
Existing/Baseline	RB	1octene	111660	8.00E-05	No
Existing/Baseline	RB	1pentene	109671	2.26E-04	No
Existing/Baseline	RB	2methyl1butene	563462	3.90E-05	No
Existing/Baseline	RB	2methyl1pentene	763291	9.48E-06	No
Existing/Baseline	RB	2methyl2butene	513359	5.38E-05	No
Existing/Baseline	RB	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.20E-04	No
Existing/Baseline	RB	2methylnaphthalene	91576	5.74E-05	No
Existing/Baseline	RB	2Methylpentane	107835	1.18E-04	No
Existing/Baseline	RB	3methyl1butene	563451	3.12E-05	No
Existing/Baseline	RB	4methyl1pentene	691372	1.92E-05	No
Existing/Baseline	RB	Acetaldehyde	75070	1.24E-03	Yes
Existing/Baseline	RB	Acetone	67641	1.39E-04	No
Existing/Baseline	RB	Acetylene	74862	1.14E-03	No
Existing/Baseline	RB	Acrolein (2propenal)	107028	7.08E-04	Yes
Existing/Baseline	RB	Ammonium	14798039	8.49E-04	No
Existing/Baseline	RB	Antimony	7440360	0.00E+00	No
Existing/Baseline	RB	Benzaldehyde	100527	1.38E-04	No
Existing/Baseline	RB	Benzene	71432	4.91E-04	Yes
Existing/Baseline	RB	Bromine	7726956	2.36E-06	No
Existing/Baseline	RB	Butyraldehyde	123728	4.77E-05	No
Existing/Baseline	RB	Calcium	7440702	0.00E+00	No
Existing/Baseline	RB	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	RB	Chromium	7440473	3.11E-06	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	RB	Cis2butene	590181	6.41E-05	No
Existing/Baseline	RB	Cis2pentene	627203	7.70E-05	No
Existing/Baseline	RB	Copper	7440508	2.56E-05	Yes
Existing/Baseline	RB	Crotonaldehyde (or 2Butenal)	4170303	2.88E-04	No
Existing/Baseline	RB	Cumene	98828	8.36E-07	No
Existing/Baseline	RB	Decanal	112312	1.63E-03	No
Existing/Baseline	RB	Dimethyl napthalene	28804888	2.51E-05	No
Existing/Baseline	RB	Dodecenal	112549	8.14E-04	No
Existing/Baseline	RB	Elemental Carbon	7440440	2.57E-03	No
Existing/Baseline	RB	Ethane	74840	1.57E-04	No
Existing/Baseline	RB	Ethylbenzene	100414	5.03E-05	Yes
Existing/Baseline	RB	Ethylene	74851	4.50E-03	No
Existing/Baseline	RB	Formaldehyde	50000	3.61E-03	Yes
Existing/Baseline	RB	Furfuryl alcohol	98000	2.21E-05	No
Existing/Baseline	RB	Glyoxal	107222	5.37E-04	No
Existing/Baseline	RB	Heptadecane	629787	2.63E-06	No
Existing/Baseline	RB	Heptene	25339564	1.28E-04	No
Existing/Baseline	RB	Hexadecane	544763	1.54E-05	No
Existing/Baseline	RB	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	2.44E-06	No
Existing/Baseline	RB	Indium	7440746	0.00E+00	No
Existing/Baseline	RB	Insolchlorine	7782505	8.54E-06	Yes
Existing/Baseline	RB	Iron	7439896	0.00E+00	No
Existing/Baseline	RB	Isovaleraldehyde	590863	8.92E-06	No
Existing/Baseline	RB	Lead	7439921	5.83E-05	Yes
Existing/Baseline	RB	Magnesium	7439954	1.37E-05	No
Existing/Baseline	RB	Manganese	7439965	2.17E-06	Yes
Existing/Baseline	RB	Methane	74828	1.34E-04	No
Existing/Baseline	RB	Methanol	67561	5.03E-04	Yes
Existing/Baseline	RB	Methylglyoxal	78988	4.19E-04	No
Existing/Baseline	RB	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	7.75E-05	No
Existing/Baseline	RB	Naphthalene	91203	1.57E-04	Yes
Existing/Baseline	RB	N-butylbenzene	104518	2.69E-06	No
Existing/Baseline	RB	Ndecane	124185	9.44E-05	No
Existing/Baseline	RB	Ndodecane	112403	1.44E-04	No
Existing/Baseline	RB	Nheptane	142825	1.86E-05	No
Existing/Baseline	RB	Nickel	7440020	4.36E-06	Yes
Existing/Baseline	RB	Nnonane	111842	1.91E-05	No
Existing/Baseline	RB	Noctane	111659	1.78E-05	No
Existing/Baseline	RB	Npentane	109660	5.75E-05	No
Existing/Baseline	RB	Npentylbenzene	538681	2.08E-06	No
Existing/Baseline	RB	Npropylbenzene	103651	1.48E-05	No
Existing/Baseline	RB	Ntridecane	629505	1.57E-04	No
Existing/Baseline	RB	Nundecane	1120214	1.30E-04	No
Existing/Baseline	RB	oTolualdehyde	529204	6.41E-05	No
Existing/Baseline	RB	Oxylene	95476	4.85E-05	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	RB	Pentadecane	629629	5.15E-05	No
Existing/Baseline	RB	Phenol (carbolic acid)	108952	2.05E-04	Yes
Existing/Baseline	RB	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	RB	Potassium ion	7440097	1.06E-05	No
Existing/Baseline	RB	Propane	74986	2.42E-05	No
Existing/Baseline	RB	Propionaldehyde	123386	2.14E-04	No
Existing/Baseline	RB	Propylene	115071	1.32E-03	Yes
Existing/Baseline	RB	pTolualdehyde	104870	1.34E-05	No
Existing/Baseline	RB	Silicon	7440213	4.75E-05	No
Existing/Baseline	RB	Silver	7440224	8.01E-06	No
Existing/Baseline	RB	Styrene	100425	9.07E-05	Yes
Existing/Baseline	RB	Sulfate	9960	2.73E-03	Yes
Existing/Baseline	RB	Sulfur	7704349	0.00E+00	No
Existing/Baseline	RB	Tetradecane	629594	1.23E-04	No
Existing/Baseline	RB	Thallium	7440280	0.00E+00	No
Existing/Baseline	RB	Titanium	7440326	6.27E-07	No
Existing/Baseline	RB	Toluene	108883	1.85E-04	Yes
Existing/Baseline	RB	Trans2hexene	4050457	8.36E-06	No
Existing/Baseline	RB	Trans2pentene	646048	1.00E-04	No
Existing/Baseline	RB	Valeraldehyde	110623	6.83E-05	No
Existing/Baseline	RB	Xylenes	1330207	8.18E-05	Yes
Existing/Baseline	RB	Zinc	7440666	1.93E-06	No
Existing/Baseline	SG1	Benzene	71432	0.00E+00	Yes
Existing/Baseline	SG1	Ethylbenzene	100414	7.31E-06	Yes
Existing/Baseline	SG1	n-Hexane	110543	5.62E-07	Yes
Existing/Baseline	SG1	Toluene	108883	7.31E-06	Yes
Existing/Baseline	SG1	Xylenes	1330207	1.74E-05	Yes
Existing/Baseline	SG2	Benzene	71432	0.00E+00	Yes
Existing/Baseline	SG2	Ethylbenzene	100414	7.31E-06	Yes
Existing/Baseline	SG2	n-Hexane	110543	5.62E-07	Yes
Existing/Baseline	SG2	Toluene	108883	7.31E-06	Yes
Existing/Baseline	SG2	Xylenes	1330207	1.74E-05	Yes
Existing/Baseline	SG3	Benzene	71432	0.00E+00	Yes
Existing/Baseline	SG3	Ethylbenzene	100414	7.31E-06	Yes
Existing/Baseline	SG3	n-Hexane	110543	5.62E-07	Yes
Existing/Baseline	SG3	Toluene	108883	7.31E-06	Yes
Existing/Baseline	SG3	Xylenes	1330207	1.74E-05	Yes
Existing/Baseline	SG4	1,2,4Trimethylbenzene	95636	1.28E-05	No
Existing/Baseline	SG4	Benzene	71432	9.20E-06	Yes
Existing/Baseline	SG4	Cumene	98828	2.56E-06	No
Existing/Baseline	SG4	Cyclohexane	110827	1.23E-06	No
Existing/Baseline	SG4	Ethylbenzene	100414	7.16E-06	Yes
Existing/Baseline	SG4	Isooctane	26635643	2.04E-05	No
Existing/Baseline	SG4	n-Hexane	110543	5.11E-06	Yes
Existing/Baseline	SG4	Toluene	108883	3.58E-05	Yes
Existing/Baseline	SG4	Xylenes	1330207	3.58E-05	Yes
Existing/Baseline	SW1	Benzene	71432	0.00E+00	Yes
Existing/Baseline	SW1	Ethylbenzene	100414	2.51E-04	Yes
Existing/Baseline	SW1	n-Hexane	110543	1.93E-05	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	SW1	Toluene	108883	2.51E-04	Yes
Existing/Baseline	SW1	Xylenes	1330207	5.99E-04	Yes
Existing/Baseline	SW2	Benzene	71432	0.00E+00	Yes
Existing/Baseline	SW2	Ethylbenzene	100414	2.51E-04	Yes
Existing/Baseline	SW2	n-Hexane	110543	1.93E-05	Yes
Existing/Baseline	SW2	Toluene	108883	2.51E-04	Yes
Existing/Baseline	SW2	Xylenes	1330207	5.99E-04	Yes
Existing/Baseline	SW3	Benzene	71432	0.00E+00	Yes
Existing/Baseline	SW3	Ethylbenzene	100414	2.51E-04	Yes
Existing/Baseline	SW3	n-Hexane	110543	1.93E-05	Yes
Existing/Baseline	SW3	Toluene	108883	2.51E-04	Yes
Existing/Baseline	SW3	Xylenes	1330207	5.99E-04	Yes
Existing/Baseline	TAXIE	1,2,3trimethylbenzene	526738	1.61E-03	No
Existing/Baseline	TAXIE	1,2,4Trimethylbenzene	95636	5.32E-03	No
Existing/Baseline	TAXIE	1,3,5trimethylbenzene	108678	8.21E-04	No
Existing/Baseline	TAXIE	1,3butadiene	106990	2.57E-02	Yes
Existing/Baseline	TAXIE	1butene	106989	2.67E-02	No
Existing/Baseline	TAXIE	1decene	872059	2.81E-03	No
Existing/Baseline	TAXIE	1hexene	592416	1.12E-02	No
Existing/Baseline	TAXIE	1Methyl2Ethylbenzene	611143	9.89E-04	No
Existing/Baseline	TAXIE	1Methyl3Ethylbenzene	620144	2.34E-03	No
Existing/Baseline	TAXIE	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	9.73E-04	No
Existing/Baseline	TAXIE	1Methylnaphthalene	90120	3.76E-03	No
Existing/Baseline	TAXIE	1nonene	124118	3.74E-03	No
Existing/Baseline	TAXIE	1octene	111660	4.20E-03	No
Existing/Baseline	TAXIE	1pentene	109671	1.18E-02	No
Existing/Baseline	TAXIE	2methyl1butene	563462	2.13E-03	No
Existing/Baseline	TAXIE	2methyl1pentene	763291	5.17E-04	No
Existing/Baseline	TAXIE	2methyl2butene	513359	2.81E-03	No
Existing/Baseline	TAXIE	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	6.52E-03	No
Existing/Baseline	TAXIE	2methylnaphthalene	91576	3.13E-03	No
Existing/Baseline	TAXIE	2Methylpentane	107835	6.20E-03	No
Existing/Baseline	TAXIE	3methyl1butene	563451	1.70E-03	No
Existing/Baseline	TAXIE	4methyl1pentene	691372	1.05E-03	No
Existing/Baseline	TAXIE	Acetaldehyde	75070	6.50E-02	Yes
Existing/Baseline	TAXIE	Acetone	67641	5.61E-03	No
Existing/Baseline	TAXIE	Acetylene	74862	5.99E-02	No
Existing/Baseline	TAXIE	Acrolein (2propenal)	107028	3.72E-02	Yes
Existing/Baseline	TAXIE	Ammonium	14798039	2.29E-03	No
Existing/Baseline	TAXIE	Antimony	7440360	0.00E+00	No
Existing/Baseline	TAXIE	Benzaldehyde	100527	7.15E-03	No
Existing/Baseline	TAXIE	Benzene	71432	2.56E-02	Yes
Existing/Baseline	TAXIE	Bromine	7726956	6.35E-06	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	TAXIE	Butyraldehyde	123728	1.81E-03	No
Existing/Baseline	TAXIE	Calcium	7440702	0.00E+00	No
Existing/Baseline	TAXIE	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	TAXIE	Chromium	7440473	8.37E-06	No
Existing/Baseline	TAXIE	Cis2butene	590181	3.19E-03	No
Existing/Baseline	TAXIE	Cis2pentene	627203	4.20E-03	No
Existing/Baseline	TAXIE	Copper	7440508	6.90E-05	Yes
Existing/Baseline	TAXIE	Crotonaldehyde (or 2Butenal)	4170303	1.57E-02	No
Existing/Baseline	TAXIE	Cumene	98828	4.56E-05	No
Existing/Baseline	TAXIE	Decanal	112312	8.89E-02	No
Existing/Baseline	TAXIE	Dimethyl napthalene	28804888	1.37E-03	No
Existing/Baseline	TAXIE	Dodecenal	112549	4.44E-02	No
Existing/Baseline	TAXIE	Elemental Carbon	7440440	6.91E-03	No
Existing/Baseline	TAXIE	Ethane	74840	7.92E-03	No
Existing/Baseline	TAXIE	Ethylbenzene	100414	2.65E-03	Yes
Existing/Baseline	TAXIE	Ethylene	74851	2.35E-01	No
Existing/Baseline	TAXIE	Formaldehyde	50000	1.87E-01	Yes
Existing/Baseline	TAXIE	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	TAXIE	Glyoxal	107222	2.76E-02	No
Existing/Baseline	TAXIE	Heptadecane	629787	1.37E-04	No
Existing/Baseline	TAXIE	Heptene	25339564	6.66E-03	No
Existing/Baseline	TAXIE	Hexadecane	544763	7.45E-04	No
Existing/Baseline	TAXIE	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	TAXIE	Indium	7440746	0.00E+00	No
Existing/Baseline	TAXIE	Insolchlorine	7782505	2.30E-05	Yes
Existing/Baseline	TAXIE	Iron	7439896	0.00E+00	No
Existing/Baseline	TAXIE	Isovaleraldehyde	590863	4.87E-04	No
Existing/Baseline	TAXIE	Magnesium	7439954	3.69E-05	No
Existing/Baseline	TAXIE	Manganese	7439965	5.86E-06	Yes
Existing/Baseline	TAXIE	Methane	74828	0.00E+00	No
Existing/Baseline	TAXIE	Methanol	67561	2.75E-02	Yes
Existing/Baseline	TAXIE	Methylglyoxal	78988	2.29E-02	No
Existing/Baseline	TAXIE	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	4.23E-03	No
Existing/Baseline	TAXIE	Naphthalene	91203	8.23E-03	Yes
Existing/Baseline	TAXIE	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	TAXIE	Ndecane	124185	4.87E-03	No
Existing/Baseline	TAXIE	Ndodecane	112403	7.03E-03	No
Existing/Baseline	TAXIE	Nheptane	142825	9.73E-04	No
Existing/Baseline	TAXIE	Nickel	7440020	1.17E-05	Yes
Existing/Baseline	TAXIE	Nnonane	111842	9.43E-04	No
Existing/Baseline	TAXIE	Noctane	111659	9.43E-04	No
Existing/Baseline	TAXIE	Npentane	109660	3.01E-03	No
Existing/Baseline	TAXIE	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	TAXIE	Npropylbenzene	103651	8.06E-04	No
Existing/Baseline	TAXIE	Ntridecane	629505	8.14E-03	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	TAXIE	Nundecane	1120214	6.75E-03	No
Existing/Baseline	TAXIE	oTolualdehyde	529204	3.50E-03	No
Existing/Baseline	TAXIE	Oxylene	95476	2.52E-03	Yes
Existing/Baseline	TAXIE	Pentadecane	629629	2.63E-03	No
Existing/Baseline	TAXIE	Phenol (carbolic acid)	108952	1.10E-02	Yes
Existing/Baseline	TAXIE	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	TAXIE	Potassium ion	7440097	2.86E-05	No
Existing/Baseline	TAXIE	Propane	74986	1.19E-03	No
Existing/Baseline	TAXIE	Propionaldehyde	123386	1.11E-02	No
Existing/Baseline	TAXIE	Propylene	115071	6.90E-02	Yes
Existing/Baseline	TAXIE	pTolualdehyde	104870	7.30E-04	No
Existing/Baseline	TAXIE	Silicon	7440213	1.28E-04	No
Existing/Baseline	TAXIE	Silver	7440224	2.16E-05	No
Existing/Baseline	TAXIE	Styrene	100425	4.70E-03	Yes
Existing/Baseline	TAXIE	Sulfate	9960	7.36E-03	Yes
Existing/Baseline	TAXIE	Sulfur	7704349	0.00E+00	No
Existing/Baseline	TAXIE	Tetradecane	629594	6.33E-03	No
Existing/Baseline	TAXIE	Thallium	7440280	0.00E+00	No
Existing/Baseline	TAXIE	Titanium	7440326	1.69E-06	No
Existing/Baseline	TAXIE	Toluene	108883	9.76E-03	Yes
Existing/Baseline	TAXIE	Trans2hexene	4050457	4.56E-04	No
Existing/Baseline	TAXIE	Trans2pentene	646048	5.46E-03	No
Existing/Baseline	TAXIE	Valeraldehyde	110623	3.73E-03	No
Existing/Baseline	TAXIE	Xylenes	1330207	4.29E-03	Yes
Existing/Baseline	TAXIE	Zinc	7440666	5.19E-06	No
Existing/Baseline	TAXIW	1,2,3trimethylbenzene	526738	5.97E-04	No
Existing/Baseline	TAXIW	1,2,4Trimethylbenzene	95636	1.97E-03	No
Existing/Baseline	TAXIW	1,3,5trimethylbenzene	108678	3.04E-04	No
Existing/Baseline	TAXIW	1,3butadiene	106990	1.06E-02	Yes
Existing/Baseline	TAXIW	1butene	106989	1.12E-02	No
Existing/Baseline	TAXIW	1decene	872059	1.15E-03	No
Existing/Baseline	TAXIW	1hexene	592416	4.69E-03	No
Existing/Baseline	TAXIW	1Methyl2Ethylbenzene	611143	3.66E-04	No
Existing/Baseline	TAXIW	1Methyl3Ethylbenzene	620144	8.68E-04	No
Existing/Baseline	TAXIW	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	3.61E-04	No
Existing/Baseline	TAXIW	1Methylnaphthalene	90120	1.39E-03	No
Existing/Baseline	TAXIW	1nonene	124118	1.54E-03	No
Existing/Baseline	TAXIW	1octene	111660	1.74E-03	No
Existing/Baseline	TAXIW	1pentene	109671	4.91E-03	No
Existing/Baseline	TAXIW	2methyl1butene	563462	7.89E-04	No
Existing/Baseline	TAXIW	2methyl1pentene	763291	1.92E-04	No
Existing/Baseline	TAXIW	2methyl2butene	513359	1.17E-03	No
Existing/Baseline	TAXIW	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	2.42E-03	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	TAXIW	2methylnaphthalene	91576	1.16E-03	No
Existing/Baseline	TAXIW	2Methylpentane	107835	2.55E-03	No
Existing/Baseline	TAXIW	3methyl1butene	563451	6.31E-04	No
Existing/Baseline	TAXIW	4methyl1pentene	691372	3.89E-04	No
Existing/Baseline	TAXIW	Acetaldehyde	75070	2.72E-02	Yes
Existing/Baseline	TAXIW	Acetone	67641	4.19E-03	No
Existing/Baseline	TAXIW	Acetylene	74862	2.49E-02	No
Existing/Baseline	TAXIW	Acrolein (2propenal)	107028	1.53E-02	Yes
Existing/Baseline	TAXIW	Ammonium	14798039	5.14E-04	No
Existing/Baseline	TAXIW	Antimony	7440360	0.00E+00	No
Existing/Baseline	TAXIW	Benzaldehyde	100527	3.03E-03	No
Existing/Baseline	TAXIW	Benzene	71432	1.08E-02	Yes
Existing/Baseline	TAXIW	Bromine	7726956	1.43E-06	No
Existing/Baseline	TAXIW	Butyraldehyde	123728	1.53E-03	No
Existing/Baseline	TAXIW	Calcium	7440702	0.00E+00	No
Existing/Baseline	TAXIW	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	TAXIW	Chromium	7440473	1.88E-06	No
Existing/Baseline	TAXIW	Cis2butene	590181	1.51E-03	No
Existing/Baseline	TAXIW	Cis2pentene	627203	1.55E-03	No
Existing/Baseline	TAXIW	Copper	7440508	1.55E-05	Yes
Existing/Baseline	TAXIW	Crotonaldehyde (or 2Butenal)	4170303	5.82E-03	No
Existing/Baseline	TAXIW	Cumene	98828	1.69E-05	No
Existing/Baseline	TAXIW	Decanal	112312	3.29E-02	No
Existing/Baseline	TAXIW	Dimethyl napthalene	28804888	5.07E-04	No
Existing/Baseline	TAXIW	Dodecenal	112549	1.65E-02	No
Existing/Baseline	TAXIW	Elemental Carbon	7440440	1.56E-03	No
Existing/Baseline	TAXIW	Ethane	74840	3.60E-03	No
Existing/Baseline	TAXIW	Ethylbenzene	100414	1.09E-03	Yes
Existing/Baseline	TAXIW	Ethylene	74851	9.83E-02	No
Existing/Baseline	TAXIW	Formaldehyde	50000	7.95E-02	Yes
Existing/Baseline	TAXIW	Furfuryl alcohol	98000	1.31E-03	No
Existing/Baseline	TAXIW	Glyoxal	107222	1.21E-02	No
Existing/Baseline	TAXIW	Heptadecane	629787	5.79E-05	No
Existing/Baseline	TAXIW	Heptene	25339564	2.84E-03	No
Existing/Baseline	TAXIW	Hexadecane	544763	3.77E-04	No
Existing/Baseline	TAXIW	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	1.44E-04	No
Existing/Baseline	TAXIW	Indium	7440746	0.00E+00	No
Existing/Baseline	TAXIW	Insolchlorine	7782505	5.17E-06	Yes
Existing/Baseline	TAXIW	Iron	7439896	0.00E+00	No
Existing/Baseline	TAXIW	Isovaleraldehyde	590863	1.80E-04	No
Existing/Baseline	TAXIW	Lead	7439921	7.62E-04	Yes
Existing/Baseline	TAXIW	Magnesium	7439954	8.30E-06	No
Existing/Baseline	TAXIW	Manganese	7439965	1.32E-06	Yes
Existing/Baseline	TAXIW	Methane	74828	7.90E-03	No
Existing/Baseline	TAXIW	Methanol	67561	1.02E-02	Yes
Existing/Baseline	TAXIW	Methylglyoxal	78988	8.47E-03	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	TAXIW	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.57E-03	No
Existing/Baseline	TAXIW	Naphthalene	91203	3.42E-03	Yes
Existing/Baseline	TAXIW	N-butylbenzene	104518	1.59E-04	No
Existing/Baseline	TAXIW	Ndecane	124185	2.11E-03	No
Existing/Baseline	TAXIW	Ndodecane	112403	3.48E-03	No
Existing/Baseline	TAXIW	Nheptane	142825	4.04E-04	No
Existing/Baseline	TAXIW	Nickel	7440020	2.64E-06	Yes
Existing/Baseline	TAXIW	Nnonane	111842	4.57E-04	No
Existing/Baseline	TAXIW	Noctane	111659	3.78E-04	No
Existing/Baseline	TAXIW	Npentane	109660	1.25E-03	No
Existing/Baseline	TAXIW	Npentylbenzene	538681	1.23E-04	No
Existing/Baseline	TAXIW	Npropylbenzene	103651	2.99E-04	No
Existing/Baseline	TAXIW	Ntridecane	629505	3.49E-03	No
Existing/Baseline	TAXIW	Nundecane	1120214	2.88E-03	No
Existing/Baseline	TAXIW	oTolualdehyde	529204	1.30E-03	No
Existing/Baseline	TAXIW	Oxylene	95476	1.06E-03	Yes
Existing/Baseline	TAXIW	Pentadecane	629629	1.17E-03	No
Existing/Baseline	TAXIW	Phenol (carbolic acid)	108952	4.25E-03	Yes
Existing/Baseline	TAXIW	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	TAXIW	Potassium ion	7440097	6.44E-06	No
Existing/Baseline	TAXIW	Propane	74986	5.84E-04	No
Existing/Baseline	TAXIW	Propionaldehyde	123386	4.74E-03	No
Existing/Baseline	TAXIW	Propylene	115071	2.89E-02	Yes
Existing/Baseline	TAXIW	pTolualdehyde	104870	2.70E-04	No
Existing/Baseline	TAXIW	Silicon	7440213	2.88E-05	No
Existing/Baseline	TAXIW	Silver	7440224	4.85E-06	No
Existing/Baseline	TAXIW	Styrene	100425	2.01E-03	Yes
Existing/Baseline	TAXIW	Sulfate	9960	1.66E-03	Yes
Existing/Baseline	TAXIW	Sulfur	7704349	0.00E+00	No
Existing/Baseline	TAXIW	Tetradecane	629594	2.77E-03	No
Existing/Baseline	TAXIW	Thallium	7440280	0.00E+00	No
Existing/Baseline	TAXIW	Titanium	7440326	3.80E-07	No
Existing/Baseline	TAXIW	Toluene	108883	3.97E-03	Yes
Existing/Baseline	TAXIW	Trans2hexene	4050457	1.69E-04	No
Existing/Baseline	TAXIW	Trans2pentene	646048	2.02E-03	No
Existing/Baseline	TAXIW	Valeraldehyde	110623	1.38E-03	No
Existing/Baseline	TAXIW	Xylenes	1330207	1.78E-03	Yes
Existing/Baseline	TAXIW	Zinc	7440666	1.17E-06	No
Existing/Baseline	UT09A	1,2,3trimethylbenzene	526738	1.71E-07	No
Existing/Baseline	UT09A	1,2,4Trimethylbenzene	95636	5.66E-07	No
Existing/Baseline	UT09A	1,3,5trimethylbenzene	108678	8.74E-08	No
Existing/Baseline	UT09A	1,3butadiene	106990	2.73E-06	Yes
Existing/Baseline	UT09A	1butene	106989	2.84E-06	No
Existing/Baseline	UT09A	1decene	872059	2.99E-07	No
Existing/Baseline	UT09A	1hexene	592416	1.19E-06	No
Existing/Baseline	UT09A	1Methyl2Ethylbenzene	611143	1.05E-07	No
Existing/Baseline	UT09A	1Methyl3Ethylbenzene	620144	2.49E-07	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	UT09A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.04E-07	No
Existing/Baseline	UT09A	1Methylnaphthalene	90120	4.00E-07	No
Existing/Baseline	UT09A	1nonene	124118	3.98E-07	No
Existing/Baseline	UT09A	1octene	111660	4.47E-07	No
Existing/Baseline	UT09A	1pentene	109671	1.26E-06	No
Existing/Baseline	UT09A	2methyl1butene	563462	2.26E-07	No
Existing/Baseline	UT09A	2methyl1pentene	763291	5.50E-08	No
Existing/Baseline	UT09A	2methyl2butene	513359	2.99E-07	No
Existing/Baseline	UT09A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	6.94E-07	No
Existing/Baseline	UT09A	2methylnaphthalene	91576	3.33E-07	No
Existing/Baseline	UT09A	2Methylpentane	107835	6.60E-07	No
Existing/Baseline	UT09A	3methyl1butene	563451	1.81E-07	No
Existing/Baseline	UT09A	4methyl1pentene	691372	1.12E-07	No
Existing/Baseline	UT09A	Acetaldehyde	75070	6.91E-06	Yes
Existing/Baseline	UT09A	Acetone	67641	5.97E-07	No
Existing/Baseline	UT09A	Acetylene	74862	6.37E-06	No
Existing/Baseline	UT09A	Acrolein (2propenal)	107028	3.96E-06	Yes
Existing/Baseline	UT09A	Ammonium	14798039	1.36E-05	No
Existing/Baseline	UT09A	Antimony	7440360	0.00E+00	No
Existing/Baseline	UT09A	Benzaldehyde	100527	7.60E-07	No
Existing/Baseline	UT09A	Benzene	71432	2.72E-06	Yes
Existing/Baseline	UT09A	Bromine	7726956	3.77E-08	No
Existing/Baseline	UT09A	Butyraldehyde	123728	1.93E-07	No
Existing/Baseline	UT09A	Calcium	7440702	0.00E+00	No
Existing/Baseline	UT09A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	UT09A	Chromium	7440473	4.97E-08	No
Existing/Baseline	UT09A	Cis2butene	590181	3.40E-07	No
Existing/Baseline	UT09A	Cis2pentene	627203	4.47E-07	No
Existing/Baseline	UT09A	Copper	7440508	4.10E-07	Yes
Existing/Baseline	UT09A	Crotonaldehyde (or 2Butenal)	4170303	1.67E-06	No
Existing/Baseline	UT09A	Cumene	98828	4.85E-09	No
Existing/Baseline	UT09A	Decanal	112312	9.45E-06	No
Existing/Baseline	UT09A	Dimethyl napthalene	28804888	1.46E-07	No
Existing/Baseline	UT09A	Dodecenal	112549	4.73E-06	No
Existing/Baseline	UT09A	Elemental Carbon	7440440	4.10E-05	No
Existing/Baseline	UT09A	Ethane	74840	8.43E-07	No
Existing/Baseline	UT09A	Ethylbenzene	100414	2.81E-07	Yes
Existing/Baseline	UT09A	Ethylene	74851	2.50E-05	No
Existing/Baseline	UT09A	Formaldehyde	50000	1.99E-05	Yes
Existing/Baseline	UT09A	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	UT09A	Glyoxal	107222	2.94E-06	No
Existing/Baseline	UT09A	Heptadecane	629787	1.46E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	UT09A	Heptene	25339564	7.09E-07	No
Existing/Baseline	UT09A	Hexadecane	544763	7.93E-08	No
Existing/Baseline	UT09A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	UT09A	Indium	7440746	0.00E+00	No
Existing/Baseline	UT09A	Insolchlorine	7782505	1.36E-07	Yes
Existing/Baseline	UT09A	Iron	7439896	0.00E+00	No
Existing/Baseline	UT09A	Isovaleraldehyde	590863	5.18E-08	No
Existing/Baseline	UT09A	Magnesium	7439954	2.19E-07	No
Existing/Baseline	UT09A	Manganese	7439965	3.48E-08	Yes
Existing/Baseline	UT09A	Methane	74828	0.00E+00	No
Existing/Baseline	UT09A	Methanol	67561	2.92E-06	Yes
Existing/Baseline	UT09A	Methylglyoxal	78988	2.43E-06	No
Existing/Baseline	UT09A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	4.50E-07	No
Existing/Baseline	UT09A	Naphthalene	91203	8.75E-07	Yes
Existing/Baseline	UT09A	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	UT09A	Ndecane	124185	5.18E-07	No
Existing/Baseline	UT09A	Ndodecane	112403	7.47E-07	No
Existing/Baseline	UT09A	Nheptane	142825	1.04E-07	No
Existing/Baseline	UT09A	Nickel	7440020	6.97E-08	Yes
Existing/Baseline	UT09A	Nnonane	111842	1.00E-07	No
Existing/Baseline	UT09A	Noctane	111659	1.00E-07	No
Existing/Baseline	UT09A	Npentane	109660	3.20E-07	No
Existing/Baseline	UT09A	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	UT09A	Npropylbenzene	103651	8.57E-08	No
Existing/Baseline	UT09A	Ntridecane	629505	8.66E-07	No
Existing/Baseline	UT09A	Nundecane	1120214	7.18E-07	No
Existing/Baseline	UT09A	oTolualdehyde	529204	3.72E-07	No
Existing/Baseline	UT09A	Oxylene	95476	2.69E-07	Yes
Existing/Baseline	UT09A	Pentadecane	629629	2.80E-07	No
Existing/Baseline	UT09A	Phenol (carbolic acid)	108952	1.17E-06	Yes
Existing/Baseline	UT09A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	UT09A	Potassium ion	7440097	1.70E-07	No
Existing/Baseline	UT09A	Propane	74986	1.26E-07	No
Existing/Baseline	UT09A	Propionaldehyde	123386	1.18E-06	No
Existing/Baseline	UT09A	Propylene	115071	7.33E-06	Yes
Existing/Baseline	UT09A	pTolualdehyde	104870	7.77E-08	No
Existing/Baseline	UT09A	Silicon	7440213	7.59E-07	No
Existing/Baseline	UT09A	Silver	7440224	1.28E-07	No
Existing/Baseline	UT09A	Styrene	100425	5.00E-07	Yes
Existing/Baseline	UT09A	Sulfate	9960	4.37E-05	Yes
Existing/Baseline	UT09A	Sulfur	7704349	0.00E+00	No
Existing/Baseline	UT09A	Tetradecane	629594	6.73E-07	No
Existing/Baseline	UT09A	Thallium	7440280	0.00E+00	No
Existing/Baseline	UT09A	Titanium	7440326	1.00E-08	No
Existing/Baseline	UT09A	Toluene	108883	1.04E-06	Yes
Existing/Baseline	UT09A	Trans2hexene	4050457	4.85E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	UT09A	Trans2pentene	646048	5.81E-07	No
Existing/Baseline	UT09A	Valeraldehyde	110623	3.96E-07	No
Existing/Baseline	UT09A	Xylenes	1330207	4.56E-07	Yes
Existing/Baseline	UT09A	Zinc	7440666	3.08E-08	No
Existing/Baseline	UT09B	1,2,3trimethylbenzene	526738	6.48E-08	No
Existing/Baseline	UT09B	1,2,4Trimethylbenzene	95636	2.14E-07	No
Existing/Baseline	UT09B	1,3,5trimethylbenzene	108678	3.30E-08	No
Existing/Baseline	UT09B	1,3butadiene	106990	1.03E-06	Yes
Existing/Baseline	UT09B	1butene	106989	1.07E-06	No
Existing/Baseline	UT09B	1decene	872059	1.13E-07	No
Existing/Baseline	UT09B	1hexene	592416	4.50E-07	No
Existing/Baseline	UT09B	1Methyl2Ethylbenzene	611143	3.97E-08	No
Existing/Baseline	UT09B	1Methyl3Ethylbenzene	620144	9.41E-08	No
Existing/Baseline	UT09B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	3.91E-08	No
Existing/Baseline	UT09B	1Methylnaphthalene	90120	1.51E-07	No
Existing/Baseline	UT09B	1nonene	124118	1.50E-07	No
Existing/Baseline	UT09B	1octene	111660	1.69E-07	No
Existing/Baseline	UT09B	1pentene	109671	4.74E-07	No
Existing/Baseline	UT09B	2methyl1butene	563462	8.55E-08	No
Existing/Baseline	UT09B	2methyl1pentene	763291	2.08E-08	No
Existing/Baseline	UT09B	2methyl2butene	513359	1.13E-07	No
Existing/Baseline	UT09B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	2.62E-07	No
Existing/Baseline	UT09B	2methylnaphthalene	91576	1.26E-07	No
Existing/Baseline	UT09B	2Methylpentane	107835	2.49E-07	No
Existing/Baseline	UT09B	3methyl1butene	563451	6.84E-08	No
Existing/Baseline	UT09B	4methyl1pentene	691372	4.22E-08	No
Existing/Baseline	UT09B	Acetaldehyde	75070	2.61E-06	Yes
Existing/Baseline	UT09B	Acetone	67641	2.25E-07	No
Existing/Baseline	UT09B	Acetylene	74862	2.41E-06	No
Existing/Baseline	UT09B	Acrolein (2propenal)	107028	1.50E-06	Yes
Existing/Baseline	UT09B	Ammonium	14798039	7.41E-06	No
Existing/Baseline	UT09B	Antimony	7440360	0.00E+00	No
Existing/Baseline	UT09B	Benzaldehyde	100527	2.87E-07	No
Existing/Baseline	UT09B	Benzene	71432	1.03E-06	Yes
Existing/Baseline	UT09B	Bromine	7726956	2.06E-08	No
Existing/Baseline	UT09B	Butyraldehyde	123728	7.27E-08	No
Existing/Baseline	UT09B	Calcium	7440702	0.00E+00	No
Existing/Baseline	UT09B	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	UT09B	Chromium	7440473	2.71E-08	No
Existing/Baseline	UT09B	Cis2butene	590181	1.28E-07	No
Existing/Baseline	UT09B	Cis2pentene	627203	1.69E-07	No
Existing/Baseline	UT09B	Copper	7440508	2.24E-07	Yes

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	UT09B	Crotonaldehyde (or 2Butenal)	4170303	6.31E-07	No
Existing/Baseline	UT09B	Cumene	98828	1.83E-09	No
Existing/Baseline	UT09B	Decanal	112312	3.57E-06	No
Existing/Baseline	UT09B	Dimethyl napthalene	28804888	5.50E-08	No
Existing/Baseline	UT09B	Dodecenal	112549	1.78E-06	No
Existing/Baseline	UT09B	Elemental Carbon	7440440	2.24E-05	No
Existing/Baseline	UT09B	Ethane	74840	3.18E-07	No
Existing/Baseline	UT09B	Ethylbenzene	100414	1.06E-07	Yes
Existing/Baseline	UT09B	Ethylene	74851	9.45E-06	No
Existing/Baseline	UT09B	Formaldehyde	50000	7.52E-06	Yes
Existing/Baseline	UT09B	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	UT09B	Glyoxal	107222	1.11E-06	No
Existing/Baseline	UT09B	Heptadecane	629787	5.50E-09	No
Existing/Baseline	UT09B	Heptene	25339564	2.68E-07	No
Existing/Baseline	UT09B	Hexadecane	544763	2.99E-08	No
Existing/Baseline	UT09B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	UT09B	Indium	7440746	0.00E+00	No
Existing/Baseline	UT09B	Insolchlorine	7782505	7.45E-08	Yes
Existing/Baseline	UT09B	Iron	7439896	0.00E+00	No
Existing/Baseline	UT09B	Isovaleraldehyde	590863	1.95E-08	No
Existing/Baseline	UT09B	Magnesium	7439954	1.20E-07	No
Existing/Baseline	UT09B	Manganese	7439965	1.90E-08	Yes
Existing/Baseline	UT09B	Methane	74828	0.00E+00	No
Existing/Baseline	UT09B	Methanol	67561	1.10E-06	Yes
Existing/Baseline	UT09B	Methylglyoxal	78988	9.18E-07	No
Existing/Baseline	UT09B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.70E-07	No
Existing/Baseline	UT09B	Naphthalene	91203	3.31E-07	Yes
Existing/Baseline	UT09B	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	UT09B	Ndecane	124185	1.95E-07	No
Existing/Baseline	UT09B	Ndodecane	112403	2.82E-07	No
Existing/Baseline	UT09B	Nheptane	142825	3.91E-08	No
Existing/Baseline	UT09B	Nickel	7440020	3.81E-08	Yes
Existing/Baseline	UT09B	Nnonane	111842	3.79E-08	No
Existing/Baseline	UT09B	Noctane	111659	3.79E-08	No
Existing/Baseline	UT09B	Npentane	109660	1.21E-07	No
Existing/Baseline	UT09B	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	UT09B	Npropylbenzene	103651	3.24E-08	No
Existing/Baseline	UT09B	Ntridecane	629505	3.27E-07	No
Existing/Baseline	UT09B	Nundecane	1120214	2.71E-07	No
Existing/Baseline	UT09B	oTolualdehyde	529204	1.41E-07	No
Existing/Baseline	UT09B	Oxylene	95476	1.01E-07	Yes
Existing/Baseline	UT09B	Pentadecane	629629	1.06E-07	No
Existing/Baseline	UT09B	Phenol (carbolic acid)	108952	4.44E-07	Yes
Existing/Baseline	UT09B	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	UT09B	Potassium ion	7440097	9.27E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	UT09B	Propane	74986	4.77E-08	No
Existing/Baseline	UT09B	Propionaldehyde	123386	4.44E-07	No
Existing/Baseline	UT09B	Propylene	115071	2.77E-06	Yes
Existing/Baseline	UT09B	pTolualdehyde	104870	2.93E-08	No
Existing/Baseline	UT09B	Silicon	7440213	4.14E-07	No
Existing/Baseline	UT09B	Silver	7440224	6.99E-08	No
Existing/Baseline	UT09B	Styrene	100425	1.89E-07	Yes
Existing/Baseline	UT09B	Sulfate	9960	2.38E-05	Yes
Existing/Baseline	UT09B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	UT09B	Tetradecane	629594	2.54E-07	No
Existing/Baseline	UT09B	Thallium	7440280	0.00E+00	No
Existing/Baseline	UT09B	Titanium	7440326	5.47E-09	No
Existing/Baseline	UT09B	Toluene	108883	3.92E-07	Yes
Existing/Baseline	UT09B	Trans2hexene	4050457	1.83E-08	No
Existing/Baseline	UT09B	Trans2pentene	646048	2.19E-07	No
Existing/Baseline	UT09B	Valeraldehyde	110623	1.50E-07	No
Existing/Baseline	UT09B	Xylenes	1330207	1.72E-07	Yes
Existing/Baseline	UT09B	Zinc	7440666	1.68E-08	No
Existing/Baseline	UT20A	1,2,3trimethylbenzene	526738	1.43E-06	No
Existing/Baseline	UT20A	1,2,4Trimethylbenzene	95636	4.72E-06	No
Existing/Baseline	UT20A	1,3,5trimethylbenzene	108678	7.28E-07	No
Existing/Baseline	UT20A	1,3butadiene	106990	2.28E-05	Yes
Existing/Baseline	UT20A	1butene	106989	2.37E-05	No
Existing/Baseline	UT20A	1decene	872059	2.49E-06	No
Existing/Baseline	UT20A	1hexene	592416	9.93E-06	No
Existing/Baseline	UT20A	1Methyl2Ethylbenzene	611143	8.77E-07	No
Existing/Baseline	UT20A	1Methyl3Ethylbenzene	620144	2.08E-06	No
Existing/Baseline	UT20A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	8.63E-07	No
Existing/Baseline	UT20A	1Methylnaphthalene	90120	3.33E-06	No
Existing/Baseline	UT20A	1nonene	124118	3.32E-06	No
Existing/Baseline	UT20A	1octene	111660	3.72E-06	No
Existing/Baseline	UT20A	1pentene	109671	1.05E-05	No
Existing/Baseline	UT20A	2methyl1butene	563462	1.89E-06	No
Existing/Baseline	UT20A	2methyl1pentene	763291	4.59E-07	No
Existing/Baseline	UT20A	2methyl2butene	513359	2.49E-06	No
Existing/Baseline	UT20A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	5.79E-06	No
Existing/Baseline	UT20A	2methylnaphthalene	91576	2.78E-06	No
Existing/Baseline	UT20A	2Methylpentane	107835	5.50E-06	No
Existing/Baseline	UT20A	3methyl1butene	563451	1.51E-06	No
Existing/Baseline	UT20A	4methyl1pentene	691372	9.31E-07	No
Existing/Baseline	UT20A	Acetaldehyde	75070	5.76E-05	Yes
Existing/Baseline	UT20A	Acetone	67641	4.98E-06	No
Existing/Baseline	UT20A	Acetylene	74862	5.31E-05	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	UT20A	Acrolein (2propenal)	107028	3.30E-05	Yes
Existing/Baseline	UT20A	Ammonium	14798039	1.13E-04	No
Existing/Baseline	UT20A	Antimony	7440360	0.00E+00	No
Existing/Baseline	UT20A	Benzaldehyde	100527	6.34E-06	No
Existing/Baseline	UT20A	Benzene	71432	2.27E-05	Yes
Existing/Baseline	UT20A	Bromine	7726956	3.14E-07	No
Existing/Baseline	UT20A	Butyraldehyde	123728	1.60E-06	No
Existing/Baseline	UT20A	Calcium	7440702	0.00E+00	No
Existing/Baseline	UT20A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	UT20A	Chromium	7440473	4.14E-07	No
Existing/Baseline	UT20A	Cis2butene	590181	2.83E-06	No
Existing/Baseline	UT20A	Cis2pentene	627203	3.72E-06	No
Existing/Baseline	UT20A	Copper	7440508	3.42E-06	Yes
Existing/Baseline	UT20A	Crotonaldehyde (or 2Butenal)	4170303	1.39E-05	No
Existing/Baseline	UT20A	Cumene	98828	4.05E-08	No
Existing/Baseline	UT20A	Decanal	112312	7.88E-05	No
Existing/Baseline	UT20A	Dimethyl napthalene	28804888	1.21E-06	No
Existing/Baseline	UT20A	Dodecenal	112549	3.94E-05	No
Existing/Baseline	UT20A	Elemental Carbon	7440440	3.42E-04	No
Existing/Baseline	UT20A	Ethane	74840	7.03E-06	No
Existing/Baseline	UT20A	Ethylbenzene	100414	2.35E-06	Yes
Existing/Baseline	UT20A	Ethylene	74851	2.09E-04	No
Existing/Baseline	UT20A	Formaldehyde	50000	1.66E-04	Yes
Existing/Baseline	UT20A	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	UT20A	Glyoxal	107222	2.45E-05	No
Existing/Baseline	UT20A	Heptadecane	629787	1.21E-07	No
Existing/Baseline	UT20A	Heptene	25339564	5.91E-06	No
Existing/Baseline	UT20A	Hexadecane	544763	6.61E-07	No
Existing/Baseline	UT20A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	UT20A	Indium	7440746	0.00E+00	No
Existing/Baseline	UT20A	Insolchlorine	7782505	1.14E-06	Yes
Existing/Baseline	UT20A	Iron	7439896	0.00E+00	No
Existing/Baseline	UT20A	Isovaleraldehyde	590863	4.32E-07	No
Existing/Baseline	UT20A	Magnesium	7439954	1.83E-06	No
Existing/Baseline	UT20A	Manganese	7439965	2.90E-07	Yes
Existing/Baseline	UT20A	Methane	74828	0.00E+00	No
Existing/Baseline	UT20A	Methanol	67561	2.43E-05	Yes
Existing/Baseline	UT20A	Methylglyoxal	78988	2.03E-05	No
Existing/Baseline	UT20A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	3.75E-06	No
Existing/Baseline	UT20A	Naphthalene	91203	7.30E-06	Yes
Existing/Baseline	UT20A	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	UT20A	Ndecane	124185	4.32E-06	No
Existing/Baseline	UT20A	Ndodecane	112403	6.23E-06	No
Existing/Baseline	UT20A	Nheptane	142825	8.63E-07	No
Existing/Baseline	UT20A	Nickel	7440020	5.81E-07	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	UT20A	Nnonane	111842	8.36E-07	No
Existing/Baseline	UT20A	Noctane	111659	8.36E-07	No
Existing/Baseline	UT20A	Npentane	109660	2.67E-06	No
Existing/Baseline	UT20A	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	UT20A	Npropylbenzene	103651	7.15E-07	No
Existing/Baseline	UT20A	Ntridecane	629505	7.22E-06	No
Existing/Baseline	UT20A	Nundecane	1120214	5.99E-06	No
Existing/Baseline	UT20A	oTolualdehyde	529204	3.10E-06	No
Existing/Baseline	UT20A	Oxylene	95476	2.24E-06	Yes
Existing/Baseline	UT20A	Pentadecane	629629	2.33E-06	No
Existing/Baseline	UT20A	Phenol (carbolic acid)	108952	9.79E-06	Yes
Existing/Baseline	UT20A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	UT20A	Potassium ion	7440097	1.42E-06	No
Existing/Baseline	UT20A	Propane	74986	1.05E-06	No
Existing/Baseline	UT20A	Propionaldehyde	123386	9.80E-06	No
Existing/Baseline	UT20A	Propylene	115071	6.11E-05	Yes
Existing/Baseline	UT20A	pTolualdehyde	104870	6.47E-07	No
Existing/Baseline	UT20A	Silicon	7440213	6.33E-06	No
Existing/Baseline	UT20A	Silver	7440224	1.07E-06	No
Existing/Baseline	UT20A	Styrene	100425	4.17E-06	Yes
Existing/Baseline	UT20A	Sulfate	9960	3.64E-04	Yes
Existing/Baseline	UT20A	Sulfur	7704349	0.00E+00	No
Existing/Baseline	UT20A	Tetradecane	629594	5.61E-06	No
Existing/Baseline	UT20A	Thallium	7440280	0.00E+00	No
Existing/Baseline	UT20A	Titanium	7440326	8.35E-08	No
Existing/Baseline	UT20A	Toluene	108883	8.66E-06	Yes
Existing/Baseline	UT20A	Trans2hexene	4050457	4.05E-07	No
Existing/Baseline	UT20A	Trans2pentene	646048	4.84E-06	No
Existing/Baseline	UT20A	Valeraldehyde	110623	3.30E-06	No
Existing/Baseline	UT20A	Xylenes	1330207	3.80E-06	Yes
Existing/Baseline	UT20A	Zinc	7440666	2.57E-07	No
Existing/Baseline	UT20B	1,2,3trimethylbenzene	526738	5.40E-07	No
Existing/Baseline	UT20B	1,2,4Trimethylbenzene	95636	1.78E-06	No
Existing/Baseline	UT20B	1,3,5trimethylbenzene	108678	2.75E-07	No
Existing/Baseline	UT20B	1,3butadiene	106990	8.59E-06	Yes
Existing/Baseline	UT20B	1butene	106989	8.93E-06	No
Existing/Baseline	UT20B	1decene	872059	9.42E-07	No
Existing/Baseline	UT20B	1hexene	592416	3.75E-06	No
Existing/Baseline	UT20B	1Methyl2Ethylbenzene	611143	3.31E-07	No
Existing/Baseline	UT20B	1Methyl3Ethylbenzene	620144	7.84E-07	No
Existing/Baseline	UT20B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	3.26E-07	No
Existing/Baseline	UT20B	1Methylnaphthalene	90120	1.26E-06	No
Existing/Baseline	UT20B	1nonene	124118	1.25E-06	No
Existing/Baseline	UT20B	1octene	111660	1.41E-06	No
Existing/Baseline	UT20B	1pentene	109671	3.95E-06	No
Existing/Baseline	UT20B	2methyl1butene	563462	7.13E-07	No
Existing/Baseline	UT20B	2methyl1pentene	763291	1.73E-07	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	UT20B	2methyl2butene	513359	9.42E-07	No
Existing/Baseline	UT20B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	2.18E-06	No
Existing/Baseline	UT20B	2methylnaphthalene	91576	1.05E-06	No
Existing/Baseline	UT20B	2Methylpentane	107835	2.08E-06	No
Existing/Baseline	UT20B	3methyl1butene	563451	5.70E-07	No
Existing/Baseline	UT20B	4methyl1pentene	691372	3.51E-07	No
Existing/Baseline	UT20B	Acetaldehyde	75070	2.18E-05	Yes
Existing/Baseline	UT20B	Acetone	67641	1.88E-06	No
Existing/Baseline	UT20B	Acetylene	74862	2.01E-05	No
Existing/Baseline	UT20B	Acrolein (2propenal)	107028	1.25E-05	Yes
Existing/Baseline	UT20B	Ammonium	14798039	6.17E-05	No
Existing/Baseline	UT20B	Antimony	7440360	0.00E+00	No
Existing/Baseline	UT20B	Benzaldehyde	100527	2.39E-06	No
Existing/Baseline	UT20B	Benzene	71432	8.56E-06	Yes
Existing/Baseline	UT20B	Bromine	7726956	1.72E-07	No
Existing/Baseline	UT20B	Butyraldehyde	123728	6.06E-07	No
Existing/Baseline	UT20B	Calcium	7440702	0.00E+00	No
Existing/Baseline	UT20B	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	UT20B	Chromium	7440473	2.26E-07	No
Existing/Baseline	UT20B	Cis2butene	590181	1.07E-06	No
Existing/Baseline	UT20B	Cis2pentene	627203	1.41E-06	No
Existing/Baseline	UT20B	Copper	7440508	1.86E-06	Yes
Existing/Baseline	UT20B	Crotonaldehyde (or 2Butenal)	4170303	5.26E-06	No
Existing/Baseline	UT20B	Cumene	98828	1.53E-08	No
Existing/Baseline	UT20B	Decanal	112312	2.98E-05	No
Existing/Baseline	UT20B	Dimethyl napthalene	28804888	4.58E-07	No
Existing/Baseline	UT20B	Dodecenal	112549	1.49E-05	No
Existing/Baseline	UT20B	Elemental Carbon	7440440	1.87E-04	No
Existing/Baseline	UT20B	Ethane	74840	2.65E-06	No
Existing/Baseline	UT20B	Ethylbenzene	100414	8.86E-07	Yes
Existing/Baseline	UT20B	Ethylene	74851	7.87E-05	No
Existing/Baseline	UT20B	Formaldehyde	50000	6.27E-05	Yes
Existing/Baseline	UT20B	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	UT20B	Glyoxal	107222	9.25E-06	No
Existing/Baseline	UT20B	Heptadecane	629787	4.58E-08	No
Existing/Baseline	UT20B	Heptene	25339564	2.23E-06	No
Existing/Baseline	UT20B	Hexadecane	544763	2.50E-07	No
Existing/Baseline	UT20B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	UT20B	Indium	7440746	0.00E+00	No
Existing/Baseline	UT20B	Insolchlorine	7782505	6.21E-07	Yes
Existing/Baseline	UT20B	Iron	7439896	0.00E+00	No
Existing/Baseline	UT20B	Isovaleraldehyde	590863	1.63E-07	No
Existing/Baseline	UT20B	Magnesium	7439954	9.96E-07	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	UT20B	Manganese	7439965	1.58E-07	Yes
Existing/Baseline	UT20B	Methane	74828	0.00E+00	No
Existing/Baseline	UT20B	Methanol	67561	9.19E-06	Yes
Existing/Baseline	UT20B	Methylglyoxal	78988	7.65E-06	No
Existing/Baseline	UT20B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.42E-06	No
Existing/Baseline	UT20B	Naphthalene	91203	2.76E-06	Yes
Existing/Baseline	UT20B	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	UT20B	Ndecane	124185	1.63E-06	No
Existing/Baseline	UT20B	Ndodecane	112403	2.35E-06	No
Existing/Baseline	UT20B	Nheptane	142825	3.26E-07	No
Existing/Baseline	UT20B	Nickel	7440020	3.17E-07	Yes
Existing/Baseline	UT20B	Nnonane	111842	3.16E-07	No
Existing/Baseline	UT20B	Noctane	111659	3.16E-07	No
Existing/Baseline	UT20B	Npentane	109660	1.01E-06	No
Existing/Baseline	UT20B	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	UT20B	Npropylbenzene	103651	2.70E-07	No
Existing/Baseline	UT20B	Ntridecane	629505	2.72E-06	No
Existing/Baseline	UT20B	Nundecane	1120214	2.26E-06	No
Existing/Baseline	UT20B	oTolualdehyde	529204	1.17E-06	No
Existing/Baseline	UT20B	Oxylene	95476	8.45E-07	Yes
Existing/Baseline	UT20B	Pentadecane	629629	8.81E-07	No
Existing/Baseline	UT20B	Phenol (carbolic acid)	108952	3.70E-06	Yes
Existing/Baseline	UT20B	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	UT20B	Potassium ion	7440097	7.73E-07	No
Existing/Baseline	UT20B	Propane	74986	3.97E-07	No
Existing/Baseline	UT20B	Propionaldehyde	123386	3.70E-06	No
Existing/Baseline	UT20B	Propylene	115071	2.31E-05	Yes
Existing/Baseline	UT20B	pTolualdehyde	104870	2.44E-07	No
Existing/Baseline	UT20B	Silicon	7440213	3.45E-06	No
Existing/Baseline	UT20B	Silver	7440224	5.83E-07	No
Existing/Baseline	UT20B	Styrene	100425	1.57E-06	Yes
Existing/Baseline	UT20B	Sulfate	9960	1.99E-04	Yes
Existing/Baseline	UT20B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	UT20B	Tetradecane	629594	2.12E-06	No
Existing/Baseline	UT20B	Thallium	7440280	0.00E+00	No
Existing/Baseline	UT20B	Titanium	7440326	4.56E-08	No
Existing/Baseline	UT20B	Toluene	108883	3.27E-06	Yes
Existing/Baseline	UT20B	Trans2hexene	4050457	1.53E-07	No
Existing/Baseline	UT20B	Trans2pentene	646048	1.83E-06	No
Existing/Baseline	UT20B	Valeraldehyde	110623	1.25E-06	No
Existing/Baseline	UT20B	Xylenes	1330207	1.44E-06	Yes
Existing/Baseline	UT20B	Zinc	7440666	1.40E-07	No
Existing/Baseline	UT23A	1,2,3trimethylbenzene	526738	1.77E-07	No
Existing/Baseline	UT23A	1,2,4Trimethylbenzene	95636	5.83E-07	No
Existing/Baseline	UT23A	1,3,5trimethylbenzene	108678	9.00E-08	No
Existing/Baseline	UT23A	1,3butadiene	106990	2.81E-06	Yes
Existing/Baseline	UT23A	1butene	106989	2.92E-06	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	UT23A	1decene	872059	3.08E-07	No
Existing/Baseline	UT23A	1hexene	592416	1.23E-06	No
Existing/Baseline	UT23A	1Methyl2Ethylbenzene	611143	1.08E-07	No
Existing/Baseline	UT23A	1Methyl3Ethylbenzene	620144	2.57E-07	No
Existing/Baseline	UT23A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.07E-07	No
Existing/Baseline	UT23A	1Methylnaphthalene	90120	4.12E-07	No
Existing/Baseline	UT23A	1nonene	124118	4.10E-07	No
Existing/Baseline	UT23A	1octene	111660	4.60E-07	No
Existing/Baseline	UT23A	1pentene	109671	1.29E-06	No
Existing/Baseline	UT23A	2methyl1butene	563462	2.33E-07	No
Existing/Baseline	UT23A	2methyl1pentene	763291	5.67E-08	No
Existing/Baseline	UT23A	2methyl2butene	513359	3.08E-07	No
Existing/Baseline	UT23A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	7.15E-07	No
Existing/Baseline	UT23A	2methylnaphthalene	91576	3.43E-07	No
Existing/Baseline	UT23A	2Methylpentane	107835	6.80E-07	No
Existing/Baseline	UT23A	3methyl1butene	563451	1.87E-07	No
Existing/Baseline	UT23A	4methyl1pentene	691372	1.15E-07	No
Existing/Baseline	UT23A	Acetaldehyde	75070	7.12E-06	Yes
Existing/Baseline	UT23A	Acetone	67641	6.15E-07	No
Existing/Baseline	UT23A	Acetylene	74862	6.56E-06	No
Existing/Baseline	UT23A	Acrolein (2propenal)	107028	4.08E-06	Yes
Existing/Baseline	UT23A	Ammonium	14798039	1.40E-05	No
Existing/Baseline	UT23A	Antimony	7440360	0.00E+00	No
Existing/Baseline	UT23A	Benzaldehyde	100527	7.83E-07	No
Existing/Baseline	UT23A	Benzene	71432	2.80E-06	Yes
Existing/Baseline	UT23A	Bromine	7726956	3.88E-08	No
Existing/Baseline	UT23A	Butyraldehyde	123728	1.98E-07	No
Existing/Baseline	UT23A	Calcium	7440702	0.00E+00	No
Existing/Baseline	UT23A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	UT23A	Chromium	7440473	5.12E-08	No
Existing/Baseline	UT23A	Cis2butene	590181	3.50E-07	No
Existing/Baseline	UT23A	Cis2pentene	627203	4.60E-07	No
Existing/Baseline	UT23A	Copper	7440508	4.22E-07	Yes
Existing/Baseline	UT23A	Crotonaldehyde (or 2Butenal)	4170303	1.72E-06	No
Existing/Baseline	UT23A	Cumene	98828	5.00E-09	No
Existing/Baseline	UT23A	Decanal	112312	9.74E-06	No
Existing/Baseline	UT23A	Dimethyl napthalene	28804888	1.50E-07	No
Existing/Baseline	UT23A	Dodecenal	112549	4.87E-06	No
Existing/Baseline	UT23A	Elemental Carbon	7440440	4.23E-05	No
Existing/Baseline	UT23A	Ethane	74840	8.68E-07	No
Existing/Baseline	UT23A	Ethylbenzene	100414	2.90E-07	Yes
Existing/Baseline	UT23A	Ethylene	74851	2.58E-05	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	UT23A	Formaldehyde	50000	2.05E-05	Yes
Existing/Baseline	UT23A	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	UT23A	Glyoxal	107222	3.03E-06	No
Existing/Baseline	UT23A	Heptadecane	629787	1.50E-08	No
Existing/Baseline	UT23A	Heptene	25339564	7.30E-07	No
Existing/Baseline	UT23A	Hexadecane	544763	8.17E-08	No
Existing/Baseline	UT23A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	UT23A	Indium	7440746	0.00E+00	No
Existing/Baseline	UT23A	Insolchlorine	7782505	1.41E-07	Yes
Existing/Baseline	UT23A	Iron	7439896	0.00E+00	No
Existing/Baseline	UT23A	Isovaleraldehyde	590863	5.33E-08	No
Existing/Baseline	UT23A	Magnesium	7439954	2.26E-07	No
Existing/Baseline	UT23A	Manganese	7439965	3.58E-08	Yes
Existing/Baseline	UT23A	Methane	74828	0.00E+00	No
Existing/Baseline	UT23A	Methanol	67561	3.01E-06	Yes
Existing/Baseline	UT23A	Methylglyoxal	78988	2.50E-06	No
Existing/Baseline	UT23A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	4.63E-07	No
Existing/Baseline	UT23A	Naphthalene	91203	9.02E-07	Yes
Existing/Baseline	UT23A	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	UT23A	Ndecane	124185	5.33E-07	No
Existing/Baseline	UT23A	Ndodecane	112403	7.70E-07	No
Existing/Baseline	UT23A	Nheptane	142825	1.07E-07	No
Existing/Baseline	UT23A	Nickel	7440020	7.18E-08	Yes
Existing/Baseline	UT23A	Nnonane	111842	1.03E-07	No
Existing/Baseline	UT23A	Noctane	111659	1.03E-07	No
Existing/Baseline	UT23A	Npentane	109660	3.30E-07	No
Existing/Baseline	UT23A	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	UT23A	Npropylbenzene	103651	8.83E-08	No
Existing/Baseline	UT23A	Ntridecane	629505	8.92E-07	No
Existing/Baseline	UT23A	Nundecane	1120214	7.40E-07	No
Existing/Baseline	UT23A	oTolualdehyde	529204	3.83E-07	No
Existing/Baseline	UT23A	Oxylene	95476	2.77E-07	Yes
Existing/Baseline	UT23A	Pentadecane	629629	2.88E-07	No
Existing/Baseline	UT23A	Phenol (carbolic acid)	108952	1.21E-06	Yes
Existing/Baseline	UT23A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	UT23A	Potassium ion	7440097	1.75E-07	No
Existing/Baseline	UT23A	Propane	74986	1.30E-07	No
Existing/Baseline	UT23A	Propionaldehyde	123386	1.21E-06	No
Existing/Baseline	UT23A	Propylene	115071	7.56E-06	Yes
Existing/Baseline	UT23A	pTolualdehyde	104870	8.00E-08	No
Existing/Baseline	UT23A	Silicon	7440213	7.82E-07	No
Existing/Baseline	UT23A	Silver	7440224	1.32E-07	No
Existing/Baseline	UT23A	Styrene	100425	5.15E-07	Yes
Existing/Baseline	UT23A	Sulfate	9960	4.50E-05	Yes
Existing/Baseline	UT23A	Sulfur	7704349	0.00E+00	No
Existing/Baseline	UT23A	Tetradecane	629594	6.93E-07	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	UT23A	Thallium	7440280	0.00E+00	No
Existing/Baseline	UT23A	Titanium	7440326	1.03E-08	No
Existing/Baseline	UT23A	Toluene	108883	1.07E-06	Yes
Existing/Baseline	UT23A	Trans2hexene	4050457	5.00E-08	No
Existing/Baseline	UT23A	Trans2pentene	646048	5.98E-07	No
Existing/Baseline	UT23A	Valeraldehyde	110623	4.08E-07	No
Existing/Baseline	UT23A	Xylenes	1330207	4.70E-07	Yes
Existing/Baseline	UT23A	Zinc	7440666	3.18E-08	No
Existing/Baseline	UT23B	1,2,3trimethylbenzene	526738	6.67E-08	No
Existing/Baseline	UT23B	1,2,4Trimethylbenzene	95636	2.20E-07	No
Existing/Baseline	UT23B	1,3,5trimethylbenzene	108678	3.40E-08	No
Existing/Baseline	UT23B	1,3butadiene	106990	1.06E-06	Yes
Existing/Baseline	UT23B	1butene	106989	1.10E-06	No
Existing/Baseline	UT23B	1decene	872059	1.16E-07	No
Existing/Baseline	UT23B	1hexene	592416	4.63E-07	No
Existing/Baseline	UT23B	1Methyl2Ethylbenzene	611143	4.09E-08	No
Existing/Baseline	UT23B	1Methyl3Ethylbenzene	620144	9.69E-08	No
Existing/Baseline	UT23B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	4.03E-08	No
Existing/Baseline	UT23B	1Methylnaphthalene	90120	1.55E-07	No
Existing/Baseline	UT23B	1nonene	124118	1.55E-07	No
Existing/Baseline	UT23B	1octene	111660	1.74E-07	No
Existing/Baseline	UT23B	1pentene	109671	4.88E-07	No
Existing/Baseline	UT23B	2methyl1butene	563462	8.81E-08	No
Existing/Baseline	UT23B	2methyl1pentene	763291	2.14E-08	No
Existing/Baseline	UT23B	2methyl2butene	513359	1.16E-07	No
Existing/Baseline	UT23B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	2.70E-07	No
Existing/Baseline	UT23B	2methylnaphthalene	91576	1.30E-07	No
Existing/Baseline	UT23B	2Methylpentane	107835	2.57E-07	No
Existing/Baseline	UT23B	3methyl1butene	563451	7.05E-08	No
Existing/Baseline	UT23B	4methyl1pentene	691372	4.34E-08	No
Existing/Baseline	UT23B	Acetaldehyde	75070	2.69E-06	Yes
Existing/Baseline	UT23B	Acetone	67641	2.32E-07	No
Existing/Baseline	UT23B	Acetylene	74862	2.48E-06	No
Existing/Baseline	UT23B	Acrolein (2propenal)	107028	1.54E-06	Yes
Existing/Baseline	UT23B	Ammonium	14798039	7.63E-06	No
Existing/Baseline	UT23B	Antimony	7440360	0.00E+00	No
Existing/Baseline	UT23B	Benzaldehyde	100527	2.96E-07	No
Existing/Baseline	UT23B	Benzene	71432	1.06E-06	Yes
Existing/Baseline	UT23B	Bromine	7726956	2.12E-08	No
Existing/Baseline	UT23B	Butyraldehyde	123728	7.49E-08	No
Existing/Baseline	UT23B	Calcium	7440702	0.00E+00	No
Existing/Baseline	UT23B	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	UT23B	Chromium	7440473	2.79E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	UT23B	Cis2butene	590181	1.32E-07	No
Existing/Baseline	UT23B	Cis2pentene	627203	1.74E-07	No
Existing/Baseline	UT23B	Copper	7440508	2.30E-07	Yes
Existing/Baseline	UT23B	Crotonaldehyde (or 2Butenal)	4170303	6.50E-07	No
Existing/Baseline	UT23B	Cumene	98828	1.89E-09	No
Existing/Baseline	UT23B	Decanal	112312	3.68E-06	No
Existing/Baseline	UT23B	Dimethyl napthalene	28804888	5.66E-08	No
Existing/Baseline	UT23B	Dodecenal	112549	1.84E-06	No
Existing/Baseline	UT23B	Elemental Carbon	7440440	2.31E-05	No
Existing/Baseline	UT23B	Ethane	74840	3.28E-07	No
Existing/Baseline	UT23B	Ethylbenzene	100414	1.10E-07	Yes
Existing/Baseline	UT23B	Ethylene	74851	9.73E-06	No
Existing/Baseline	UT23B	Formaldehyde	50000	7.75E-06	Yes
Existing/Baseline	UT23B	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	UT23B	Glyoxal	107222	1.14E-06	No
Existing/Baseline	UT23B	Heptadecane	629787	5.66E-09	No
Existing/Baseline	UT23B	Heptene	25339564	2.76E-07	No
Existing/Baseline	UT23B	Hexadecane	544763	3.08E-08	No
Existing/Baseline	UT23B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	UT23B	Indium	7440746	0.00E+00	No
Existing/Baseline	UT23B	Insolchlorine	7782505	7.68E-08	Yes
Existing/Baseline	UT23B	Iron	7439896	0.00E+00	No
Existing/Baseline	UT23B	Isovaleraldehyde	590863	2.01E-08	No
Existing/Baseline	UT23B	Magnesium	7439954	1.23E-07	No
Existing/Baseline	UT23B	Manganese	7439965	1.95E-08	Yes
Existing/Baseline	UT23B	Methane	74828	0.00E+00	No
Existing/Baseline	UT23B	Methanol	67561	1.14E-06	Yes
Existing/Baseline	UT23B	Methylglyoxal	78988	9.46E-07	No
Existing/Baseline	UT23B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.75E-07	No
Existing/Baseline	UT23B	Naphthalene	91203	3.40E-07	Yes
Existing/Baseline	UT23B	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	UT23B	Ndecane	124185	2.01E-07	No
Existing/Baseline	UT23B	Ndodecane	112403	2.91E-07	No
Existing/Baseline	UT23B	Nheptane	142825	4.03E-08	No
Existing/Baseline	UT23B	Nickel	7440020	3.92E-08	Yes
Existing/Baseline	UT23B	Nnonane	111842	3.90E-08	No
Existing/Baseline	UT23B	Noctane	111659	3.90E-08	No
Existing/Baseline	UT23B	Npentane	109660	1.25E-07	No
Existing/Baseline	UT23B	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	UT23B	Npropylbenzene	103651	3.34E-08	No
Existing/Baseline	UT23B	Ntridecane	629505	3.37E-07	No
Existing/Baseline	UT23B	Nundecane	1120214	2.79E-07	No
Existing/Baseline	UT23B	oTolualdehyde	529204	1.45E-07	No
Existing/Baseline	UT23B	Oxylene	95476	1.04E-07	Yes
Existing/Baseline	UT23B	Pentadecane	629629	1.09E-07	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	UT23B	Phenol (carbolic acid)	108952	4.57E-07	Yes
Existing/Baseline	UT23B	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	UT23B	Potassium ion	7440097	9.55E-08	No
Existing/Baseline	UT23B	Propane	74986	4.91E-08	No
Existing/Baseline	UT23B	Propionaldehyde	123386	4.58E-07	No
Existing/Baseline	UT23B	Propylene	115071	2.85E-06	Yes
Existing/Baseline	UT23B	pTolualdehyde	104870	3.02E-08	No
Existing/Baseline	UT23B	Silicon	7440213	4.27E-07	No
Existing/Baseline	UT23B	Silver	7440224	7.20E-08	No
Existing/Baseline	UT23B	Styrene	100425	1.94E-07	Yes
Existing/Baseline	UT23B	Sulfate	9960	2.46E-05	Yes
Existing/Baseline	UT23B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	UT23B	Tetradecane	629594	2.62E-07	No
Existing/Baseline	UT23B	Thallium	7440280	0.00E+00	No
Existing/Baseline	UT23B	Titanium	7440326	5.63E-09	No
Existing/Baseline	UT23B	Toluene	108883	4.04E-07	Yes
Existing/Baseline	UT23B	Trans2hexene	4050457	1.89E-08	No
Existing/Baseline	UT23B	Trans2pentene	646048	2.26E-07	No
Existing/Baseline	UT23B	Valeraldehyde	110623	1.54E-07	No
Existing/Baseline	UT23B	Xylenes	1330207	1.77E-07	Yes
Existing/Baseline	UT23B	Zinc	7440666	1.73E-08	No
Existing/Baseline	UT27A	1,2,3trimethylbenzene	526738	1.86E-08	No
Existing/Baseline	UT27A	1,2,4Trimethylbenzene	95636	6.14E-08	No
Existing/Baseline	UT27A	1,3,5trimethylbenzene	108678	9.47E-09	No
Existing/Baseline	UT27A	1,3butadiene	106990	2.96E-07	Yes
Existing/Baseline	UT27A	1butene	106989	3.08E-07	No
Existing/Baseline	UT27A	1decene	872059	3.24E-08	No
Existing/Baseline	UT27A	1hexene	592416	1.29E-07	No
Existing/Baseline	UT27A	1Methyl2Ethylbenzene	611143	1.14E-08	No
Existing/Baseline	UT27A	1Methyl3Ethylbenzene	620144	2.70E-08	No
Existing/Baseline	UT27A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.12E-08	No
Existing/Baseline	UT27A	1Methylnaphthalene	90120	4.33E-08	No
Existing/Baseline	UT27A	1nonene	124118	4.31E-08	No
Existing/Baseline	UT27A	1octene	111660	4.84E-08	No
Existing/Baseline	UT27A	1pentene	109671	1.36E-07	No
Existing/Baseline	UT27A	2methyl1butene	563462	2.46E-08	No
Existing/Baseline	UT27A	2methyl1pentene	763291	5.96E-09	No
Existing/Baseline	UT27A	2methyl2butene	513359	3.24E-08	No
Existing/Baseline	UT27A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	7.52E-08	No
Existing/Baseline	UT27A	2methylnaphthalene	91576	3.61E-08	No
Existing/Baseline	UT27A	2Methylpentane	107835	7.16E-08	No
Existing/Baseline	UT27A	3methyl1butene	563451	1.96E-08	No
Existing/Baseline	UT27A	4methyl1pentene	691372	1.21E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	UT27A	Acetaldehyde	75070	7.49E-07	Yes
Existing/Baseline	UT27A	Acetone	67641	6.47E-08	No
Existing/Baseline	UT27A	Acetylene	74862	6.91E-07	No
Existing/Baseline	UT27A	Acrolein (2propenal)	107028	4.30E-07	Yes
Existing/Baseline	UT27A	Ammonium	14798039	1.47E-06	No
Existing/Baseline	UT27A	Antimony	7440360	0.00E+00	No
Existing/Baseline	UT27A	Benzaldehyde	100527	8.24E-08	No
Existing/Baseline	UT27A	Benzene	71432	2.95E-07	Yes
Existing/Baseline	UT27A	Bromine	7726956	4.09E-09	No
Existing/Baseline	UT27A	Butyraldehyde	123728	2.09E-08	No
Existing/Baseline	UT27A	Calcium	7440702	0.00E+00	No
Existing/Baseline	UT27A	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	UT27A	Chromium	7440473	5.39E-09	No
Existing/Baseline	UT27A	Cis2butene	590181	3.68E-08	No
Existing/Baseline	UT27A	Cis2pentene	627203	4.84E-08	No
Existing/Baseline	UT27A	Copper	7440508	4.44E-08	Yes
Existing/Baseline	UT27A	Crotonaldehyde (or 2Butenal)	4170303	1.81E-07	No
Existing/Baseline	UT27A	Cumene	98828	5.26E-10	No
Existing/Baseline	UT27A	Decanal	112312	1.02E-06	No
Existing/Baseline	UT27A	Dimethyl napthalene	28804888	1.58E-08	No
Existing/Baseline	UT27A	Dodecenal	112549	5.12E-07	No
Existing/Baseline	UT27A	Elemental Carbon	7440440	4.45E-06	No
Existing/Baseline	UT27A	Ethane	74840	9.14E-08	No
Existing/Baseline	UT27A	Ethylbenzene	100414	3.05E-08	Yes
Existing/Baseline	UT27A	Ethylene	74851	2.71E-06	No
Existing/Baseline	UT27A	Formaldehyde	50000	2.16E-06	Yes
Existing/Baseline	UT27A	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	UT27A	Glyoxal	107222	3.19E-07	No
Existing/Baseline	UT27A	Heptadecane	629787	1.58E-09	No
Existing/Baseline	UT27A	Heptene	25339564	7.68E-08	No
Existing/Baseline	UT27A	Hexadecane	544763	8.59E-09	No
Existing/Baseline	UT27A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	UT27A	Indium	7440746	0.00E+00	No
Existing/Baseline	UT27A	Insolchlorine	7782505	1.48E-08	Yes
Existing/Baseline	UT27A	Iron	7439896	0.00E+00	No
Existing/Baseline	UT27A	Isovaleraldehyde	590863	5.61E-09	No
Existing/Baseline	UT27A	Magnesium	7439954	2.37E-08	No
Existing/Baseline	UT27A	Manganese	7439965	3.77E-09	Yes
Existing/Baseline	UT27A	Methane	74828	0.00E+00	No
Existing/Baseline	UT27A	Methanol	67561	3.17E-07	Yes
Existing/Baseline	UT27A	Methylglyoxal	78988	2.64E-07	No
Existing/Baseline	UT27A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	4.88E-08	No
Existing/Baseline	UT27A	Naphthalene	91203	9.49E-08	Yes
Existing/Baseline	UT27A	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	UT27A	Ndecane	124185	5.61E-08	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	UT27A	Ndodecane	112403	8.10E-08	No
Existing/Baseline	UT27A	Nheptane	142825	1.12E-08	No
Existing/Baseline	UT27A	Nickel	7440020	7.56E-09	Yes
Existing/Baseline	UT27A	Nnonane	111842	1.09E-08	No
Existing/Baseline	UT27A	Noctane	111659	1.09E-08	No
Existing/Baseline	UT27A	Npentane	109660	3.47E-08	No
Existing/Baseline	UT27A	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	UT27A	Npropylbenzene	103651	9.30E-09	No
Existing/Baseline	UT27A	Ntridecane	629505	9.38E-08	No
Existing/Baseline	UT27A	Nundecane	1120214	7.79E-08	No
Existing/Baseline	UT27A	oTolualdehyde	529204	4.03E-08	No
Existing/Baseline	UT27A	Oxylene	95476	2.91E-08	Yes
Existing/Baseline	UT27A	Pentadecane	629629	3.03E-08	No
Existing/Baseline	UT27A	Phenol (carbolic acid)	108952	1.27E-07	Yes
Existing/Baseline	UT27A	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	UT27A	Potassium ion	7440097	1.84E-08	No
Existing/Baseline	UT27A	Propane	74986	1.37E-08	No
Existing/Baseline	UT27A	Propionaldehyde	123386	1.28E-07	No
Existing/Baseline	UT27A	Propylene	115071	7.95E-07	Yes
Existing/Baseline	UT27A	pTolualdehyde	104870	8.42E-09	No
Existing/Baseline	UT27A	Silicon	7440213	8.23E-08	No
Existing/Baseline	UT27A	Silver	7440224	1.39E-08	No
Existing/Baseline	UT27A	Styrene	100425	5.42E-08	Yes
Existing/Baseline	UT27A	Sulfate	9960	4.74E-06	Yes
Existing/Baseline	UT27A	Sulfur	7704349	0.00E+00	No
Existing/Baseline	UT27A	Tetradecane	629594	7.30E-08	No
Existing/Baseline	UT27A	Thallium	7440280	0.00E+00	No
Existing/Baseline	UT27A	Titanium	7440326	1.09E-09	No
Existing/Baseline	UT27A	Toluene	108883	1.13E-07	Yes
Existing/Baseline	UT27A	Trans2hexene	4050457	5.26E-09	No
Existing/Baseline	UT27A	Trans2pentene	646048	6.30E-08	No
Existing/Baseline	UT27A	Valeraldehyde	110623	4.30E-08	No
Existing/Baseline	UT27A	Xylenes	1330207	4.95E-08	Yes
Existing/Baseline	UT27A	Zinc	7440666	3.34E-09	No
Existing/Baseline	UT27B	1,2,3trimethylbenzene	526738	7.02E-09	No
Existing/Baseline	UT27B	1,2,4Trimethylbenzene	95636	2.32E-08	No
Existing/Baseline	UT27B	1,3,5trimethylbenzene	108678	3.58E-09	No
Existing/Baseline	UT27B	1,3butadiene	106990	1.12E-07	Yes
Existing/Baseline	UT27B	1butene	106989	1.16E-07	No
Existing/Baseline	UT27B	1decene	872059	1.23E-08	No
Existing/Baseline	UT27B	1hexene	592416	4.87E-08	No
Existing/Baseline	UT27B	1Methyl2Ethylbenzene	611143	4.31E-09	No
Existing/Baseline	UT27B	1Methyl3Ethylbenzene	620144	1.02E-08	No
Existing/Baseline	UT27B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	4.24E-09	No
Existing/Baseline	UT27B	1Methylnaphthalene	90120	1.64E-08	No
Existing/Baseline	UT27B	1nonene	124118	1.63E-08	No
Existing/Baseline	UT27B	1octene	111660	1.83E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	UT27B	1pentene	109671	5.14E-08	No
Existing/Baseline	UT27B	2methyl1butene	563462	9.27E-09	No
Existing/Baseline	UT27B	2methyl1pentene	763291	2.25E-09	No
Existing/Baseline	UT27B	2methyl2butene	513359	1.23E-08	No
Existing/Baseline	UT27B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	2.84E-08	No
Existing/Baseline	UT27B	2methylnaphthalene	91576	1.36E-08	No
Existing/Baseline	UT27B	2Methylpentane	107835	2.70E-08	No
Existing/Baseline	UT27B	3methyl1butene	563451	7.42E-09	No
Existing/Baseline	UT27B	4methyl1pentene	691372	4.57E-09	No
Existing/Baseline	UT27B	Acetaldehyde	75070	2.83E-07	Yes
Existing/Baseline	UT27B	Acetone	67641	2.44E-08	No
Existing/Baseline	UT27B	Acetylene	74862	2.61E-07	No
Existing/Baseline	UT27B	Acrolein (2propenal)	107028	1.62E-07	Yes
Existing/Baseline	UT27B	Ammonium	14798039	8.03E-07	No
Existing/Baseline	UT27B	Antimony	7440360	0.00E+00	No
Existing/Baseline	UT27B	Benzaldehyde	100527	3.11E-08	No
Existing/Baseline	UT27B	Benzene	71432	1.11E-07	Yes
Existing/Baseline	UT27B	Bromine	7726956	2.23E-09	No
Existing/Baseline	UT27B	Butyraldehyde	123728	7.88E-09	No
Existing/Baseline	UT27B	Calcium	7440702	0.00E+00	No
Existing/Baseline	UT27B	Chloride ion	16887006	0.00E+00	No
Existing/Baseline	UT27B	Chromium	7440473	2.94E-09	No
Existing/Baseline	UT27B	Cis2butene	590181	1.39E-08	No
Existing/Baseline	UT27B	Cis2pentene	627203	1.83E-08	No
Existing/Baseline	UT27B	Copper	7440508	2.42E-08	Yes
Existing/Baseline	UT27B	Crotonaldehyde (or 2Butenal)	4170303	6.84E-08	No
Existing/Baseline	UT27B	Cumene	98828	1.99E-10	No
Existing/Baseline	UT27B	Decanal	112312	3.87E-07	No
Existing/Baseline	UT27B	Dimethyl napthalene	28804888	5.96E-09	No
Existing/Baseline	UT27B	Dodecenal	112549	1.93E-07	No
Existing/Baseline	UT27B	Elemental Carbon	7440440	2.43E-06	No
Existing/Baseline	UT27B	Ethane	74840	3.45E-08	No
Existing/Baseline	UT27B	Ethylbenzene	100414	1.15E-08	Yes
Existing/Baseline	UT27B	Ethylene	74851	1.02E-06	No
Existing/Baseline	UT27B	Formaldehyde	50000	8.15E-07	Yes
Existing/Baseline	UT27B	Furfuryl alcohol	98000	0.00E+00	No
Existing/Baseline	UT27B	Glyoxal	107222	1.20E-07	No
Existing/Baseline	UT27B	Heptadecane	629787	5.96E-10	No
Existing/Baseline	UT27B	Heptene	25339564	2.90E-08	No
Existing/Baseline	UT27B	Hexadecane	544763	3.25E-09	No
Existing/Baseline	UT27B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Existing/Baseline	UT27B	Indium	7440746	0.00E+00	No
Existing/Baseline	UT27B	Insolchlorine	7782505	8.08E-09	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Existing/Baseline	UT27B	Iron	7439896	0.00E+00	No
Existing/Baseline	UT27B	Isovaleraldehyde	590863	2.12E-09	No
Existing/Baseline	UT27B	Magnesium	7439954	1.30E-08	No
Existing/Baseline	UT27B	Manganese	7439965	2.06E-09	Yes
Existing/Baseline	UT27B	Methane	74828	0.00E+00	No
Existing/Baseline	UT27B	Methanol	67561	1.20E-07	Yes
Existing/Baseline	UT27B	Methylglyoxal	78988	9.95E-08	No
Existing/Baseline	UT27B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.84E-08	No
Existing/Baseline	UT27B	Naphthalene	91203	3.58E-08	Yes
Existing/Baseline	UT27B	N-butylbenzene	104518	0.00E+00	No
Existing/Baseline	UT27B	Ndecane	124185	2.12E-08	No
Existing/Baseline	UT27B	Ndodecane	112403	3.06E-08	No
Existing/Baseline	UT27B	Nheptane	142825	4.24E-09	No
Existing/Baseline	UT27B	Nickel	7440020	4.13E-09	Yes
Existing/Baseline	UT27B	Nnonane	111842	4.11E-09	No
Existing/Baseline	UT27B	Noctane	111659	4.11E-09	No
Existing/Baseline	UT27B	Npentane	109660	1.31E-08	No
Existing/Baseline	UT27B	Npentylbenzene	538681	0.00E+00	No
Existing/Baseline	UT27B	Npropylbenzene	103651	3.51E-09	No
Existing/Baseline	UT27B	Ntridecane	629505	3.54E-08	No
Existing/Baseline	UT27B	Nundecane	1120214	2.94E-08	No
Existing/Baseline	UT27B	oTolualdehyde	529204	1.52E-08	No
Existing/Baseline	UT27B	Oxylene	95476	1.10E-08	Yes
Existing/Baseline	UT27B	Pentadecane	629629	1.15E-08	No
Existing/Baseline	UT27B	Phenol (carbolic acid)	108952	4.81E-08	Yes
Existing/Baseline	UT27B	Phosphorus	7723140	0.00E+00	No
Existing/Baseline	UT27B	Potassium ion	7440097	1.01E-08	No
Existing/Baseline	UT27B	Propane	74986	5.17E-09	No
Existing/Baseline	UT27B	Propionaldehyde	123386	4.82E-08	No
Existing/Baseline	UT27B	Propylene	115071	3.00E-07	Yes
Existing/Baseline	UT27B	pTolualdehyde	104870	3.18E-09	No
Existing/Baseline	UT27B	Silicon	7440213	4.49E-08	No
Existing/Baseline	UT27B	Silver	7440224	7.58E-09	No
Existing/Baseline	UT27B	Styrene	100425	2.05E-08	Yes
Existing/Baseline	UT27B	Sulfate	9960	2.59E-06	Yes
Existing/Baseline	UT27B	Sulfur	7704349	0.00E+00	No
Existing/Baseline	UT27B	Tetradecane	629594	2.76E-08	No
Existing/Baseline	UT27B	Thallium	7440280	0.00E+00	No
Existing/Baseline	UT27B	Titanium	7440326	5.93E-10	No
Existing/Baseline	UT27B	Toluene	108883	4.25E-08	Yes
Existing/Baseline	UT27B	Trans2hexene	4050457	1.99E-09	No
Existing/Baseline	UT27B	Trans2pentene	646048	2.38E-08	No
Existing/Baseline	UT27B	Valeraldehyde	110623	1.62E-08	No
Existing/Baseline	UT27B	Xylenes	1330207	1.87E-08	Yes
Existing/Baseline	UT27B	Zinc	7440666	1.82E-09	No
Proposed Project	AIRSIDE	(1Methylpropyl)Benzene	68411449	1.69E-06	No
Proposed Project	AIRSIDE	(2Methylpropyl)Benzene	538932	1.13E-06	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	AIRSIDE	1,2,3Trimethylbenzene	526738	2.43E-05	No
Proposed Project	AIRSIDE	1,2,4Trimethylbenzene	95636	1.54E-04	No
Proposed Project	AIRSIDE	1,2Diethylbenzene (Ortho)	135013	6.78E-06	No
Proposed Project	AIRSIDE	1,2Propadiene	463490	4.57E-05	No
Proposed Project	AIRSIDE	1,3,5Trimethylbenzene	108678	4.40E-05	No
Proposed Project	AIRSIDE	1,3Butadiene	106990	6.32E-05	Yes
Proposed Project	AIRSIDE	1Butene	106989	4.35E-05	No
Proposed Project	AIRSIDE	1Methyl2Ethylbenzene	611143	3.61E-05	No
Proposed Project	AIRSIDE	1Methyl3Ethylbenzene	620144	8.07E-05	No
Proposed Project	AIRSIDE	1Pentene	109671	1.19E-05	No
Proposed Project	AIRSIDE	2,2,4Trimethylpentane	540841	3.56E-05	No
Proposed Project	AIRSIDE	2,2Dimethylbutane	75832	1.81E-05	No
Proposed Project	AIRSIDE	2,3,4Trimethylpentane	565753	1.98E-05	No
Proposed Project	AIRSIDE	2,3Dimethyl1Butene	563780	1.07E-05	No
Proposed Project	AIRSIDE	2,3Dimethylhexane	584941	6.21E-06	No
Proposed Project	AIRSIDE	2,3Dimethylpentane	565593	1.81E-05	No
Proposed Project	AIRSIDE	2,4Dimethylhexane	589435	1.41E-05	No
Proposed Project	AIRSIDE	2,4Dimethylpentane	108087	1.58E-05	No
Proposed Project	AIRSIDE	2Methylheptane	592278	1.81E-05	No
Proposed Project	AIRSIDE	2Methylhexane	591764	3.95E-05	No
Proposed Project	AIRSIDE	2Methylpentane	107835	7.96E-05	No
Proposed Project	AIRSIDE	3Methylhexane	589344	4.23E-05	No
Proposed Project	AIRSIDE	3Methylpentane	96140	4.97E-05	No
Proposed Project	AIRSIDE	Acetaldehyde	75070	1.64E-05	Yes
Proposed Project	AIRSIDE	Acetone	67641	1.92E-05	No
Proposed Project	AIRSIDE	Acetylene	74862	4.26E-04	No
Proposed Project	AIRSIDE	Benzaldehyde	100527	5.08E-06	No
Proposed Project	AIRSIDE	Benzene	71432	2.86E-04	Yes
Proposed Project	AIRSIDE	BMethylstyrene	637503	9.03E-06	No
Proposed Project	AIRSIDE	Butyraldehyde	123728	5.65E-07	No
Proposed Project	AIRSIDE	Cis2Butene	590181	7.90E-06	No
Proposed Project	AIRSIDE	Cis2Pentene	627203	1.41E-05	No
Proposed Project	AIRSIDE	Cumene	98828	3.95E-06	No
Proposed Project	AIRSIDE	Cyclohexane	110827	2.26E-06	No
Proposed Project	AIRSIDE	Cyclohexanone	108941	1.13E-06	No
Proposed Project	AIRSIDE	Cyclopentane	287923	1.07E-05	No
Proposed Project	AIRSIDE	DPM	9901	4.06E-04	Yes
Proposed Project	AIRSIDE	Ethane	74840	4.69E-05	No
Proposed Project	AIRSIDE	Ethyl Alcohol	64175	1.13E-06	No
Proposed Project	AIRSIDE	Ethylbenzene	100414	9.60E-05	Yes
Proposed Project	AIRSIDE	Ethylene	74851	4.05E-04	No
Proposed Project	AIRSIDE	Ethylhexane	619998	1.81E-05	No
Proposed Project	AIRSIDE	Formaldehyde	50000	6.27E-05	Yes
Proposed Project	AIRSIDE	Indan	496117	1.58E-05	No
Proposed Project	AIRSIDE	Isobutane	75285	1.41E-05	No
Proposed Project	AIRSIDE	Isobutylene	115117	6.21E-05	No
Proposed Project	AIRSIDE	Isomers Of Diethylbenzene	25340174	1.13E-05	No
Proposed Project	AIRSIDE	Isopentane	78784	1.36E-04	No
Proposed Project	AIRSIDE	Methane	74828	3.57E-04	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	AIRSIDE	Methanol	67561	7.90E-06	Yes
Proposed Project	AIRSIDE	Methyl Ethyl Ketone {2Butanone}	78933	3.39E-06	Yes
Proposed Project	AIRSIDE	Methyl NButyl Ketone	591786	1.13E-05	No
Proposed Project	AIRSIDE	Methylcyclohexane	108872	2.15E-05	No
Proposed Project	AIRSIDE	Methylcyclopentane	96377	6.15E-05	No
Proposed Project	AIRSIDE	MXylene	108383	1.69E-04	Yes
Proposed Project	AIRSIDE	Naphthalene	91203	4.52E-06	Yes
Proposed Project	AIRSIDE	NButane	106978	3.44E-05	No
Proposed Project	AIRSIDE	N-butylbenzene	104518	2.03E-05	No
Proposed Project	AIRSIDE	NDecane	124185	1.24E-05	No
Proposed Project	AIRSIDE	NHeptane	142825	2.94E-05	No
Proposed Project	AIRSIDE	n-Hexane	110543	6.27E-05	Yes
Proposed Project	AIRSIDE	NNonane	111842	2.31E-05	No
Proposed Project	AIRSIDE	NOctane	111659	1.81E-05	No
Proposed Project	AIRSIDE	NPentane	109660	5.82E-05	No
Proposed Project	AIRSIDE	NPropylbenzene	103651	1.98E-05	No
Proposed Project	AIRSIDE	NUndecane	1120214	1.13E-05	No
Proposed Project	AIRSIDE	OXylene	95476	1.36E-04	Yes
Proposed Project	AIRSIDE	Propane	74986	3.90E-05	No
Proposed Project	AIRSIDE	Propionaldehyde	123386	8.47E-06	No
Proposed Project	AIRSIDE	Propylene	115071	1.88E-04	Yes
Proposed Project	AIRSIDE	PXylene	106423	1.13E-04	Yes
Proposed Project	AIRSIDE	Styrene	100425	1.13E-05	Yes
Proposed Project	AIRSIDE	Toluene	108883	4.40E-04	Yes
Proposed Project	AIRSIDE	Trans2Butene	624646	1.13E-05	No
Proposed Project	AIRSIDE	Trans2Pentene	646048	1.92E-05	No
Proposed Project	AT1	Benzene	71432	0.00E+00	Yes
Proposed Project	AT1	Ethylbenzene	100414	7.75E-06	Yes
Proposed Project	AT1	n-Hexane	110543	5.96E-07	Yes
Proposed Project	AT1	Toluene	108883	7.75E-06	Yes
Proposed Project	AT1	Xylenes	1330207	1.85E-05	Yes
Proposed Project	AT2	Benzene	71432	0.00E+00	Yes
Proposed Project	AT2	Ethylbenzene	100414	7.75E-06	Yes
Proposed Project	AT2	n-Hexane	110543	5.96E-07	Yes
Proposed Project	AT2	Toluene	108883	7.75E-06	Yes
Proposed Project	AT2	Xylenes	1330207	1.85E-05	Yes
Proposed Project	AT3	Benzene	71432	0.00E+00	Yes
Proposed Project	AT3	Ethylbenzene	100414	7.75E-06	Yes
Proposed Project	AT3	n-Hexane	110543	5.96E-07	Yes
Proposed Project	AT3	Toluene	108883	7.75E-06	Yes
Proposed Project	AT3	Xylenes	1330207	1.85E-05	Yes
Proposed Project	AT4	Benzene	71432	0.00E+00	Yes
Proposed Project	AT4	Ethylbenzene	100414	7.75E-06	Yes
Proposed Project	AT4	n-Hexane	110543	5.96E-07	Yes
Proposed Project	AT4	Toluene	108883	7.75E-06	Yes
Proposed Project	AT4	Xylenes	1330207	1.85E-05	Yes
Proposed Project	AT5	1,2,4Trimethylbenzene	95636	5.44E-06	No
Proposed Project	AT5	Benzene	71432	3.92E-06	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	AT5	Cumene	98828	1.09E-06	No
Proposed Project	AT5	Cyclohexane	110827	5.22E-07	No
Proposed Project	AT5	Ethylbenzene	100414	3.05E-06	Yes
Proposed Project	AT5	Isooctane	26635643	8.70E-06	No
Proposed Project	AT5	n-Hexane	110543	2.18E-06	Yes
Proposed Project	AT5	Toluene	108883	1.52E-05	Yes
Proposed Project	AT5	Xylenes	1330207	1.52E-05	Yes
Proposed Project	AV1	Benzene	71432	0.00E+00	Yes
Proposed Project	AV1	Ethylbenzene	100414	7.75E-06	Yes
Proposed Project	AV1	n-Hexane	110543	5.96E-07	Yes
Proposed Project	AV1	Toluene	108883	7.75E-06	Yes
Proposed Project	AV1	Xylenes	1330207	1.85E-05	Yes
Proposed Project	COMRAMPF	(1Methylpropyl)Benzene	68411449	2.88E-05	No
Proposed Project	COMRAMPF	(2Methylpropyl)Benzene	538932	1.92E-05	No
Proposed Project	COMRAMPF	1,2,3trimethylbenzene	526738	1.53E-03	No
Proposed Project	COMRAMPF	1,2,4Trimethylbenzene	95636	6.30E-03	No
Proposed Project	COMRAMPF	1,2Diethylbenzene (Ortho)	135013	1.15E-04	No
Proposed Project	COMRAMPF	1,2Propadiene	463490	7.78E-04	No
Proposed Project	COMRAMPF	1,3,5trimethylbenzene	108678	1.32E-03	No
Proposed Project	COMRAMPF	1,3butadiene	106990	1.89E-02	Yes
Proposed Project	COMRAMPF	1butene	106989	1.92E-02	No
Proposed Project	COMRAMPF	1decene	872059	1.95E-03	No
Proposed Project	COMRAMPF	1hexene	592416	7.76E-03	No
Proposed Project	COMRAMPF	1Methyl2Ethylbenzene	611143	1.30E-03	No
Proposed Project	COMRAMPF	1Methyl3Ethylbenzene	620144	3.00E-03	No
Proposed Project	COMRAMPF	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	6.75E-04	No
Proposed Project	COMRAMPF	1Methylnaphthalene	90120	2.60E-03	No
Proposed Project	COMRAMPF	1nonene	124118	2.59E-03	No
Proposed Project	COMRAMPF	1octene	111660	2.91E-03	No
Proposed Project	COMRAMPF	1pentene	109671	8.38E-03	No
Proposed Project	COMRAMPF	2,2,4Trimethylpentane	540841	6.05E-04	No
Proposed Project	COMRAMPF	2,2Dimethylbutane	75832	3.07E-04	No
Proposed Project	COMRAMPF	2,3,4Trimethylpentane	565753	3.36E-04	No
Proposed Project	COMRAMPF	2,3Dimethyl1Butene	563780	1.83E-04	No
Proposed Project	COMRAMPF	2,3Dimethylhexane	584941	1.06E-04	No
Proposed Project	COMRAMPF	2,3Dimethylpentane	565593	3.07E-04	No
Proposed Project	COMRAMPF	2,4Dimethylhexane	589435	2.40E-04	No
Proposed Project	COMRAMPF	2,4Dimethylpentane	108087	2.69E-04	No
Proposed Project	COMRAMPF	2methyl1butene	563462	1.48E-03	No
Proposed Project	COMRAMPF	2methyl1pentene	763291	3.58E-04	No
Proposed Project	COMRAMPF	2methyl2butene	513359	1.95E-03	No
Proposed Project	COMRAMPF	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	4.52E-03	No
Proposed Project	COMRAMPF	2Methylheptane	592278	3.07E-04	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	COMRAMPF	2Methylhexane	591764	6.73E-04	No
Proposed Project	COMRAMPF	2methylnaphthalene	91576	2.17E-03	No
Proposed Project	COMRAMPF	2Methylpentane	107835	5.66E-03	No
Proposed Project	COMRAMPF	3methyl1butene	563451	1.18E-03	No
Proposed Project	COMRAMPF	3Methylhexane	589344	7.21E-04	No
Proposed Project	COMRAMPF	3Methylpentane	96140	8.46E-04	No
Proposed Project	COMRAMPF	4methyl1pentene	691372	7.27E-04	No
Proposed Project	COMRAMPF	Acetaldehyde	75070	4.53E-02	Yes
Proposed Project	COMRAMPF	Acetone	67641	4.22E-03	No
Proposed Project	COMRAMPF	Acetylene	74862	4.88E-02	No
Proposed Project	COMRAMPF	Acrolein (2propenal)	107028	2.58E-02	Yes
Proposed Project	COMRAMPF	Ammonium	14798039	5.99E-03	No
Proposed Project	COMRAMPF	Antimony	7440360	0.00E+00	No
Proposed Project	COMRAMPF	Benzaldehyde	100527	5.04E-03	No
Proposed Project	COMRAMPF	Benzene	71432	2.26E-02	Yes
Proposed Project	COMRAMPF	BMethylstyrene	637503	1.54E-04	No
Proposed Project	COMRAMPF	Bromine	7726956	1.66E-05	No
Proposed Project	COMRAMPF	Butyraldehyde	123728	1.26E-03	No
Proposed Project	COMRAMPF	Calcium	7440702	0.00E+00	No
Proposed Project	COMRAMPF	Chloride ion	16887006	0.00E+00	No
Proposed Project	COMRAMPF	Chromium	7440473	2.19E-05	No
Proposed Project	COMRAMPF	Cis2butene	590181	2.35E-03	No
Proposed Project	COMRAMPF	Cis2pentene	627203	3.15E-03	No
Proposed Project	COMRAMPF	Copper	7440508	1.81E-04	Yes
Proposed Project	COMRAMPF	Crotonaldehyde (or 2Butenal)	4170303	1.09E-02	No
Proposed Project	COMRAMPF	Cumene	98828	9.89E-05	No
Proposed Project	COMRAMPF	Cyclohexane	110827	3.84E-05	No
Proposed Project	COMRAMPF	Cyclohexanone	108941	1.92E-05	No
Proposed Project	COMRAMPF	Cyclopentane	287923	1.83E-04	No
Proposed Project	COMRAMPF	Decanal	112312	6.16E-02	No
Proposed Project	COMRAMPF	Dimethyl napthalene	28804888	9.49E-04	No
Proposed Project	COMRAMPF	Dodecenal	112549	3.08E-02	No
Proposed Project	COMRAMPF	DPM	9901	4.50E-03	Yes
Proposed Project	COMRAMPF	Elemental Carbon	7440440	1.81E-02	No
Proposed Project	COMRAMPF	Ethane	74840	6.29E-03	No
Proposed Project	COMRAMPF	Ethyl Alcohol	64175	1.92E-05	No
Proposed Project	COMRAMPF	Ethylbenzene	100414	3.47E-03	Yes
Proposed Project	COMRAMPF	Ethylene	74851	1.70E-01	No
Proposed Project	COMRAMPF	Ethylhexane	619998	3.07E-04	No
Proposed Project	COMRAMPF	Formaldehyde	50000	1.31E-01	Yes
Proposed Project	COMRAMPF	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	COMRAMPF	Glyoxal	107222	1.91E-02	No
Proposed Project	COMRAMPF	Heptadecane	629787	9.49E-05	No
Proposed Project	COMRAMPF	Heptene	25339564	4.62E-03	No
Proposed Project	COMRAMPF	Hexadecane	544763	5.16E-04	No
Proposed Project	COMRAMPF	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	COMRAMPF	Indan	496117	2.69E-04	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	COMRAMPF	Indium	7440746	0.00E+00	No
Proposed Project	COMRAMPF	Insolchlorine	7782505	6.02E-05	Yes
Proposed Project	COMRAMPF	Iron	7439896	0.00E+00	No
Proposed Project	COMRAMPF	Isobutane	75285	2.40E-04	No
Proposed Project	COMRAMPF	Isobutylene	115117	1.06E-03	No
Proposed Project	COMRAMPF	Isomers Of Diethylbenzene	25340174	1.92E-04	No
Proposed Project	COMRAMPF	Isopentane	78784	2.31E-03	No
Proposed Project	COMRAMPF	Isovaleraldehyde	590863	3.37E-04	No
Proposed Project	COMRAMPF	Magnesium	7439954	9.67E-05	No
Proposed Project	COMRAMPF	Manganese	7439965	1.53E-05	Yes
Proposed Project	COMRAMPF	Methane	74828	6.08E-03	No
Proposed Project	COMRAMPF	Methanol	67561	1.92E-02	Yes
Proposed Project	COMRAMPF	Methyl Ethyl Ketone {2Butanone}	78933	5.76E-05	Yes
Proposed Project	COMRAMPF	Methyl NButyl Ketone	591786	1.92E-04	No
Proposed Project	COMRAMPF	Methylcyclohexane	108872	3.65E-04	No
Proposed Project	COMRAMPF	Methylcyclopentane	96377	1.05E-03	No
Proposed Project	COMRAMPF	Methylglyoxal	78988	1.58E-02	No
Proposed Project	COMRAMPF	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.93E-03	No
Proposed Project	COMRAMPF	MXylene	108383	2.88E-03	Yes
Proposed Project	COMRAMPF	Naphthalene	91203	5.78E-03	Yes
Proposed Project	COMRAMPF	NButane	106978	5.86E-04	No
Proposed Project	COMRAMPF	N-butylbenzene	104518	3.46E-04	No
Proposed Project	COMRAMPF	Ndecane	124185	3.58E-03	No
Proposed Project	COMRAMPF	Ndodecane	112403	4.87E-03	No
Proposed Project	COMRAMPF	Nheptane	142825	1.17E-03	No
Proposed Project	COMRAMPF	n-Hexane	110543	1.07E-03	Yes
Proposed Project	COMRAMPF	Nickel	7440020	3.08E-05	Yes
Proposed Project	COMRAMPF	Nnonane	111842	1.05E-03	No
Proposed Project	COMRAMPF	Noctane	111659	9.61E-04	No
Proposed Project	COMRAMPF	Npentane	109660	3.08E-03	No
Proposed Project	COMRAMPF	Npentylbenzene	538681	0.00E+00	No
Proposed Project	COMRAMPF	Npropylbenzene	103651	8.95E-04	No
Proposed Project	COMRAMPF	Ntridecane	629505	5.64E-03	No
Proposed Project	COMRAMPF	Nundecane	1120214	4.87E-03	No
Proposed Project	COMRAMPF	oTolualdehyde	529204	2.42E-03	No
Proposed Project	COMRAMPF	Oxylene	95476	4.06E-03	Yes
Proposed Project	COMRAMPF	Pentadecane	629629	1.82E-03	No
Proposed Project	COMRAMPF	Phenol (carbolic acid)	108952	7.65E-03	Yes
Proposed Project	COMRAMPF	Phosphorus	7723140	0.00E+00	No
Proposed Project	COMRAMPF	Potassium ion	7440097	7.50E-05	No
Proposed Project	COMRAMPF	Propane	74986	1.49E-03	No
Proposed Project	COMRAMPF	Propionaldehyde	123386	7.81E-03	No
Proposed Project	COMRAMPF	Propylene	115071	5.10E-02	Yes
Proposed Project	COMRAMPF	pTolualdehyde	104870	5.06E-04	No
Proposed Project	COMRAMPF	PXylene	106423	1.93E-03	Yes
Proposed Project	COMRAMPF	Silicon	7440213	3.35E-04	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	COMRAMPF	Silver	7440224	5.65E-05	No
Proposed Project	COMRAMPF	Styrene	100425	3.45E-03	Yes
Proposed Project	COMRAMPF	Sulfate	9960	1.93E-02	Yes
Proposed Project	COMRAMPF	Sulfur	7704349	0.00E+00	No
Proposed Project	COMRAMPF	Tetradecane	629594	4.38E-03	No
Proposed Project	COMRAMPF	Thallium	7440280	0.00E+00	No
Proposed Project	COMRAMPF	Titanium	7440326	4.42E-06	No
Proposed Project	COMRAMPF	Toluene	108883	1.43E-02	Yes
Proposed Project	COMRAMPF	Trans2Butene	624646	1.92E-04	No
Proposed Project	COMRAMPF	Trans2hexene	4050457	3.16E-04	No
Proposed Project	COMRAMPF	Trans2pentene	646048	4.11E-03	No
Proposed Project	COMRAMPF	Valeraldehyde	110623	2.58E-03	No
Proposed Project	COMRAMPF	Xylenes	1330207	2.97E-03	Yes
Proposed Project	COMRAMPF	Zinc	7440666	1.36E-05	No
Proposed Project	FBT04A	1,2,3trimethylbenzene	526738	1.50E-06	No
Proposed Project	FBT04A	1,2,4Trimethylbenzene	95636	4.96E-06	No
Proposed Project	FBT04A	1,3,5trimethylbenzene	108678	7.65E-07	No
Proposed Project	FBT04A	1,3butadiene	106990	2.39E-05	Yes
Proposed Project	FBT04A	1butene	106989	2.48E-05	No
Proposed Project	FBT04A	1decene	872059	2.62E-06	No
Proposed Project	FBT04A	1hexene	592416	1.04E-05	No
Proposed Project	FBT04A	1Methyl2Ethylbenzene	611143	9.21E-07	No
Proposed Project	FBT04A	1Methyl3Ethylbenzene	620144	2.18E-06	No
Proposed Project	FBT04A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	9.06E-07	No
Proposed Project	FBT04A	1Methylnaphthalene	90120	3.50E-06	No
Proposed Project	FBT04A	1nonene	124118	3.48E-06	No
Proposed Project	FBT04A	1octene	111660	3.91E-06	No
Proposed Project	FBT04A	1pentene	109671	1.10E-05	No
Proposed Project	FBT04A	2methyl1butene	563462	1.98E-06	No
Proposed Project	FBT04A	2methyl1pentene	763291	4.82E-07	No
Proposed Project	FBT04A	2methyl2butene	513359	2.62E-06	No
Proposed Project	FBT04A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	6.08E-06	No
Proposed Project	FBT04A	2methylnaphthalene	91576	2.92E-06	No
Proposed Project	FBT04A	2Methylpentane	107835	5.78E-06	No
Proposed Project	FBT04A	3methyl1butene	563451	1.59E-06	No
Proposed Project	FBT04A	4methyl1pentene	691372	9.77E-07	No
Proposed Project	FBT04A	Acetaldehyde	75070	6.05E-05	Yes
Proposed Project	FBT04A	Acetone	67641	5.23E-06	No
Proposed Project	FBT04A	Acetylene	74862	5.58E-05	No
Proposed Project	FBT04A	Acrolein (2propenal)	107028	3.47E-05	Yes
Proposed Project	FBT04A	Ammonium	14798039	1.42E-04	No
Proposed Project	FBT04A	Antimony	7440360	0.00E+00	No
Proposed Project	FBT04A	Benzaldehyde	100527	6.66E-06	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FBT04A	Benzene	71432	2.38E-05	Yes
Proposed Project	FBT04A	Bromine	7726956	3.94E-07	No
Proposed Project	FBT04A	Butyraldehyde	123728	1.69E-06	No
Proposed Project	FBT04A	Calcium	7440702	0.00E+00	No
Proposed Project	FBT04A	Chloride ion	16887006	0.00E+00	No
Proposed Project	FBT04A	Chromium	7440473	5.19E-07	No
Proposed Project	FBT04A	Cis2butene	590181	2.97E-06	No
Proposed Project	FBT04A	Cis2pentene	627203	3.91E-06	No
Proposed Project	FBT04A	Copper	7440508	4.28E-06	Yes
Proposed Project	FBT04A	Crotonaldehyde (or 2Butenal)	4170303	1.46E-05	No
Proposed Project	FBT04A	Cumene	98828	4.25E-08	No
Proposed Project	FBT04A	Decanal	112312	8.28E-05	No
Proposed Project	FBT04A	Dimethyl napthalene	28804888	1.27E-06	No
Proposed Project	FBT04A	Dodecenal	112549	4.14E-05	No
Proposed Project	FBT04A	Elemental Carbon	7440440	4.28E-04	No
Proposed Project	FBT04A	Ethane	74840	7.38E-06	No
Proposed Project	FBT04A	Ethylbenzene	100414	2.46E-06	Yes
Proposed Project	FBT04A	Ethylene	74851	2.19E-04	No
Proposed Project	FBT04A	Formaldehyde	50000	1.74E-04	Yes
Proposed Project	FBT04A	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FBT04A	Glyoxal	107222	2.57E-05	No
Proposed Project	FBT04A	Heptadecane	629787	1.27E-07	No
Proposed Project	FBT04A	Heptene	25339564	6.20E-06	No
Proposed Project	FBT04A	Hexadecane	544763	6.94E-07	No
Proposed Project	FBT04A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FBT04A	Indium	7440746	0.00E+00	No
Proposed Project	FBT04A	Insolchlorine	7782505	1.42E-06	Yes
Proposed Project	FBT04A	Iron	7439896	0.00E+00	No
Proposed Project	FBT04A	Isovaleraldehyde	590863	4.53E-07	No
Proposed Project	FBT04A	Magnesium	7439954	2.29E-06	No
Proposed Project	FBT04A	Manganese	7439965	3.63E-07	Yes
Proposed Project	FBT04A	Methane	74828	0.00E+00	No
Proposed Project	FBT04A	Methanol	67561	2.56E-05	Yes
Proposed Project	FBT04A	Methylglyoxal	78988	2.13E-05	No
Proposed Project	FBT04A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	3.94E-06	No
Proposed Project	FBT04A	Naphthalene	91203	7.66E-06	Yes
Proposed Project	FBT04A	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FBT04A	Ndecane	124185	4.53E-06	No
Proposed Project	FBT04A	Ndodecane	112403	6.54E-06	No
Proposed Project	FBT04A	Nheptane	142825	9.06E-07	No
Proposed Project	FBT04A	Nickel	7440020	7.28E-07	Yes
Proposed Project	FBT04A	Nnonane	111842	8.78E-07	No
Proposed Project	FBT04A	Noctane	111659	8.78E-07	No
Proposed Project	FBT04A	Npentane	109660	2.80E-06	No
Proposed Project	FBT04A	Npentylbenzene	538681	0.00E+00	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FBT04A	Npropylbenzene	103651	7.51E-07	No
Proposed Project	FBT04A	Ntridecane	629505	7.58E-06	No
Proposed Project	FBT04A	Nundecane	1120214	6.29E-06	No
Proposed Project	FBT04A	oTolualdehyde	529204	3.26E-06	No
Proposed Project	FBT04A	Oxylene	95476	2.35E-06	Yes
Proposed Project	FBT04A	Pentadecane	629629	2.45E-06	No
Proposed Project	FBT04A	Phenol (carbolic acid)	108952	1.03E-05	Yes
Proposed Project	FBT04A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FBT04A	Potassium ion	7440097	1.77E-06	No
Proposed Project	FBT04A	Propane	74986	1.10E-06	No
Proposed Project	FBT04A	Propionaldehyde	123386	1.03E-05	No
Proposed Project	FBT04A	Propylene	115071	6.42E-05	Yes
Proposed Project	FBT04A	pTolualdehyde	104870	6.80E-07	No
Proposed Project	FBT04A	Silicon	7440213	7.93E-06	No
Proposed Project	FBT04A	Silver	7440224	1.34E-06	No
Proposed Project	FBT04A	Styrene	100425	4.38E-06	Yes
Proposed Project	FBT04A	Sulfate	9960	4.56E-04	Yes
Proposed Project	FBT04A	Sulfur	7704349	0.00E+00	No
Proposed Project	FBT04A	Tetradecane	629594	5.89E-06	No
Proposed Project	FBT04A	Thallium	7440280	0.00E+00	No
Proposed Project	FBT04A	Titanium	7440326	1.05E-07	No
Proposed Project	FBT04A	Toluene	108883	9.09E-06	Yes
Proposed Project	FBT04A	Trans2hexene	4050457	4.25E-07	No
Proposed Project	FBT04A	Trans2pentene	646048	5.08E-06	No
Proposed Project	FBT04A	Valeraldehyde	110623	3.47E-06	No
Proposed Project	FBT04A	Xylenes	1330207	3.99E-06	Yes
Proposed Project	FBT04A	Zinc	7440666	3.22E-07	No
Proposed Project	FBT04B	1,2,3trimethylbenzene	526738	7.68E-07	No
Proposed Project	FBT04B	1,2,4Trimethylbenzene	95636	2.54E-06	No
Proposed Project	FBT04B	1,3,5trimethylbenzene	108678	3.91E-07	No
Proposed Project	FBT04B	1,3butadiene	106990	1.22E-05	Yes
Proposed Project	FBT04B	1butene	106989	1.27E-05	No
Proposed Project	FBT04B	1decene	872059	1.34E-06	No
Proposed Project	FBT04B	1hexene	592416	5.33E-06	No
Proposed Project	FBT04B	1Methyl2Ethylbenzene	611143	4.71E-07	No
Proposed Project	FBT04B	1Methyl3Ethylbenzene	620144	1.12E-06	No
Proposed Project	FBT04B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	4.64E-07	No
Proposed Project	FBT04B	1Methylnaphthalene	90120	1.79E-06	No
Proposed Project	FBT04B	1nonene	124118	1.78E-06	No
Proposed Project	FBT04B	1octene	111660	2.00E-06	No
Proposed Project	FBT04B	1pentene	109671	5.62E-06	No
Proposed Project	FBT04B	2methyl1butene	563462	1.01E-06	No
Proposed Project	FBT04B	2methyl1pentene	763291	2.46E-07	No
Proposed Project	FBT04B	2methyl2butene	513359	1.34E-06	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FBT04B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	3.11E-06	No
Proposed Project	FBT04B	2methylnaphthalene	91576	1.49E-06	No
Proposed Project	FBT04B	2Methylpentane	107835	2.96E-06	No
Proposed Project	FBT04B	3methyl1butene	563451	8.12E-07	No
Proposed Project	FBT04B	4methyl1pentene	691372	5.00E-07	No
Proposed Project	FBT04B	Acetaldehyde	75070	3.10E-05	Yes
Proposed Project	FBT04B	Acetone	67641	2.67E-06	No
Proposed Project	FBT04B	Acetylene	74862	2.85E-05	No
Proposed Project	FBT04B	Acrolein (2propenal)	107028	1.77E-05	Yes
Proposed Project	FBT04B	Ammonium	14798039	1.17E-04	No
Proposed Project	FBT04B	Antimony	7440360	0.00E+00	No
Proposed Project	FBT04B	Benzaldehyde	100527	3.41E-06	No
Proposed Project	FBT04B	Benzene	71432	1.22E-05	Yes
Proposed Project	FBT04B	Bromine	7726956	3.24E-07	No
Proposed Project	FBT04B	Butyraldehyde	123728	8.62E-07	No
Proposed Project	FBT04B	Calcium	7440702	0.00E+00	No
Proposed Project	FBT04B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FBT04B	Chromium	7440473	4.27E-07	No
Proposed Project	FBT04B	Cis2butene	590181	1.52E-06	No
Proposed Project	FBT04B	Cis2pentene	627203	2.00E-06	No
Proposed Project	FBT04B	Copper	7440508	3.52E-06	Yes
Proposed Project	FBT04B	Crotonaldehyde (or 2Butenal)	4170303	7.49E-06	No
Proposed Project	FBT04B	Cumene	98828	2.17E-08	No
Proposed Project	FBT04B	Decanal	112312	4.23E-05	No
Proposed Project	FBT04B	Dimethyl napthalene	28804888	6.52E-07	No
Proposed Project	FBT04B	Dodecenal	112549	2.12E-05	No
Proposed Project	FBT04B	Elemental Carbon	7440440	3.53E-04	No
Proposed Project	FBT04B	Ethane	74840	3.78E-06	No
Proposed Project	FBT04B	Ethylbenzene	100414	1.26E-06	Yes
Proposed Project	FBT04B	Ethylene	74851	1.12E-04	No
Proposed Project	FBT04B	Formaldehyde	50000	8.92E-05	Yes
Proposed Project	FBT04B	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FBT04B	Glyoxal	107222	1.32E-05	No
Proposed Project	FBT04B	Heptadecane	629787	6.52E-08	No
Proposed Project	FBT04B	Heptene	25339564	3.17E-06	No
Proposed Project	FBT04B	Hexadecane	544763	3.55E-07	No
Proposed Project	FBT04B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FBT04B	Indium	7440746	0.00E+00	No
Proposed Project	FBT04B	Insolchlorine	7782505	1.17E-06	Yes
Proposed Project	FBT04B	Iron	7439896	0.00E+00	No
Proposed Project	FBT04B	Isovaleraldehyde	590863	2.32E-07	No
Proposed Project	FBT04B	Magnesium	7439954	1.88E-06	No
Proposed Project	FBT04B	Manganese	7439965	2.99E-07	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FBT04B	Methane	74828	0.00E+00	No
Proposed Project	FBT04B	Methanol	67561	1.31E-05	Yes
Proposed Project	FBT04B	Methylglyoxal	78988	1.09E-05	No
Proposed Project	FBT04B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.01E-06	No
Proposed Project	FBT04B	Naphthalene	91203	3.92E-06	Yes
Proposed Project	FBT04B	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FBT04B	Ndecane	124185	2.32E-06	No
Proposed Project	FBT04B	Ndodecane	112403	3.35E-06	No
Proposed Project	FBT04B	Nheptane	142825	4.64E-07	No
Proposed Project	FBT04B	Nickel	7440020	5.99E-07	Yes
Proposed Project	FBT04B	Nnonane	111842	4.49E-07	No
Proposed Project	FBT04B	Noctane	111659	4.49E-07	No
Proposed Project	FBT04B	Npentane	109660	1.44E-06	No
Proposed Project	FBT04B	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FBT04B	Npropylbenzene	103651	3.84E-07	No
Proposed Project	FBT04B	Ntridecane	629505	3.88E-06	No
Proposed Project	FBT04B	Nundecane	1120214	3.22E-06	No
Proposed Project	FBT04B	oTolualdehyde	529204	1.67E-06	No
Proposed Project	FBT04B	Oxylene	95476	1.20E-06	Yes
Proposed Project	FBT04B	Pentadecane	629629	1.25E-06	No
Proposed Project	FBT04B	Phenol (carbolic acid)	108952	5.26E-06	Yes
Proposed Project	FBT04B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FBT04B	Potassium ion	7440097	1.46E-06	No
Proposed Project	FBT04B	Propane	74986	5.65E-07	No
Proposed Project	FBT04B	Propionaldehyde	123386	5.27E-06	No
Proposed Project	FBT04B	Propylene	115071	3.29E-05	Yes
Proposed Project	FBT04B	pTolualdehyde	104870	3.48E-07	No
Proposed Project	FBT04B	Silicon	7440213	6.52E-06	No
Proposed Project	FBT04B	Silver	7440224	1.10E-06	No
Proposed Project	FBT04B	Styrene	100425	2.24E-06	Yes
Proposed Project	FBT04B	Sulfate	9960	3.75E-04	Yes
Proposed Project	FBT04B	Sulfur	7704349	0.00E+00	No
Proposed Project	FBT04B	Tetradecane	629594	3.02E-06	No
Proposed Project	FBT04B	Thallium	7440280	0.00E+00	No
Proposed Project	FBT04B	Titanium	7440326	8.60E-08	No
Proposed Project	FBT04B	Toluene	108883	4.65E-06	Yes
Proposed Project	FBT04B	Trans2hexene	4050457	2.17E-07	No
Proposed Project	FBT04B	Trans2pentene	646048	2.60E-06	No
Proposed Project	FBT04B	Valeraldehyde	110623	1.78E-06	No
Proposed Project	FBT04B	Xylenes	1330207	2.04E-06	Yes
Proposed Project	FBT04B	Zinc	7440666	2.65E-07	No
Proposed Project	FBT14A	1,2,3trimethylbenzene	526738	7.25E-07	No
Proposed Project	FBT14A	1,2,4Trimethylbenzene	95636	2.39E-06	No
Proposed Project	FBT14A	1,3,5trimethylbenzene	108678	3.69E-07	No
Proposed Project	FBT14A	1,3butadiene	106990	1.15E-05	Yes
Proposed Project	FBT14A	1butene	106989	1.20E-05	No
Proposed Project	FBT14A	1decene	872059	1.26E-06	No

Appendix D1. TAC Emission Rates By Source Group
Mineta San Jose International Airport
San Jose, California

Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FBT14A	1hexene	592416	5.03E-06	No
Proposed Project	FBT14A	1Methyl2Ethylbenzene	611143	4.44E-07	No
Proposed Project	FBT14A	1Methyl3Ethylbenzene	620144	1.05E-06	No
Proposed Project	FBT14A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	4.38E-07	No
Proposed Project	FBT14A	1Methylnaphthalene	90120	1.69E-06	No
Proposed Project	FBT14A	1nonene	124118	1.68E-06	No
Proposed Project	FBT14A	1octene	111660	1.89E-06	No
Proposed Project	FBT14A	1pentene	109671	5.31E-06	No
Proposed Project	FBT14A	2methyl1butene	563462	9.57E-07	No
Proposed Project	FBT14A	2methyl1pentene	763291	2.32E-07	No
Proposed Project	FBT14A	2methyl2butene	513359	1.26E-06	No
Proposed Project	FBT14A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	2.93E-06	No
Proposed Project	FBT14A	2methylnaphthalene	91576	1.41E-06	No
Proposed Project	FBT14A	2Methylpentane	107835	2.79E-06	No
Proposed Project	FBT14A	3methyl1butene	563451	7.66E-07	No
Proposed Project	FBT14A	4methyl1pentene	691372	4.72E-07	No
Proposed Project	FBT14A	Acetaldehyde	75070	2.92E-05	Yes
Proposed Project	FBT14A	Acetone	67641	2.52E-06	No
Proposed Project	FBT14A	Acetylene	74862	2.69E-05	No
Proposed Project	FBT14A	Acrolein (2propenal)	107028	1.67E-05	Yes
Proposed Project	FBT14A	Ammonium	14798039	6.84E-05	No
Proposed Project	FBT14A	Antimony	7440360	0.00E+00	No
Proposed Project	FBT14A	Benzaldehyde	100527	3.21E-06	No
Proposed Project	FBT14A	Benzene	71432	1.15E-05	Yes
Proposed Project	FBT14A	Bromine	7726956	1.90E-07	No
Proposed Project	FBT14A	Butyraldehyde	123728	8.14E-07	No
Proposed Project	FBT14A	Calcium	7440702	0.00E+00	No
Proposed Project	FBT14A	Chloride ion	16887006	0.00E+00	No
Proposed Project	FBT14A	Chromium	7440473	2.50E-07	No
Proposed Project	FBT14A	Cis2butene	590181	1.44E-06	No
Proposed Project	FBT14A	Cis2pentene	627203	1.89E-06	No
Proposed Project	FBT14A	Copper	7440508	2.06E-06	Yes
Proposed Project	FBT14A	Crotonaldehyde (or 2Butenal)	4170303	7.06E-06	No
Proposed Project	FBT14A	Cumene	98828	2.05E-08	No
Proposed Project	FBT14A	Decanal	112312	4.00E-05	No
Proposed Project	FBT14A	Dimethyl napthalene	28804888	6.15E-07	No
Proposed Project	FBT14A	Dodecenal	112549	2.00E-05	No
Proposed Project	FBT14A	Elemental Carbon	7440440	2.07E-04	No
Proposed Project	FBT14A	Ethane	74840	3.56E-06	No
Proposed Project	FBT14A	Ethylbenzene	100414	1.19E-06	Yes
Proposed Project	FBT14A	Ethylene	74851	1.06E-04	No
Proposed Project	FBT14A	Formaldehyde	50000	8.42E-05	Yes

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San Jose, California

Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FBT14A	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FBT14A	Glyoxal	107222	1.24E-05	No
Proposed Project	FBT14A	Heptadecane	629787	6.15E-08	No
Proposed Project	FBT14A	Heptene	25339564	2.99E-06	No
Proposed Project	FBT14A	Hexadecane	544763	3.35E-07	No
Proposed Project	FBT14A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FBT14A	Indium	7440746	0.00E+00	No
Proposed Project	FBT14A	Insolchlorine	7782505	6.88E-07	Yes
Proposed Project	FBT14A	Iron	7439896	0.00E+00	No
Proposed Project	FBT14A	Isovaleraldehyde	590863	2.19E-07	No
Proposed Project	FBT14A	Magnesium	7439954	1.10E-06	No
Proposed Project	FBT14A	Manganese	7439965	1.75E-07	Yes
Proposed Project	FBT14A	Methane	74828	0.00E+00	No
Proposed Project	FBT14A	Methanol	67561	1.23E-05	Yes
Proposed Project	FBT14A	Methylglyoxal	78988	1.03E-05	No
Proposed Project	FBT14A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.90E-06	No
Proposed Project	FBT14A	Naphthalene	91203	3.70E-06	Yes
Proposed Project	FBT14A	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FBT14A	Ndecane	124185	2.19E-06	No
Proposed Project	FBT14A	Ndodecane	112403	3.16E-06	No
Proposed Project	FBT14A	Nheptane	142825	4.38E-07	No
Proposed Project	FBT14A	Nickel	7440020	3.51E-07	Yes
Proposed Project	FBT14A	Nnonane	111842	4.24E-07	No
Proposed Project	FBT14A	Noctane	111659	4.24E-07	No
Proposed Project	FBT14A	Npentane	109660	1.35E-06	No
Proposed Project	FBT14A	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FBT14A	Npropylbenzene	103651	3.62E-07	No
Proposed Project	FBT14A	Ntridecane	629505	3.66E-06	No
Proposed Project	FBT14A	Nundecane	1120214	3.04E-06	No
Proposed Project	FBT14A	oTolualdehyde	529204	1.57E-06	No
Proposed Project	FBT14A	Oxylene	95476	1.14E-06	Yes
Proposed Project	FBT14A	Pentadecane	629629	1.18E-06	No
Proposed Project	FBT14A	Phenol (carbolic acid)	108952	4.96E-06	Yes
Proposed Project	FBT14A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FBT14A	Potassium ion	7440097	8.56E-07	No
Proposed Project	FBT14A	Propane	74986	5.33E-07	No
Proposed Project	FBT14A	Propionaldehyde	123386	4.97E-06	No
Proposed Project	FBT14A	Propylene	115071	3.10E-05	Yes
Proposed Project	FBT14A	pTolualdehyde	104870	3.28E-07	No
Proposed Project	FBT14A	Silicon	7440213	3.83E-06	No
Proposed Project	FBT14A	Silver	7440224	6.45E-07	No
Proposed Project	FBT14A	Styrene	100425	2.11E-06	Yes
Proposed Project	FBT14A	Sulfate	9960	2.20E-04	Yes
Proposed Project	FBT14A	Sulfur	7704349	0.00E+00	No
Proposed Project	FBT14A	Tetradecane	629594	2.84E-06	No
Proposed Project	FBT14A	Thallium	7440280	0.00E+00	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FBT14A	Titanium	7440326	5.05E-08	No
Proposed Project	FBT14A	Toluene	108883	4.39E-06	Yes
Proposed Project	FBT14A	Trans2hexene	4050457	2.05E-07	No
Proposed Project	FBT14A	Trans2pentene	646048	2.45E-06	No
Proposed Project	FBT14A	Valeraldehyde	110623	1.68E-06	No
Proposed Project	FBT14A	Xylenes	1330207	1.93E-06	Yes
Proposed Project	FBT14A	Zinc	7440666	1.55E-07	No
Proposed Project	FBT14B	1,2,3trimethylbenzene	526738	3.71E-07	No
Proposed Project	FBT14B	1,2,4Trimethylbenzene	95636	1.22E-06	No
Proposed Project	FBT14B	1,3,5trimethylbenzene	108678	1.89E-07	No
Proposed Project	FBT14B	1,3butadiene	106990	5.90E-06	Yes
Proposed Project	FBT14B	1butene	106989	6.14E-06	No
Proposed Project	FBT14B	1decene	872059	6.47E-07	No
Proposed Project	FBT14B	1hexene	592416	2.58E-06	No
Proposed Project	FBT14B	1Methyl2Ethylbenzene	611143	2.27E-07	No
Proposed Project	FBT14B	1Methyl3Ethylbenzene	620144	5.39E-07	No
Proposed Project	FBT14B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	2.24E-07	No
Proposed Project	FBT14B	1Methylnaphthalene	90120	8.64E-07	No
Proposed Project	FBT14B	1nonene	124118	8.61E-07	No
Proposed Project	FBT14B	1octene	111660	9.66E-07	No
Proposed Project	FBT14B	1pentene	109671	2.72E-06	No
Proposed Project	FBT14B	2methyl1butene	563462	4.90E-07	No
Proposed Project	FBT14B	2methyl1pentene	763291	1.19E-07	No
Proposed Project	FBT14B	2methyl2butene	513359	6.47E-07	No
Proposed Project	FBT14B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.50E-06	No
Proposed Project	FBT14B	2methylnaphthalene	91576	7.21E-07	No
Proposed Project	FBT14B	2Methylpentane	107835	1.43E-06	No
Proposed Project	FBT14B	3methyl1butene	563451	3.92E-07	No
Proposed Project	FBT14B	4methyl1pentene	691372	2.41E-07	No
Proposed Project	FBT14B	Acetaldehyde	75070	1.49E-05	Yes
Proposed Project	FBT14B	Acetone	67641	1.29E-06	No
Proposed Project	FBT14B	Acetylene	74862	1.38E-05	No
Proposed Project	FBT14B	Acrolein (2propenal)	107028	8.57E-06	Yes
Proposed Project	FBT14B	Ammonium	14798039	5.63E-05	No
Proposed Project	FBT14B	Antimony	7440360	0.00E+00	No
Proposed Project	FBT14B	Benzaldehyde	100527	1.64E-06	No
Proposed Project	FBT14B	Benzene	71432	5.88E-06	Yes
Proposed Project	FBT14B	Bromine	7726956	1.56E-07	No
Proposed Project	FBT14B	Butyraldehyde	123728	4.16E-07	No
Proposed Project	FBT14B	Calcium	7440702	0.00E+00	No
Proposed Project	FBT14B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FBT14B	Chromium	7440473	2.06E-07	No
Proposed Project	FBT14B	Cis2butene	590181	7.35E-07	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FBT14B	Cis2pentene	627203	9.66E-07	No
Proposed Project	FBT14B	Copper	7440508	1.70E-06	Yes
Proposed Project	FBT14B	Crotonaldehyde (or 2Butenal)	4170303	3.61E-06	No
Proposed Project	FBT14B	Cumene	98828	1.05E-08	No
Proposed Project	FBT14B	Decanal	112312	2.04E-05	No
Proposed Project	FBT14B	Dimethyl napthalene	28804888	3.15E-07	No
Proposed Project	FBT14B	Dodecenal	112549	1.02E-05	No
Proposed Project	FBT14B	Elemental Carbon	7440440	1.70E-04	No
Proposed Project	FBT14B	Ethane	74840	1.82E-06	No
Proposed Project	FBT14B	Ethylbenzene	100414	6.09E-07	Yes
Proposed Project	FBT14B	Ethylene	74851	5.41E-05	No
Proposed Project	FBT14B	Formaldehyde	50000	4.31E-05	Yes
Proposed Project	FBT14B	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FBT14B	Glyoxal	107222	6.35E-06	No
Proposed Project	FBT14B	Heptadecane	629787	3.15E-08	No
Proposed Project	FBT14B	Heptene	25339564	1.53E-06	No
Proposed Project	FBT14B	Hexadecane	544763	1.71E-07	No
Proposed Project	FBT14B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FBT14B	Indium	7440746	0.00E+00	No
Proposed Project	FBT14B	Insolchlorine	7782505	5.66E-07	Yes
Proposed Project	FBT14B	Iron	7439896	0.00E+00	No
Proposed Project	FBT14B	Isovaleraldehyde	590863	1.12E-07	No
Proposed Project	FBT14B	Magnesium	7439954	9.08E-07	No
Proposed Project	FBT14B	Manganese	7439965	1.44E-07	Yes
Proposed Project	FBT14B	Methane	74828	0.00E+00	No
Proposed Project	FBT14B	Methanol	67561	6.32E-06	Yes
Proposed Project	FBT14B	Methylglyoxal	78988	5.26E-06	No
Proposed Project	FBT14B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	9.73E-07	No
Proposed Project	FBT14B	Naphthalene	91203	1.89E-06	Yes
Proposed Project	FBT14B	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FBT14B	Ndecane	124185	1.12E-06	No
Proposed Project	FBT14B	Ndodecane	112403	1.62E-06	No
Proposed Project	FBT14B	Nheptane	142825	2.24E-07	No
Proposed Project	FBT14B	Nickel	7440020	2.89E-07	Yes
Proposed Project	FBT14B	Nnonane	111842	2.17E-07	No
Proposed Project	FBT14B	Noctane	111659	2.17E-07	No
Proposed Project	FBT14B	Npentane	109660	6.93E-07	No
Proposed Project	FBT14B	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FBT14B	Npropylbenzene	103651	1.85E-07	No
Proposed Project	FBT14B	Ntridecane	629505	1.87E-06	No
Proposed Project	FBT14B	Nundecane	1120214	1.55E-06	No
Proposed Project	FBT14B	oTolualdehyde	529204	8.05E-07	No
Proposed Project	FBT14B	Oxylene	95476	5.81E-07	Yes
Proposed Project	FBT14B	Pentadecane	629629	6.05E-07	No
Proposed Project	FBT14B	Phenol (carbolic acid)	108952	2.54E-06	Yes

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FBT14B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FBT14B	Potassium ion	7440097	7.05E-07	No
Proposed Project	FBT14B	Propane	74986	2.73E-07	No
Proposed Project	FBT14B	Propionaldehyde	123386	2.54E-06	No
Proposed Project	FBT14B	Propylene	115071	1.59E-05	Yes
Proposed Project	FBT14B	pTolualdehyde	104870	1.68E-07	No
Proposed Project	FBT14B	Silicon	7440213	3.15E-06	No
Proposed Project	FBT14B	Silver	7440224	5.31E-07	No
Proposed Project	FBT14B	Styrene	100425	1.08E-06	Yes
Proposed Project	FBT14B	Sulfate	9960	1.81E-04	Yes
Proposed Project	FBT14B	Sulfur	7704349	0.00E+00	No
Proposed Project	FBT14B	Tetradecane	629594	1.46E-06	No
Proposed Project	FBT14B	Thallium	7440280	0.00E+00	No
Proposed Project	FBT14B	Titanium	7440326	4.15E-08	No
Proposed Project	FBT14B	Toluene	108883	2.25E-06	Yes
Proposed Project	FBT14B	Trans2hexene	4050457	1.05E-07	No
Proposed Project	FBT14B	Trans2pentene	646048	1.26E-06	No
Proposed Project	FBT14B	Valeraldehyde	110623	8.57E-07	No
Proposed Project	FBT14B	Xylenes	1330207	9.87E-07	Yes
Proposed Project	FBT14B	Zinc	7440666	1.28E-07	No
Proposed Project	FBT23A	1,2,3trimethylbenzene	526738	8.77E-08	No
Proposed Project	FBT23A	1,2,4Trimethylbenzene	95636	2.90E-07	No
Proposed Project	FBT23A	1,3,5trimethylbenzene	108678	4.47E-08	No
Proposed Project	FBT23A	1,3butadiene	106990	1.40E-06	Yes
Proposed Project	FBT23A	1butene	106989	1.45E-06	No
Proposed Project	FBT23A	1decene	872059	1.53E-07	No
Proposed Project	FBT23A	1hexene	592416	6.09E-07	No
Proposed Project	FBT23A	1Methyl2Ethylbenzene	611143	5.38E-08	No
Proposed Project	FBT23A	1Methyl3Ethylbenzene	620144	1.27E-07	No
Proposed Project	FBT23A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	5.30E-08	No
Proposed Project	FBT23A	1Methylnaphthalene	90120	2.04E-07	No
Proposed Project	FBT23A	1nonene	124118	2.04E-07	No
Proposed Project	FBT23A	1octene	111660	2.28E-07	No
Proposed Project	FBT23A	1pentene	109671	6.42E-07	No
Proposed Project	FBT23A	2methyl1butene	563462	1.16E-07	No
Proposed Project	FBT23A	2methyl1pentene	763291	2.81E-08	No
Proposed Project	FBT23A	2methyl2butene	513359	1.53E-07	No
Proposed Project	FBT23A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	3.55E-07	No
Proposed Project	FBT23A	2methylnaphthalene	91576	1.70E-07	No
Proposed Project	FBT23A	2Methylpentane	107835	3.38E-07	No
Proposed Project	FBT23A	3methyl1butene	563451	9.27E-08	No
Proposed Project	FBT23A	4methyl1pentene	691372	5.71E-08	No
Proposed Project	FBT23A	Acetaldehyde	75070	3.54E-06	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FBT23A	Acetone	67641	3.05E-07	No
Proposed Project	FBT23A	Acetylene	74862	3.26E-06	No
Proposed Project	FBT23A	Acrolein (2propenal)	107028	2.03E-06	Yes
Proposed Project	FBT23A	Ammonium	14798039	8.28E-06	No
Proposed Project	FBT23A	Antimony	7440360	0.00E+00	No
Proposed Project	FBT23A	Benzaldehyde	100527	3.89E-07	No
Proposed Project	FBT23A	Benzene	71432	1.39E-06	Yes
Proposed Project	FBT23A	Bromine	7726956	2.30E-08	No
Proposed Project	FBT23A	Butyraldehyde	123728	9.85E-08	No
Proposed Project	FBT23A	Calcium	7440702	0.00E+00	No
Proposed Project	FBT23A	Chloride ion	16887006	0.00E+00	No
Proposed Project	FBT23A	Chromium	7440473	3.03E-08	No
Proposed Project	FBT23A	Cis2butene	590181	1.74E-07	No
Proposed Project	FBT23A	Cis2pentene	627203	2.28E-07	No
Proposed Project	FBT23A	Copper	7440508	2.50E-07	Yes
Proposed Project	FBT23A	Crotonaldehyde (or 2Butenal)	4170303	8.55E-07	No
Proposed Project	FBT23A	Cumene	98828	2.48E-09	No
Proposed Project	FBT23A	Decanal	112312	4.84E-06	No
Proposed Project	FBT23A	Dimethyl napthalene	28804888	7.45E-08	No
Proposed Project	FBT23A	Dodecenal	112549	2.42E-06	No
Proposed Project	FBT23A	Elemental Carbon	7440440	2.50E-05	No
Proposed Project	FBT23A	Ethane	74840	4.31E-07	No
Proposed Project	FBT23A	Ethylbenzene	100414	1.44E-07	Yes
Proposed Project	FBT23A	Ethylene	74851	1.28E-05	No
Proposed Project	FBT23A	Formaldehyde	50000	1.02E-05	Yes
Proposed Project	FBT23A	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FBT23A	Glyoxal	107222	1.50E-06	No
Proposed Project	FBT23A	Heptadecane	629787	7.45E-09	No
Proposed Project	FBT23A	Heptene	25339564	3.62E-07	No
Proposed Project	FBT23A	Hexadecane	544763	4.06E-08	No
Proposed Project	FBT23A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FBT23A	Indium	7440746	0.00E+00	No
Proposed Project	FBT23A	Insolchlorine	7782505	8.33E-08	Yes
Proposed Project	FBT23A	Iron	7439896	0.00E+00	No
Proposed Project	FBT23A	Isovaleraldehyde	590863	2.65E-08	No
Proposed Project	FBT23A	Magnesium	7439954	1.34E-07	No
Proposed Project	FBT23A	Manganese	7439965	2.12E-08	Yes
Proposed Project	FBT23A	Methane	74828	0.00E+00	No
Proposed Project	FBT23A	Methanol	67561	1.49E-06	Yes
Proposed Project	FBT23A	Methylglyoxal	78988	1.24E-06	No
Proposed Project	FBT23A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.30E-07	No
Proposed Project	FBT23A	Naphthalene	91203	4.48E-07	Yes
Proposed Project	FBT23A	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FBT23A	Ndecane	124185	2.65E-07	No
Proposed Project	FBT23A	Ndodecane	112403	3.82E-07	No

Appendix D1. TAC Emission Rates By Source Group
Mineta San Jose International Airport
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FBT23A	Nheptane	142825	5.30E-08	No
Proposed Project	FBT23A	Nickel	7440020	4.25E-08	Yes
Proposed Project	FBT23A	Nnonane	111842	5.13E-08	No
Proposed Project	FBT23A	Noctane	111659	5.13E-08	No
Proposed Project	FBT23A	Npentane	109660	1.64E-07	No
Proposed Project	FBT23A	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FBT23A	Npropylbenzene	103651	4.39E-08	No
Proposed Project	FBT23A	Ntridecane	629505	4.43E-07	No
Proposed Project	FBT23A	Nundecane	1120214	3.67E-07	No
Proposed Project	FBT23A	oTolualdehyde	529204	1.90E-07	No
Proposed Project	FBT23A	Oxylene	95476	1.37E-07	Yes
Proposed Project	FBT23A	Pentadecane	629629	1.43E-07	No
Proposed Project	FBT23A	Phenol (carbolic acid)	108952	6.01E-07	Yes
Proposed Project	FBT23A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FBT23A	Potassium ion	7440097	1.04E-07	No
Proposed Project	FBT23A	Propane	74986	6.46E-08	No
Proposed Project	FBT23A	Propionaldehyde	123386	6.02E-07	No
Proposed Project	FBT23A	Propylene	115071	3.75E-06	Yes
Proposed Project	FBT23A	pTolualdehyde	104870	3.97E-08	No
Proposed Project	FBT23A	Silicon	7440213	4.63E-07	No
Proposed Project	FBT23A	Silver	7440224	7.81E-08	No
Proposed Project	FBT23A	Styrene	100425	2.56E-07	Yes
Proposed Project	FBT23A	Sulfate	9960	2.66E-05	Yes
Proposed Project	FBT23A	Sulfur	7704349	0.00E+00	No
Proposed Project	FBT23A	Tetradecane	629594	3.44E-07	No
Proposed Project	FBT23A	Thallium	7440280	0.00E+00	No
Proposed Project	FBT23A	Titanium	7440326	6.11E-09	No
Proposed Project	FBT23A	Toluene	108883	5.31E-07	Yes
Proposed Project	FBT23A	Trans2hexene	4050457	2.48E-08	No
Proposed Project	FBT23A	Trans2pentene	646048	2.97E-07	No
Proposed Project	FBT23A	Valeraldehyde	110623	2.03E-07	No
Proposed Project	FBT23A	Xylenes	1330207	2.33E-07	Yes
Proposed Project	FBT23A	Zinc	7440666	1.88E-08	No
Proposed Project	FBT23B	1,2,3trimethylbenzene	526738	4.49E-08	No
Proposed Project	FBT23B	1,2,4Trimethylbenzene	95636	1.48E-07	No
Proposed Project	FBT23B	1,3,5trimethylbenzene	108678	2.29E-08	No
Proposed Project	FBT23B	1,3butadiene	106990	7.14E-07	Yes
Proposed Project	FBT23B	1butene	106989	7.43E-07	No
Proposed Project	FBT23B	1decene	872059	7.83E-08	No
Proposed Project	FBT23B	1hexene	592416	3.12E-07	No
Proposed Project	FBT23B	1Methyl2Ethylbenzene	611143	2.75E-08	No
Proposed Project	FBT23B	1Methyl3Ethylbenzene	620144	6.52E-08	No
Proposed Project	FBT23B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	2.71E-08	No
Proposed Project	FBT23B	1Methylnaphthalene	90120	1.05E-07	No
Proposed Project	FBT23B	1nonene	124118	1.04E-07	No
Proposed Project	FBT23B	1octene	111660	1.17E-07	No
Proposed Project	FBT23B	1pentene	109671	3.29E-07	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FBT23B	2methyl1butene	563462	5.93E-08	No
Proposed Project	FBT23B	2methyl1pentene	763291	1.44E-08	No
Proposed Project	FBT23B	2methyl2butene	513359	7.83E-08	No
Proposed Project	FBT23B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.82E-07	No
Proposed Project	FBT23B	2methylnaphthalene	91576	8.72E-08	No
Proposed Project	FBT23B	2Methylpentane	107835	1.73E-07	No
Proposed Project	FBT23B	3methyl1butene	563451	4.74E-08	No
Proposed Project	FBT23B	4methyl1pentene	691372	2.92E-08	No
Proposed Project	FBT23B	Acetaldehyde	75070	1.81E-06	Yes
Proposed Project	FBT23B	Acetone	67641	1.56E-07	No
Proposed Project	FBT23B	Acetylene	74862	1.67E-06	No
Proposed Project	FBT23B	Acrolein (2propenal)	107028	1.04E-06	Yes
Proposed Project	FBT23B	Ammonium	14798039	6.81E-06	No
Proposed Project	FBT23B	Antimony	7440360	0.00E+00	No
Proposed Project	FBT23B	Benzaldehyde	100527	1.99E-07	No
Proposed Project	FBT23B	Benzene	71432	7.12E-07	Yes
Proposed Project	FBT23B	Bromine	7726956	1.89E-08	No
Proposed Project	FBT23B	Butyraldehyde	123728	5.04E-08	No
Proposed Project	FBT23B	Calcium	7440702	0.00E+00	No
Proposed Project	FBT23B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FBT23B	Chromium	7440473	2.49E-08	No
Proposed Project	FBT23B	Cis2butene	590181	8.89E-08	No
Proposed Project	FBT23B	Cis2pentene	627203	1.17E-07	No
Proposed Project	FBT23B	Copper	7440508	2.06E-07	Yes
Proposed Project	FBT23B	Crotonaldehyde (or 2Butenal)	4170303	4.37E-07	No
Proposed Project	FBT23B	Cumene	98828	1.27E-09	No
Proposed Project	FBT23B	Decanal	112312	2.47E-06	No
Proposed Project	FBT23B	Dimethyl napthalene	28804888	3.81E-08	No
Proposed Project	FBT23B	Dodecenal	112549	1.24E-06	No
Proposed Project	FBT23B	Elemental Carbon	7440440	2.06E-05	No
Proposed Project	FBT23B	Ethane	74840	2.21E-07	No
Proposed Project	FBT23B	Ethylbenzene	100414	7.37E-08	Yes
Proposed Project	FBT23B	Ethylene	74851	6.55E-06	No
Proposed Project	FBT23B	Formaldehyde	50000	5.21E-06	Yes
Proposed Project	FBT23B	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FBT23B	Glyoxal	107222	7.69E-07	No
Proposed Project	FBT23B	Heptadecane	629787	3.81E-09	No
Proposed Project	FBT23B	Heptene	25339564	1.85E-07	No
Proposed Project	FBT23B	Hexadecane	544763	2.08E-08	No
Proposed Project	FBT23B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FBT23B	Indium	7440746	0.00E+00	No
Proposed Project	FBT23B	Insolchlorine	7782505	6.85E-08	Yes
Proposed Project	FBT23B	Iron	7439896	0.00E+00	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FBT23B	Isovaleraldehyde	590863	1.36E-08	No
Proposed Project	FBT23B	Magnesium	7439954	1.10E-07	No
Proposed Project	FBT23B	Manganese	7439965	1.74E-08	Yes
Proposed Project	FBT23B	Methane	74828	0.00E+00	No
Proposed Project	FBT23B	Methanol	67561	7.64E-07	Yes
Proposed Project	FBT23B	Methylglyoxal	78988	6.37E-07	No
Proposed Project	FBT23B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.18E-07	No
Proposed Project	FBT23B	Naphthalene	91203	2.29E-07	Yes
Proposed Project	FBT23B	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FBT23B	Ndecane	124185	1.36E-07	No
Proposed Project	FBT23B	Ndodecane	112403	1.96E-07	No
Proposed Project	FBT23B	Nheptane	142825	2.71E-08	No
Proposed Project	FBT23B	Nickel	7440020	3.50E-08	Yes
Proposed Project	FBT23B	Nnonane	111842	2.63E-08	No
Proposed Project	FBT23B	Noctane	111659	2.63E-08	No
Proposed Project	FBT23B	Npentane	109660	8.39E-08	No
Proposed Project	FBT23B	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FBT23B	Npropylbenzene	103651	2.24E-08	No
Proposed Project	FBT23B	Ntridecane	629505	2.27E-07	No
Proposed Project	FBT23B	Nundecane	1120214	1.88E-07	No
Proposed Project	FBT23B	oTolualdehyde	529204	9.74E-08	No
Proposed Project	FBT23B	Oxylene	95476	7.03E-08	Yes
Proposed Project	FBT23B	Pentadecane	629629	7.33E-08	No
Proposed Project	FBT23B	Phenol (carbolic acid)	108952	3.07E-07	Yes
Proposed Project	FBT23B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FBT23B	Potassium ion	7440097	8.53E-08	No
Proposed Project	FBT23B	Propane	74986	3.30E-08	No
Proposed Project	FBT23B	Propionaldehyde	123386	3.08E-07	No
Proposed Project	FBT23B	Propylene	115071	1.92E-06	Yes
Proposed Project	FBT23B	pTolualdehyde	104870	2.03E-08	No
Proposed Project	FBT23B	Silicon	7440213	3.81E-07	No
Proposed Project	FBT23B	Silver	7440224	6.43E-08	No
Proposed Project	FBT23B	Styrene	100425	1.31E-07	Yes
Proposed Project	FBT23B	Sulfate	9960	2.19E-05	Yes
Proposed Project	FBT23B	Sulfur	7704349	0.00E+00	No
Proposed Project	FBT23B	Tetradecane	629594	1.76E-07	No
Proposed Project	FBT23B	Thallium	7440280	0.00E+00	No
Proposed Project	FBT23B	Titanium	7440326	5.03E-09	No
Proposed Project	FBT23B	Toluene	108883	2.72E-07	Yes
Proposed Project	FBT23B	Trans2hexene	4050457	1.27E-08	No
Proposed Project	FBT23B	Trans2pentene	646048	1.52E-07	No
Proposed Project	FBT23B	Valeraldehyde	110623	1.04E-07	No
Proposed Project	FBT23B	Xylenes	1330207	1.19E-07	Yes
Proposed Project	FBT23B	Zinc	7440666	1.55E-08	No
Proposed Project	FBT27A	1,2,3trimethylbenzene	526738	1.82E-07	No
Proposed Project	FBT27A	1,2,4Trimethylbenzene	95636	6.01E-07	No
Proposed Project	FBT27A	1,3,5trimethylbenzene	108678	9.27E-08	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FBT27A	1,3butadiene	106990	2.89E-06	Yes
Proposed Project	FBT27A	1butene	106989	3.01E-06	No
Proposed Project	FBT27A	1decene	872059	3.17E-07	No
Proposed Project	FBT27A	1hexene	592416	1.26E-06	No
Proposed Project	FBT27A	1Methyl2Ethylbenzene	611143	1.12E-07	No
Proposed Project	FBT27A	1Methyl3Ethylbenzene	620144	2.64E-07	No
Proposed Project	FBT27A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.10E-07	No
Proposed Project	FBT27A	1Methylnaphthalene	90120	4.24E-07	No
Proposed Project	FBT27A	1nonene	124118	4.22E-07	No
Proposed Project	FBT27A	1octene	111660	4.74E-07	No
Proposed Project	FBT27A	1pentene	109671	1.33E-06	No
Proposed Project	FBT27A	2methyl1butene	563462	2.40E-07	No
Proposed Project	FBT27A	2methyl1pentene	763291	5.83E-08	No
Proposed Project	FBT27A	2methyl2butene	513359	3.17E-07	No
Proposed Project	FBT27A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	7.36E-07	No
Proposed Project	FBT27A	2methylnaphthalene	91576	3.53E-07	No
Proposed Project	FBT27A	2Methylpentane	107835	7.00E-07	No
Proposed Project	FBT27A	3methyl1butene	563451	1.92E-07	No
Proposed Project	FBT27A	4methyl1pentene	691372	1.18E-07	No
Proposed Project	FBT27A	Acetaldehyde	75070	7.33E-06	Yes
Proposed Project	FBT27A	Acetone	67641	6.33E-07	No
Proposed Project	FBT27A	Acetylene	74862	6.76E-06	No
Proposed Project	FBT27A	Acrolein (2propenal)	107028	4.20E-06	Yes
Proposed Project	FBT27A	Ammonium	14798039	1.72E-05	No
Proposed Project	FBT27A	Antimony	7440360	0.00E+00	No
Proposed Project	FBT27A	Benzaldehyde	100527	8.06E-07	No
Proposed Project	FBT27A	Benzene	71432	2.88E-06	Yes
Proposed Project	FBT27A	Bromine	7726956	4.77E-08	No
Proposed Project	FBT27A	Butyraldehyde	123728	2.04E-07	No
Proposed Project	FBT27A	Calcium	7440702	0.00E+00	No
Proposed Project	FBT27A	Chloride ion	16887006	0.00E+00	No
Proposed Project	FBT27A	Chromium	7440473	6.28E-08	No
Proposed Project	FBT27A	Cis2butene	590181	3.60E-07	No
Proposed Project	FBT27A	Cis2pentene	627203	4.74E-07	No
Proposed Project	FBT27A	Copper	7440508	5.18E-07	Yes
Proposed Project	FBT27A	Crotonaldehyde (or 2Butenal)	4170303	1.77E-06	No
Proposed Project	FBT27A	Cumene	98828	5.15E-09	No
Proposed Project	FBT27A	Decanal	112312	1.00E-05	No
Proposed Project	FBT27A	Dimethyl napthalene	28804888	1.54E-07	No
Proposed Project	FBT27A	Dodecenal	112549	5.01E-06	No
Proposed Project	FBT27A	Elemental Carbon	7440440	5.19E-05	No
Proposed Project	FBT27A	Ethane	74840	8.94E-07	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FBT27A	Ethylbenzene	100414	2.99E-07	Yes
Proposed Project	FBT27A	Ethylene	74851	2.65E-05	No
Proposed Project	FBT27A	Formaldehyde	50000	2.11E-05	Yes
Proposed Project	FBT27A	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FBT27A	Glyoxal	107222	3.12E-06	No
Proposed Project	FBT27A	Heptadecane	629787	1.54E-08	No
Proposed Project	FBT27A	Heptene	25339564	7.52E-07	No
Proposed Project	FBT27A	Hexadecane	544763	8.41E-08	No
Proposed Project	FBT27A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FBT27A	Indium	7440746	0.00E+00	No
Proposed Project	FBT27A	Insolchlorine	7782505	1.73E-07	Yes
Proposed Project	FBT27A	Iron	7439896	0.00E+00	No
Proposed Project	FBT27A	Isovaleraldehyde	590863	5.49E-08	No
Proposed Project	FBT27A	Magnesium	7439954	2.77E-07	No
Proposed Project	FBT27A	Manganese	7439965	4.40E-08	Yes
Proposed Project	FBT27A	Methane	74828	0.00E+00	No
Proposed Project	FBT27A	Methanol	67561	3.10E-06	Yes
Proposed Project	FBT27A	Methylglyoxal	78988	2.58E-06	No
Proposed Project	FBT27A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	4.77E-07	No
Proposed Project	FBT27A	Naphthalene	91203	9.28E-07	Yes
Proposed Project	FBT27A	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FBT27A	Ndecane	124185	5.49E-07	No
Proposed Project	FBT27A	Ndodecane	112403	7.93E-07	No
Proposed Project	FBT27A	Nheptane	142825	1.10E-07	No
Proposed Project	FBT27A	Nickel	7440020	8.82E-08	Yes
Proposed Project	FBT27A	Nnonane	111842	1.06E-07	No
Proposed Project	FBT27A	Noctane	111659	1.06E-07	No
Proposed Project	FBT27A	Npentane	109660	3.40E-07	No
Proposed Project	FBT27A	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FBT27A	Npropylbenzene	103651	9.09E-08	No
Proposed Project	FBT27A	Ntridecane	629505	9.18E-07	No
Proposed Project	FBT27A	Nundecane	1120214	7.62E-07	No
Proposed Project	FBT27A	oTolualdehyde	529204	3.95E-07	No
Proposed Project	FBT27A	Oxylene	95476	2.85E-07	Yes
Proposed Project	FBT27A	Pentadecane	629629	2.97E-07	No
Proposed Project	FBT27A	Phenol (carbolic acid)	108952	1.25E-06	Yes
Proposed Project	FBT27A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FBT27A	Potassium ion	7440097	2.15E-07	No
Proposed Project	FBT27A	Propane	74986	1.34E-07	No
Proposed Project	FBT27A	Propionaldehyde	123386	1.25E-06	No
Proposed Project	FBT27A	Propylene	115071	7.78E-06	Yes
Proposed Project	FBT27A	pTolualdehyde	104870	8.24E-08	No
Proposed Project	FBT27A	Silicon	7440213	9.60E-07	No
Proposed Project	FBT27A	Silver	7440224	1.62E-07	No
Proposed Project	FBT27A	Styrene	100425	5.30E-07	Yes
Proposed Project	FBT27A	Sulfate	9960	5.53E-05	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FBT27A	Sulfur	7704349	0.00E+00	No
Proposed Project	FBT27A	Tetradecane	629594	7.14E-07	No
Proposed Project	FBT27A	Thallium	7440280	0.00E+00	No
Proposed Project	FBT27A	Titanium	7440326	1.27E-08	No
Proposed Project	FBT27A	Toluene	108883	1.10E-06	Yes
Proposed Project	FBT27A	Trans2hexene	4050457	5.15E-08	No
Proposed Project	FBT27A	Trans2pentene	646048	6.16E-07	No
Proposed Project	FBT27A	Valeraldehyde	110623	4.20E-07	No
Proposed Project	FBT27A	Xylenes	1330207	4.84E-07	Yes
Proposed Project	FBT27A	Zinc	7440666	3.90E-08	No
Proposed Project	FBT27B	1,2,3trimethylbenzene	526738	9.31E-08	No
Proposed Project	FBT27B	1,2,4Trimethylbenzene	95636	3.07E-07	No
Proposed Project	FBT27B	1,3,5trimethylbenzene	108678	4.74E-08	No
Proposed Project	FBT27B	1,3butadiene	106990	1.48E-06	Yes
Proposed Project	FBT27B	1butene	106989	1.54E-06	No
Proposed Project	FBT27B	1decene	872059	1.62E-07	No
Proposed Project	FBT27B	1hexene	592416	6.46E-07	No
Proposed Project	FBT27B	1Methyl2Ethylbenzene	611143	5.71E-08	No
Proposed Project	FBT27B	1Methyl3Ethylbenzene	620144	1.35E-07	No
Proposed Project	FBT27B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	5.62E-08	No
Proposed Project	FBT27B	1Methylnaphthalene	90120	2.17E-07	No
Proposed Project	FBT27B	1nonene	124118	2.16E-07	No
Proposed Project	FBT27B	1octene	111660	2.42E-07	No
Proposed Project	FBT27B	1pentene	109671	6.81E-07	No
Proposed Project	FBT27B	2methyl1butene	563462	1.23E-07	No
Proposed Project	FBT27B	2methyl1pentene	763291	2.99E-08	No
Proposed Project	FBT27B	2methyl2butene	513359	1.62E-07	No
Proposed Project	FBT27B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	3.77E-07	No
Proposed Project	FBT27B	2methylnaphthalene	91576	1.81E-07	No
Proposed Project	FBT27B	2Methylpentane	107835	3.58E-07	No
Proposed Project	FBT27B	3methyl1butene	563451	9.83E-08	No
Proposed Project	FBT27B	4methyl1pentene	691372	6.06E-08	No
Proposed Project	FBT27B	Acetaldehyde	75070	3.75E-06	Yes
Proposed Project	FBT27B	Acetone	67641	3.24E-07	No
Proposed Project	FBT27B	Acetylene	74862	3.46E-06	No
Proposed Project	FBT27B	Acrolein (2propenal)	107028	2.15E-06	Yes
Proposed Project	FBT27B	Ammonium	14798039	1.41E-05	No
Proposed Project	FBT27B	Antimony	7440360	0.00E+00	No
Proposed Project	FBT27B	Benzaldehyde	100527	4.13E-07	No
Proposed Project	FBT27B	Benzene	71432	1.48E-06	Yes
Proposed Project	FBT27B	Bromine	7726956	3.92E-08	No
Proposed Project	FBT27B	Butyraldehyde	123728	1.04E-07	No
Proposed Project	FBT27B	Calcium	7440702	0.00E+00	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FBT27B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FBT27B	Chromium	7440473	5.17E-08	No
Proposed Project	FBT27B	Cis2butene	590181	1.84E-07	No
Proposed Project	FBT27B	Cis2pentene	627203	2.42E-07	No
Proposed Project	FBT27B	Copper	7440508	4.26E-07	Yes
Proposed Project	FBT27B	Crotonaldehyde (or 2Butenal)	4170303	9.07E-07	No
Proposed Project	FBT27B	Cumene	98828	2.63E-09	No
Proposed Project	FBT27B	Decanal	112312	5.13E-06	No
Proposed Project	FBT27B	Dimethyl napthalene	28804888	7.90E-08	No
Proposed Project	FBT27B	Dodecenal	112549	2.56E-06	No
Proposed Project	FBT27B	Elemental Carbon	7440440	4.27E-05	No
Proposed Project	FBT27B	Ethane	74840	4.57E-07	No
Proposed Project	FBT27B	Ethylbenzene	100414	1.53E-07	Yes
Proposed Project	FBT27B	Ethylene	74851	1.36E-05	No
Proposed Project	FBT27B	Formaldehyde	50000	1.08E-05	Yes
Proposed Project	FBT27B	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FBT27B	Glyoxal	107222	1.59E-06	No
Proposed Project	FBT27B	Heptadecane	629787	7.90E-09	No
Proposed Project	FBT27B	Heptene	25339564	3.85E-07	No
Proposed Project	FBT27B	Hexadecane	544763	4.30E-08	No
Proposed Project	FBT27B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FBT27B	Indium	7440746	0.00E+00	No
Proposed Project	FBT27B	Insolchlorine	7782505	1.42E-07	Yes
Proposed Project	FBT27B	Iron	7439896	0.00E+00	No
Proposed Project	FBT27B	Isovaleraldehyde	590863	2.81E-08	No
Proposed Project	FBT27B	Magnesium	7439954	2.28E-07	No
Proposed Project	FBT27B	Manganese	7439965	3.62E-08	Yes
Proposed Project	FBT27B	Methane	74828	0.00E+00	No
Proposed Project	FBT27B	Methanol	67561	1.58E-06	Yes
Proposed Project	FBT27B	Methylglyoxal	78988	1.32E-06	No
Proposed Project	FBT27B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.44E-07	No
Proposed Project	FBT27B	Naphthalene	91203	4.75E-07	Yes
Proposed Project	FBT27B	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FBT27B	Ndecane	124185	2.81E-07	No
Proposed Project	FBT27B	Ndodecane	112403	4.06E-07	No
Proposed Project	FBT27B	Nheptane	142825	5.62E-08	No
Proposed Project	FBT27B	Nickel	7440020	7.26E-08	Yes
Proposed Project	FBT27B	Nnonane	111842	5.44E-08	No
Proposed Project	FBT27B	Noctane	111659	5.44E-08	No
Proposed Project	FBT27B	Npentane	109660	1.74E-07	No
Proposed Project	FBT27B	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FBT27B	Npropylbenzene	103651	4.65E-08	No
Proposed Project	FBT27B	Ntridecane	629505	4.70E-07	No
Proposed Project	FBT27B	Nundecane	1120214	3.90E-07	No
Proposed Project	FBT27B	oTolualdehyde	529204	2.02E-07	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FBT27B	Oxylene	95476	1.46E-07	Yes
Proposed Project	FBT27B	Pentadecane	629629	1.52E-07	No
Proposed Project	FBT27B	Phenol (carbolic acid)	108952	6.37E-07	Yes
Proposed Project	FBT27B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FBT27B	Potassium ion	7440097	1.77E-07	No
Proposed Project	FBT27B	Propane	74986	6.85E-08	No
Proposed Project	FBT27B	Propionaldehyde	123386	6.38E-07	No
Proposed Project	FBT27B	Propylene	115071	3.98E-06	Yes
Proposed Project	FBT27B	pTolualdehyde	104870	4.21E-08	No
Proposed Project	FBT27B	Silicon	7440213	7.90E-07	No
Proposed Project	FBT27B	Silver	7440224	1.33E-07	No
Proposed Project	FBT27B	Styrene	100425	2.71E-07	Yes
Proposed Project	FBT27B	Sulfate	9960	4.55E-05	Yes
Proposed Project	FBT27B	Sulfur	7704349	0.00E+00	No
Proposed Project	FBT27B	Tetradecane	629594	3.65E-07	No
Proposed Project	FBT27B	Thallium	7440280	0.00E+00	No
Proposed Project	FBT27B	Titanium	7440326	1.04E-08	No
Proposed Project	FBT27B	Toluene	108883	5.64E-07	Yes
Proposed Project	FBT27B	Trans2hexene	4050457	2.63E-08	No
Proposed Project	FBT27B	Trans2pentene	646048	3.15E-07	No
Proposed Project	FBT27B	Valeraldehyde	110623	2.15E-07	No
Proposed Project	FBT27B	Xylenes	1330207	2.48E-07	Yes
Proposed Project	FBT27B	Zinc	7440666	3.21E-08	No
Proposed Project	FCL01A	1,2,3trimethylbenzene	526738	3.05E-04	No
Proposed Project	FCL01A	1,2,4Trimethylbenzene	95636	1.01E-03	No
Proposed Project	FCL01A	1,3,5trimethylbenzene	108678	1.55E-04	No
Proposed Project	FCL01A	1,3butadiene	106990	4.96E-03	Yes
Proposed Project	FCL01A	1butene	106989	5.16E-03	No
Proposed Project	FCL01A	1decene	872059	5.42E-04	No
Proposed Project	FCL01A	1hexene	592416	2.17E-03	No
Proposed Project	FCL01A	1Methyl2Ethylbenzene	611143	1.87E-04	No
Proposed Project	FCL01A	1Methyl3Ethylbenzene	620144	4.43E-04	No
Proposed Project	FCL01A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.84E-04	No
Proposed Project	FCL01A	1Methylnaphthalene	90120	7.10E-04	No
Proposed Project	FCL01A	1nonene	124118	7.22E-04	No
Proposed Project	FCL01A	1octene	111660	8.11E-04	No
Proposed Project	FCL01A	1pentene	109671	2.28E-03	No
Proposed Project	FCL01A	2methyl1butene	563462	4.03E-04	No
Proposed Project	FCL01A	2methyl1pentene	763291	9.78E-05	No
Proposed Project	FCL01A	2methyl2butene	513359	5.44E-04	No
Proposed Project	FCL01A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.23E-03	No
Proposed Project	FCL01A	2methylnaphthalene	91576	5.92E-04	No
Proposed Project	FCL01A	2Methylpentane	107835	1.20E-03	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCL01A	3methyl1butene	563451	3.22E-04	No
Proposed Project	FCL01A	4methyl1pentene	691372	1.98E-04	No
Proposed Project	FCL01A	Acetaldehyde	75070	1.26E-02	Yes
Proposed Project	FCL01A	Acetone	67641	1.26E-03	No
Proposed Project	FCL01A	Acetylene	74862	1.16E-02	No
Proposed Project	FCL01A	Acrolein (2propenal)	107028	7.18E-03	Yes
Proposed Project	FCL01A	Ammonium	14798039	3.76E-03	No
Proposed Project	FCL01A	Antimony	7440360	0.00E+00	No
Proposed Project	FCL01A	Benzaldehyde	100527	1.39E-03	No
Proposed Project	FCL01A	Benzene	71432	4.96E-03	Yes
Proposed Project	FCL01A	Bromine	7726956	1.05E-05	No
Proposed Project	FCL01A	Butyraldehyde	123728	4.23E-04	No
Proposed Project	FCL01A	Calcium	7440702	0.00E+00	No
Proposed Project	FCL01A	Chloride ion	16887006	0.00E+00	No
Proposed Project	FCL01A	Chromium	7440473	1.38E-05	No
Proposed Project	FCL01A	Cis2butene	590181	6.34E-04	No
Proposed Project	FCL01A	Cis2pentene	627203	7.94E-04	No
Proposed Project	FCL01A	Copper	7440508	1.14E-04	Yes
Proposed Project	FCL01A	Crotonaldehyde (or 2Butenal)	4170303	2.97E-03	No
Proposed Project	FCL01A	Cumene	98828	8.63E-06	No
Proposed Project	FCL01A	Decanal	112312	1.68E-02	No
Proposed Project	FCL01A	Dimethyl napthalene	28804888	2.59E-04	No
Proposed Project	FCL01A	Dodecenal	112549	8.40E-03	No
Proposed Project	FCL01A	Elemental Carbon	7440440	1.14E-02	No
Proposed Project	FCL01A	Ethane	74840	1.56E-03	No
Proposed Project	FCL01A	Ethylbenzene	100414	5.11E-04	Yes
Proposed Project	FCL01A	Ethylene	74851	4.55E-02	No
Proposed Project	FCL01A	Formaldehyde	50000	3.64E-02	Yes
Proposed Project	FCL01A	Furfuryl alcohol	98000	1.22E-04	No
Proposed Project	FCL01A	Glyoxal	107222	5.39E-03	No
Proposed Project	FCL01A	Heptadecane	629787	2.66E-05	No
Proposed Project	FCL01A	Heptene	25339564	1.29E-03	No
Proposed Project	FCL01A	Hexadecane	544763	1.50E-04	No
Proposed Project	FCL01A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	1.35E-05	No
Proposed Project	FCL01A	Indium	7440746	0.00E+00	No
Proposed Project	FCL01A	Insolchlorine	7782505	3.78E-05	Yes
Proposed Project	FCL01A	Iron	7439896	0.00E+00	No
Proposed Project	FCL01A	Isovaleraldehyde	590863	9.20E-05	No
Proposed Project	FCL01A	Lead	7439921	3.25E-04	Yes
Proposed Project	FCL01A	Magnesium	7439954	6.07E-05	No
Proposed Project	FCL01A	Manganese	7439965	9.64E-06	Yes
Proposed Project	FCL01A	Methane	74828	7.40E-04	No
Proposed Project	FCL01A	Methanol	67561	5.19E-03	Yes
Proposed Project	FCL01A	Methylglyoxal	78988	4.32E-03	No
Proposed Project	FCL01A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	7.99E-04	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCL01A	Naphthalene	91203	1.59E-03	Yes
Proposed Project	FCL01A	N-butylbenzene	104518	1.49E-05	No
Proposed Project	FCL01A	Ndecane	124185	9.49E-04	No
Proposed Project	FCL01A	Ndodecane	112403	1.41E-03	No
Proposed Project	FCL01A	Nheptane	142825	1.88E-04	No
Proposed Project	FCL01A	Nickel	7440020	1.93E-05	Yes
Proposed Project	FCL01A	Nnonane	111842	1.88E-04	No
Proposed Project	FCL01A	Noctane	111659	1.81E-04	No
Proposed Project	FCL01A	Npentane	109660	5.82E-04	No
Proposed Project	FCL01A	Npentylbenzene	538681	1.15E-05	No
Proposed Project	FCL01A	Npropylbenzene	103651	1.52E-04	No
Proposed Project	FCL01A	Ntridecane	629505	1.58E-03	No
Proposed Project	FCL01A	Nundecane	1120214	1.31E-03	No
Proposed Project	FCL01A	oTolualdehyde	529204	6.61E-04	No
Proposed Project	FCL01A	Oxylene	95476	4.90E-04	Yes
Proposed Project	FCL01A	Pentadecane	629629	5.16E-04	No
Proposed Project	FCL01A	Phenol (carbolic acid)	108952	2.10E-03	Yes
Proposed Project	FCL01A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FCL01A	Potassium ion	7440097	4.71E-05	No
Proposed Project	FCL01A	Propane	74986	2.38E-04	No
Proposed Project	FCL01A	Propionaldehyde	123386	2.15E-03	No
Proposed Project	FCL01A	Propylene	115071	1.33E-02	Yes
Proposed Project	FCL01A	pTolualdehyde	104870	1.38E-04	No
Proposed Project	FCL01A	Silicon	7440213	2.10E-04	No
Proposed Project	FCL01A	Silver	7440224	3.55E-05	No
Proposed Project	FCL01A	Styrene	100425	9.14E-04	Yes
Proposed Project	FCL01A	Sulfate	9960	1.21E-02	Yes
Proposed Project	FCL01A	Sulfur	7704349	0.00E+00	No
Proposed Project	FCL01A	Tetradecane	629594	1.24E-03	No
Proposed Project	FCL01A	Thallium	7440280	0.00E+00	No
Proposed Project	FCL01A	Titanium	7440326	2.78E-06	No
Proposed Project	FCL01A	Toluene	108883	1.88E-03	Yes
Proposed Project	FCL01A	Trans2hexene	4050457	8.63E-05	No
Proposed Project	FCL01A	Trans2pentene	646048	1.03E-03	No
Proposed Project	FCL01A	Valeraldehyde	110623	7.05E-04	No
Proposed Project	FCL01A	Xylenes	1330207	8.29E-04	Yes
Proposed Project	FCL01A	Zinc	7440666	8.55E-06	No
Proposed Project	FCL01B	1,2,3trimethylbenzene	526738	1.04E-04	No
Proposed Project	FCL01B	1,2,4Trimethylbenzene	95636	3.42E-04	No
Proposed Project	FCL01B	1,3,5trimethylbenzene	108678	5.28E-05	No
Proposed Project	FCL01B	1,3butadiene	106990	1.71E-03	Yes
Proposed Project	FCL01B	1butene	106989	1.78E-03	No
Proposed Project	FCL01B	1decene	872059	1.87E-04	No
Proposed Project	FCL01B	1hexene	592416	7.48E-04	No
Proposed Project	FCL01B	1Methyl2Ethylbenzene	611143	6.36E-05	No
Proposed Project	FCL01B	1Methyl3Ethylbenzene	620144	1.51E-04	No
Proposed Project	FCL01B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	6.26E-05	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCL01B	1Methylnaphthalene	90120	2.42E-04	No
Proposed Project	FCL01B	1nonene	124118	2.49E-04	No
Proposed Project	FCL01B	1octene	111660	2.79E-04	No
Proposed Project	FCL01B	1pentene	109671	7.87E-04	No
Proposed Project	FCL01B	2methyl1butene	563462	1.37E-04	No
Proposed Project	FCL01B	2methyl1pentene	763291	3.33E-05	No
Proposed Project	FCL01B	2methyl2butene	513359	1.88E-04	No
Proposed Project	FCL01B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	4.20E-04	No
Proposed Project	FCL01B	2methylnaphthalene	91576	2.02E-04	No
Proposed Project	FCL01B	2Methylpentane	107835	4.12E-04	No
Proposed Project	FCL01B	3methyl1butene	563451	1.10E-04	No
Proposed Project	FCL01B	4methyl1pentene	691372	6.75E-05	No
Proposed Project	FCL01B	Acetaldehyde	75070	4.34E-03	Yes
Proposed Project	FCL01B	Acetone	67641	4.70E-04	No
Proposed Project	FCL01B	Acetylene	74862	3.99E-03	No
Proposed Project	FCL01B	Acrolein (2propenal)	107028	2.47E-03	Yes
Proposed Project	FCL01B	Ammonium	14798039	1.45E-03	No
Proposed Project	FCL01B	Antimony	7440360	0.00E+00	No
Proposed Project	FCL01B	Benzaldehyde	100527	4.80E-04	No
Proposed Project	FCL01B	Benzene	71432	1.71E-03	Yes
Proposed Project	FCL01B	Bromine	7726956	4.04E-06	No
Proposed Project	FCL01B	Butyraldehyde	123728	1.61E-04	No
Proposed Project	FCL01B	Calcium	7440702	0.00E+00	No
Proposed Project	FCL01B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FCL01B	Chromium	7440473	5.32E-06	No
Proposed Project	FCL01B	Cis2butene	590181	2.22E-04	No
Proposed Project	FCL01B	Cis2pentene	627203	2.70E-04	No
Proposed Project	FCL01B	Copper	7440508	4.39E-05	Yes
Proposed Project	FCL01B	Crotonaldehyde (or 2Butenal)	4170303	1.01E-03	No
Proposed Project	FCL01B	Cumene	98828	2.94E-06	No
Proposed Project	FCL01B	Decanal	112312	5.72E-03	No
Proposed Project	FCL01B	Dimethyl napthalene	28804888	8.81E-05	No
Proposed Project	FCL01B	Dodecenal	112549	2.86E-03	No
Proposed Project	FCL01B	Elemental Carbon	7440440	4.40E-03	No
Proposed Project	FCL01B	Ethane	74840	5.44E-04	No
Proposed Project	FCL01B	Ethylbenzene	100414	1.76E-04	Yes
Proposed Project	FCL01B	Ethylene	74851	1.57E-02	No
Proposed Project	FCL01B	Formaldehyde	50000	1.26E-02	Yes
Proposed Project	FCL01B	Furfuryl alcohol	98000	6.72E-05	No
Proposed Project	FCL01B	Glyoxal	107222	1.87E-03	No
Proposed Project	FCL01B	Heptadecane	629787	9.18E-06	No
Proposed Project	FCL01B	Heptene	25339564	4.48E-04	No
Proposed Project	FCL01B	Hexadecane	544763	5.31E-05	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCL01B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	7.43E-06	No
Proposed Project	FCL01B	Indium	7440746	0.00E+00	No
Proposed Project	FCL01B	Insolchlorine	7782505	1.46E-05	Yes
Proposed Project	FCL01B	Iron	7439896	0.00E+00	No
Proposed Project	FCL01B	Isovaleraldehyde	590863	3.13E-05	No
Proposed Project	FCL01B	Lead	7439921	1.82E-04	Yes
Proposed Project	FCL01B	Magnesium	7439954	2.35E-05	No
Proposed Project	FCL01B	Manganese	7439965	3.72E-06	Yes
Proposed Project	FCL01B	Methane	74828	4.07E-04	No
Proposed Project	FCL01B	Methanol	67561	1.77E-03	Yes
Proposed Project	FCL01B	Methylglyoxal	78988	1.47E-03	No
Proposed Project	FCL01B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.72E-04	No
Proposed Project	FCL01B	Naphthalene	91203	5.48E-04	Yes
Proposed Project	FCL01B	N-butylbenzene	104518	8.17E-06	No
Proposed Project	FCL01B	Ndecane	124185	3.29E-04	No
Proposed Project	FCL01B	Ndodecane	112403	4.97E-04	No
Proposed Project	FCL01B	Nheptane	142825	6.49E-05	No
Proposed Project	FCL01B	Nickel	7440020	7.47E-06	Yes
Proposed Project	FCL01B	Nnonane	111842	6.62E-05	No
Proposed Project	FCL01B	Noctane	111659	6.22E-05	No
Proposed Project	FCL01B	Npentane	109660	2.01E-04	No
Proposed Project	FCL01B	Npentylbenzene	538681	6.32E-06	No
Proposed Project	FCL01B	Npropylbenzene	103651	5.19E-05	No
Proposed Project	FCL01B	Ntridecane	629505	5.48E-04	No
Proposed Project	FCL01B	Nundecane	1120214	4.54E-04	No
Proposed Project	FCL01B	oTolualdehyde	529204	2.25E-04	No
Proposed Project	FCL01B	Oxylene	95476	1.69E-04	Yes
Proposed Project	FCL01B	Pentadecane	629629	1.79E-04	No
Proposed Project	FCL01B	Phenol (carbolic acid)	108952	7.19E-04	Yes
Proposed Project	FCL01B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FCL01B	Potassium ion	7440097	1.82E-05	No
Proposed Project	FCL01B	Propane	74986	8.38E-05	No
Proposed Project	FCL01B	Propionaldehyde	123386	7.45E-04	No
Proposed Project	FCL01B	Propylene	115071	4.61E-03	Yes
Proposed Project	FCL01B	pTolualdehyde	104870	4.70E-05	No
Proposed Project	FCL01B	Silicon	7440213	8.13E-05	No
Proposed Project	FCL01B	Silver	7440224	1.37E-05	No
Proposed Project	FCL01B	Styrene	100425	3.16E-04	Yes
Proposed Project	FCL01B	Sulfate	9960	4.68E-03	Yes
Proposed Project	FCL01B	Sulfur	7704349	0.00E+00	No
Proposed Project	FCL01B	Tetradecane	629594	4.29E-04	No
Proposed Project	FCL01B	Thallium	7440280	0.00E+00	No
Proposed Project	FCL01B	Titanium	7440326	1.07E-06	No
Proposed Project	FCL01B	Toluene	108883	6.46E-04	Yes
Proposed Project	FCL01B	Trans2hexene	4050457	2.94E-05	No
Proposed Project	FCL01B	Trans2pentene	646048	3.51E-04	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCL01B	Valeraldehyde	110623	2.40E-04	No
Proposed Project	FCL01B	Xylenes	1330207	2.86E-04	Yes
Proposed Project	FCL01B	Zinc	7440666	3.30E-06	No
Proposed Project	FCL03A	1,2,3trimethylbenzene	526738	2.38E-05	No
Proposed Project	FCL03A	1,2,4Trimethylbenzene	95636	7.86E-05	No
Proposed Project	FCL03A	1,3,5trimethylbenzene	108678	1.21E-05	No
Proposed Project	FCL03A	1,3butadiene	106990	3.87E-04	Yes
Proposed Project	FCL03A	1butene	106989	4.04E-04	No
Proposed Project	FCL03A	1decene	872059	4.24E-05	No
Proposed Project	FCL03A	1hexene	592416	1.69E-04	No
Proposed Project	FCL03A	1Methyl2Ethylbenzene	611143	1.46E-05	No
Proposed Project	FCL03A	1Methyl3Ethylbenzene	620144	3.46E-05	No
Proposed Project	FCL03A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.44E-05	No
Proposed Project	FCL03A	1Methylnaphthalene	90120	5.55E-05	No
Proposed Project	FCL03A	1nonene	124118	5.64E-05	No
Proposed Project	FCL03A	1octene	111660	6.33E-05	No
Proposed Project	FCL03A	1pentene	109671	1.78E-04	No
Proposed Project	FCL03A	2methyl1butene	563462	3.15E-05	No
Proposed Project	FCL03A	2methyl1pentene	763291	7.64E-06	No
Proposed Project	FCL03A	2methyl2butene	513359	4.25E-05	No
Proposed Project	FCL03A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	9.64E-05	No
Proposed Project	FCL03A	2methylnaphthalene	91576	4.63E-05	No
Proposed Project	FCL03A	2Methylpentane	107835	9.35E-05	No
Proposed Project	FCL03A	3methyl1butene	563451	2.52E-05	No
Proposed Project	FCL03A	4methyl1pentene	691372	1.55E-05	No
Proposed Project	FCL03A	Acetaldehyde	75070	9.83E-04	Yes
Proposed Project	FCL03A	Acetone	67641	9.84E-05	No
Proposed Project	FCL03A	Acetylene	74862	9.05E-04	No
Proposed Project	FCL03A	Acrolein (2propenal)	107028	5.61E-04	Yes
Proposed Project	FCL03A	Ammonium	14798039	2.94E-04	No
Proposed Project	FCL03A	Antimony	7440360	0.00E+00	No
Proposed Project	FCL03A	Benzaldehyde	100527	1.08E-04	No
Proposed Project	FCL03A	Benzene	71432	3.87E-04	Yes
Proposed Project	FCL03A	Bromine	7726956	8.17E-07	No
Proposed Project	FCL03A	Butyraldehyde	123728	3.30E-05	No
Proposed Project	FCL03A	Calcium	7440702	0.00E+00	No
Proposed Project	FCL03A	Chloride ion	16887006	0.00E+00	No
Proposed Project	FCL03A	Chromium	7440473	1.08E-06	No
Proposed Project	FCL03A	Cis2butene	590181	4.96E-05	No
Proposed Project	FCL03A	Cis2pentene	627203	6.20E-05	No
Proposed Project	FCL03A	Copper	7440508	8.87E-06	Yes
Proposed Project	FCL03A	Crotonaldehyde (or 2Butenal)	4170303	2.32E-04	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCL03A	Cumene	98828	6.74E-07	No
Proposed Project	FCL03A	Decanal	112312	1.31E-03	No
Proposed Project	FCL03A	Dimethyl napthalene	28804888	2.02E-05	No
Proposed Project	FCL03A	Dodecenal	112549	6.56E-04	No
Proposed Project	FCL03A	Elemental Carbon	7440440	8.89E-04	No
Proposed Project	FCL03A	Ethane	74840	1.22E-04	No
Proposed Project	FCL03A	Ethylbenzene	100414	3.99E-05	Yes
Proposed Project	FCL03A	Ethylene	74851	3.56E-03	No
Proposed Project	FCL03A	Formaldehyde	50000	2.84E-03	Yes
Proposed Project	FCL03A	Furfuryl alcohol	98000	9.56E-06	No
Proposed Project	FCL03A	Glyoxal	107222	4.21E-04	No
Proposed Project	FCL03A	Heptadecane	629787	2.07E-06	No
Proposed Project	FCL03A	Heptene	25339564	1.01E-04	No
Proposed Project	FCL03A	Hexadecane	544763	1.17E-05	No
Proposed Project	FCL03A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	1.06E-06	No
Proposed Project	FCL03A	Indium	7440746	0.00E+00	No
Proposed Project	FCL03A	Insolchlorine	7782505	2.96E-06	Yes
Proposed Project	FCL03A	Iron	7439896	0.00E+00	No
Proposed Project	FCL03A	Isovaleraldehyde	590863	7.19E-06	No
Proposed Project	FCL03A	Lead	7439921	2.54E-05	Yes
Proposed Project	FCL03A	Magnesium	7439954	4.74E-06	No
Proposed Project	FCL03A	Manganese	7439965	7.53E-07	Yes
Proposed Project	FCL03A	Methane	74828	5.78E-05	No
Proposed Project	FCL03A	Methanol	67561	4.06E-04	Yes
Proposed Project	FCL03A	Methylglyoxal	78988	3.38E-04	No
Proposed Project	FCL03A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	6.25E-05	No
Proposed Project	FCL03A	Naphthalene	91203	1.24E-04	Yes
Proposed Project	FCL03A	N-butylbenzene	104518	1.16E-06	No
Proposed Project	FCL03A	Ndecane	124185	7.41E-05	No
Proposed Project	FCL03A	Ndodecane	112403	1.10E-04	No
Proposed Project	FCL03A	Nheptane	142825	1.47E-05	No
Proposed Project	FCL03A	Nickel	7440020	1.51E-06	Yes
Proposed Project	FCL03A	Nnonane	111842	1.47E-05	No
Proposed Project	FCL03A	Noctane	111659	1.41E-05	No
Proposed Project	FCL03A	Npentane	109660	4.55E-05	No
Proposed Project	FCL03A	Npentylbenzene	538681	8.98E-07	No
Proposed Project	FCL03A	Npropylbenzene	103651	1.19E-05	No
Proposed Project	FCL03A	Ntridecane	629505	1.24E-04	No
Proposed Project	FCL03A	Nundecane	1120214	1.03E-04	No
Proposed Project	FCL03A	oTolualdehyde	529204	5.17E-05	No
Proposed Project	FCL03A	Oxylene	95476	3.82E-05	Yes
Proposed Project	FCL03A	Pentadecane	629629	4.03E-05	No
Proposed Project	FCL03A	Phenol (carbolic acid)	108952	1.64E-04	Yes
Proposed Project	FCL03A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FCL03A	Potassium ion	7440097	3.68E-06	No
Proposed Project	FCL03A	Propane	74986	1.86E-05	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCL03A	Propionaldehyde	123386	1.68E-04	No
Proposed Project	FCL03A	Propylene	115071	1.04E-03	Yes
Proposed Project	FCL03A	pTolualdehyde	104870	1.08E-05	No
Proposed Project	FCL03A	Silicon	7440213	1.64E-05	No
Proposed Project	FCL03A	Silver	7440224	2.77E-06	No
Proposed Project	FCL03A	Styrene	100425	7.14E-05	Yes
Proposed Project	FCL03A	Sulfate	9960	9.46E-04	Yes
Proposed Project	FCL03A	Sulfur	7704349	0.00E+00	No
Proposed Project	FCL03A	Tetradecane	629594	9.66E-05	No
Proposed Project	FCL03A	Thallium	7440280	0.00E+00	No
Proposed Project	FCL03A	Titanium	7440326	2.17E-07	No
Proposed Project	FCL03A	Toluene	108883	1.47E-04	Yes
Proposed Project	FCL03A	Trans2hexene	4050457	6.74E-06	No
Proposed Project	FCL03A	Trans2pentene	646048	8.07E-05	No
Proposed Project	FCL03A	Valeraldehyde	110623	5.50E-05	No
Proposed Project	FCL03A	Xylenes	1330207	6.47E-05	Yes
Proposed Project	FCL03A	Zinc	7440666	6.68E-07	No
Proposed Project	FCL03B	1,2,3trimethylbenzene	526738	8.10E-06	No
Proposed Project	FCL03B	1,2,4Trimethylbenzene	95636	2.68E-05	No
Proposed Project	FCL03B	1,3,5trimethylbenzene	108678	4.13E-06	No
Proposed Project	FCL03B	1,3butadiene	106990	1.34E-04	Yes
Proposed Project	FCL03B	1butene	106989	1.39E-04	No
Proposed Project	FCL03B	1decene	872059	1.46E-05	No
Proposed Project	FCL03B	1hexene	592416	5.85E-05	No
Proposed Project	FCL03B	1Methyl2Ethylbenzene	611143	4.97E-06	No
Proposed Project	FCL03B	1Methyl3Ethylbenzene	620144	1.18E-05	No
Proposed Project	FCL03B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	4.89E-06	No
Proposed Project	FCL03B	1Methylnaphthalene	90120	1.89E-05	No
Proposed Project	FCL03B	1nonene	124118	1.94E-05	No
Proposed Project	FCL03B	1octene	111660	2.18E-05	No
Proposed Project	FCL03B	1pentene	109671	6.15E-05	No
Proposed Project	FCL03B	2methyl1butene	563462	1.07E-05	No
Proposed Project	FCL03B	2methyl1pentene	763291	2.60E-06	No
Proposed Project	FCL03B	2methyl2butene	513359	1.47E-05	No
Proposed Project	FCL03B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	3.28E-05	No
Proposed Project	FCL03B	2methylnaphthalene	91576	1.57E-05	No
Proposed Project	FCL03B	2Methylpentane	107835	3.22E-05	No
Proposed Project	FCL03B	3methyl1butene	563451	8.56E-06	No
Proposed Project	FCL03B	4methyl1pentene	691372	5.28E-06	No
Proposed Project	FCL03B	Acetaldehyde	75070	3.39E-04	Yes
Proposed Project	FCL03B	Acetone	67641	3.67E-05	No
Proposed Project	FCL03B	Acetylene	74862	3.12E-04	No
Proposed Project	FCL03B	Acrolein (2propenal)	107028	1.93E-04	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCL03B	Ammonium	14798039	1.14E-04	No
Proposed Project	FCL03B	Antimony	7440360	0.00E+00	No
Proposed Project	FCL03B	Benzaldehyde	100527	3.75E-05	No
Proposed Project	FCL03B	Benzene	71432	1.34E-04	Yes
Proposed Project	FCL03B	Bromine	7726956	3.16E-07	No
Proposed Project	FCL03B	Butyraldehyde	123728	1.26E-05	No
Proposed Project	FCL03B	Calcium	7440702	0.00E+00	No
Proposed Project	FCL03B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FCL03B	Chromium	7440473	4.16E-07	No
Proposed Project	FCL03B	Cis2butene	590181	1.74E-05	No
Proposed Project	FCL03B	Cis2pentene	627203	2.11E-05	No
Proposed Project	FCL03B	Copper	7440508	3.43E-06	Yes
Proposed Project	FCL03B	Crotonaldehyde (or 2Butenal)	4170303	7.90E-05	No
Proposed Project	FCL03B	Cumene	98828	2.29E-07	No
Proposed Project	FCL03B	Decanal	112312	4.47E-04	No
Proposed Project	FCL03B	Dimethyl napthalene	28804888	6.88E-06	No
Proposed Project	FCL03B	Dodecenal	112549	2.23E-04	No
Proposed Project	FCL03B	Elemental Carbon	7440440	3.43E-04	No
Proposed Project	FCL03B	Ethane	74840	4.25E-05	No
Proposed Project	FCL03B	Ethylbenzene	100414	1.37E-05	Yes
Proposed Project	FCL03B	Ethylene	74851	1.23E-03	No
Proposed Project	FCL03B	Formaldehyde	50000	9.82E-04	Yes
Proposed Project	FCL03B	Furfuryl alcohol	98000	5.25E-06	No
Proposed Project	FCL03B	Glyoxal	107222	1.46E-04	No
Proposed Project	FCL03B	Heptadecane	629787	7.17E-07	No
Proposed Project	FCL03B	Heptene	25339564	3.50E-05	No
Proposed Project	FCL03B	Hexadecane	544763	4.15E-06	No
Proposed Project	FCL03B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	5.80E-07	No
Proposed Project	FCL03B	Indium	7440746	0.00E+00	No
Proposed Project	FCL03B	Insolchlorine	7782505	1.14E-06	Yes
Proposed Project	FCL03B	Iron	7439896	0.00E+00	No
Proposed Project	FCL03B	Isovaleraldehyde	590863	2.45E-06	No
Proposed Project	FCL03B	Lead	7439921	1.42E-05	Yes
Proposed Project	FCL03B	Magnesium	7439954	1.83E-06	No
Proposed Project	FCL03B	Manganese	7439965	2.91E-07	Yes
Proposed Project	FCL03B	Methane	74828	3.18E-05	No
Proposed Project	FCL03B	Methanol	67561	1.38E-04	Yes
Proposed Project	FCL03B	Methylglyoxal	78988	1.15E-04	No
Proposed Project	FCL03B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.13E-05	No
Proposed Project	FCL03B	Naphthalene	91203	4.28E-05	Yes
Proposed Project	FCL03B	N-butylbenzene	104518	6.39E-07	No
Proposed Project	FCL03B	Ndecane	124185	2.57E-05	No
Proposed Project	FCL03B	Ndodecane	112403	3.88E-05	No
Proposed Project	FCL03B	Nheptane	142825	5.07E-06	No
Proposed Project	FCL03B	Nickel	7440020	5.84E-07	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCL03B	Nnonane	111842	5.18E-06	No
Proposed Project	FCL03B	Noctane	111659	4.86E-06	No
Proposed Project	FCL03B	Npentane	109660	1.57E-05	No
Proposed Project	FCL03B	Npentylbenzene	538681	4.93E-07	No
Proposed Project	FCL03B	Npropylbenzene	103651	4.05E-06	No
Proposed Project	FCL03B	Ntridecane	629505	4.28E-05	No
Proposed Project	FCL03B	Nundecane	1120214	3.55E-05	No
Proposed Project	FCL03B	oTolualdehyde	529204	1.76E-05	No
Proposed Project	FCL03B	Oxylene	95476	1.32E-05	Yes
Proposed Project	FCL03B	Pentadecane	629629	1.40E-05	No
Proposed Project	FCL03B	Phenol (carbolic acid)	108952	5.61E-05	Yes
Proposed Project	FCL03B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FCL03B	Potassium ion	7440097	1.42E-06	No
Proposed Project	FCL03B	Propane	74986	6.54E-06	No
Proposed Project	FCL03B	Propionaldehyde	123386	5.82E-05	No
Proposed Project	FCL03B	Propylene	115071	3.60E-04	Yes
Proposed Project	FCL03B	pTolualdehyde	104870	3.67E-06	No
Proposed Project	FCL03B	Silicon	7440213	6.36E-06	No
Proposed Project	FCL03B	Silver	7440224	1.07E-06	No
Proposed Project	FCL03B	Styrene	100425	2.47E-05	Yes
Proposed Project	FCL03B	Sulfate	9960	3.66E-04	Yes
Proposed Project	FCL03B	Sulfur	7704349	0.00E+00	No
Proposed Project	FCL03B	Tetradecane	629594	3.35E-05	No
Proposed Project	FCL03B	Thallium	7440280	0.00E+00	No
Proposed Project	FCL03B	Titanium	7440326	8.38E-08	No
Proposed Project	FCL03B	Toluene	108883	5.05E-05	Yes
Proposed Project	FCL03B	Trans2hexene	4050457	2.29E-06	No
Proposed Project	FCL03B	Trans2pentene	646048	2.74E-05	No
Proposed Project	FCL03B	Valeraldehyde	110623	1.87E-05	No
Proposed Project	FCL03B	Xylenes	1330207	2.23E-05	Yes
Proposed Project	FCL03B	Zinc	7440666	2.58E-07	No
Proposed Project	FCL06A	1,2,3trimethylbenzene	526738	2.46E-06	No
Proposed Project	FCL06A	1,2,4Trimethylbenzene	95636	8.13E-06	No
Proposed Project	FCL06A	1,3,5trimethylbenzene	108678	1.25E-06	No
Proposed Project	FCL06A	1,3butadiene	106990	4.01E-05	Yes
Proposed Project	FCL06A	1butene	106989	4.17E-05	No
Proposed Project	FCL06A	1decene	872059	4.38E-06	No
Proposed Project	FCL06A	1hexene	592416	1.75E-05	No
Proposed Project	FCL06A	1Methyl2Ethylbenzene	611143	1.51E-06	No
Proposed Project	FCL06A	1Methyl3Ethylbenzene	620144	3.58E-06	No
Proposed Project	FCL06A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.49E-06	No
Proposed Project	FCL06A	1Methylnaphthalene	90120	5.74E-06	No
Proposed Project	FCL06A	1nonene	124118	5.84E-06	No
Proposed Project	FCL06A	1octene	111660	6.55E-06	No
Proposed Project	FCL06A	1pentene	109671	1.84E-05	No
Proposed Project	FCL06A	2methyl1butene	563462	3.25E-06	No
Proposed Project	FCL06A	2methyl1pentene	763291	7.90E-07	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCL06A	2methyl2butene	513359	4.40E-06	No
Proposed Project	FCL06A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	9.97E-06	No
Proposed Project	FCL06A	2methylnaphthalene	91576	4.79E-06	No
Proposed Project	FCL06A	2Methylpentane	107835	9.67E-06	No
Proposed Project	FCL06A	3methyl1butene	563451	2.60E-06	No
Proposed Project	FCL06A	4methyl1pentene	691372	1.60E-06	No
Proposed Project	FCL06A	Acetaldehyde	75070	1.02E-04	Yes
Proposed Project	FCL06A	Acetone	67641	1.02E-05	No
Proposed Project	FCL06A	Acetylene	74862	9.35E-05	No
Proposed Project	FCL06A	Acrolein (2propenal)	107028	5.80E-05	Yes
Proposed Project	FCL06A	Ammonium	14798039	3.04E-05	No
Proposed Project	FCL06A	Antimony	7440360	0.00E+00	No
Proposed Project	FCL06A	Benzaldehyde	100527	1.12E-05	No
Proposed Project	FCL06A	Benzene	71432	4.00E-05	Yes
Proposed Project	FCL06A	Bromine	7726956	8.44E-08	No
Proposed Project	FCL06A	Butyraldehyde	123728	3.41E-06	No
Proposed Project	FCL06A	Calcium	7440702	0.00E+00	No
Proposed Project	FCL06A	Chloride ion	16887006	0.00E+00	No
Proposed Project	FCL06A	Chromium	7440473	1.11E-07	No
Proposed Project	FCL06A	Cis2butene	590181	5.13E-06	No
Proposed Project	FCL06A	Cis2pentene	627203	6.41E-06	No
Proposed Project	FCL06A	Copper	7440508	9.17E-07	Yes
Proposed Project	FCL06A	Crotonaldehyde (or 2Butenal)	4170303	2.40E-05	No
Proposed Project	FCL06A	Cumene	98828	6.97E-08	No
Proposed Project	FCL06A	Decanal	112312	1.36E-04	No
Proposed Project	FCL06A	Dimethyl napthalene	28804888	2.09E-06	No
Proposed Project	FCL06A	Dodecenal	112549	6.79E-05	No
Proposed Project	FCL06A	Elemental Carbon	7440440	9.19E-05	No
Proposed Project	FCL06A	Ethane	74840	1.26E-05	No
Proposed Project	FCL06A	Ethylbenzene	100414	4.12E-06	Yes
Proposed Project	FCL06A	Ethylene	74851	3.68E-04	No
Proposed Project	FCL06A	Formaldehyde	50000	2.94E-04	Yes
Proposed Project	FCL06A	Furfuryl alcohol	98000	9.88E-07	No
Proposed Project	FCL06A	Glyoxal	107222	4.36E-05	No
Proposed Project	FCL06A	Heptadecane	629787	2.15E-07	No
Proposed Project	FCL06A	Heptene	25339564	1.05E-05	No
Proposed Project	FCL06A	Hexadecane	544763	1.21E-06	No
Proposed Project	FCL06A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	1.09E-07	No
Proposed Project	FCL06A	Indium	7440746	0.00E+00	No
Proposed Project	FCL06A	Insolchlorine	7782505	3.06E-07	Yes
Proposed Project	FCL06A	Iron	7439896	0.00E+00	No
Proposed Project	FCL06A	Isovaleraldehyde	590863	7.44E-07	No
Proposed Project	FCL06A	Lead	7439921	2.62E-06	Yes

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCL06A	Magnesium	7439954	4.90E-07	No
Proposed Project	FCL06A	Manganese	7439965	7.79E-08	Yes
Proposed Project	FCL06A	Methane	74828	5.98E-06	No
Proposed Project	FCL06A	Methanol	67561	4.19E-05	Yes
Proposed Project	FCL06A	Methylglyoxal	78988	3.49E-05	No
Proposed Project	FCL06A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	6.46E-06	No
Proposed Project	FCL06A	Naphthalene	91203	1.28E-05	Yes
Proposed Project	FCL06A	N-butylbenzene	104518	1.20E-07	No
Proposed Project	FCL06A	Ndecane	124185	7.66E-06	No
Proposed Project	FCL06A	Ndodecane	112403	1.14E-05	No
Proposed Project	FCL06A	Nheptane	142825	1.52E-06	No
Proposed Project	FCL06A	Nickel	7440020	1.56E-07	Yes
Proposed Project	FCL06A	Nnonane	111842	1.52E-06	No
Proposed Project	FCL06A	Noctane	111659	1.46E-06	No
Proposed Project	FCL06A	Npentane	109660	4.70E-06	No
Proposed Project	FCL06A	Npentylbenzene	538681	9.28E-08	No
Proposed Project	FCL06A	Npropylbenzene	103651	1.23E-06	No
Proposed Project	FCL06A	Ntridecane	629505	1.28E-05	No
Proposed Project	FCL06A	Nundecane	1120214	1.06E-05	No
Proposed Project	FCL06A	oTolualdehyde	529204	5.34E-06	No
Proposed Project	FCL06A	Oxylene	95476	3.96E-06	Yes
Proposed Project	FCL06A	Pentadecane	629629	4.17E-06	No
Proposed Project	FCL06A	Phenol (carbolic acid)	108952	1.70E-05	Yes
Proposed Project	FCL06A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FCL06A	Potassium ion	7440097	3.80E-07	No
Proposed Project	FCL06A	Propane	74986	1.92E-06	No
Proposed Project	FCL06A	Propionaldehyde	123386	1.74E-05	No
Proposed Project	FCL06A	Propylene	115071	1.08E-04	Yes
Proposed Project	FCL06A	pTolualdehyde	104870	1.12E-06	No
Proposed Project	FCL06A	Silicon	7440213	1.70E-06	No
Proposed Project	FCL06A	Silver	7440224	2.87E-07	No
Proposed Project	FCL06A	Styrene	100425	7.38E-06	Yes
Proposed Project	FCL06A	Sulfate	9960	9.78E-05	Yes
Proposed Project	FCL06A	Sulfur	7704349	0.00E+00	No
Proposed Project	FCL06A	Tetradecane	629594	9.99E-06	No
Proposed Project	FCL06A	Thallium	7440280	0.00E+00	No
Proposed Project	FCL06A	Titanium	7440326	2.24E-08	No
Proposed Project	FCL06A	Toluene	108883	1.52E-05	Yes
Proposed Project	FCL06A	Trans2hexene	4050457	6.97E-07	No
Proposed Project	FCL06A	Trans2pentene	646048	8.34E-06	No
Proposed Project	FCL06A	Valeraldehyde	110623	5.69E-06	No
Proposed Project	FCL06A	Xylenes	1330207	6.69E-06	Yes
Proposed Project	FCL06A	Zinc	7440666	6.91E-08	No
Proposed Project	FCL06B	1,2,3trimethylbenzene	526738	8.38E-07	No
Proposed Project	FCL06B	1,2,4Trimethylbenzene	95636	2.77E-06	No
Proposed Project	FCL06B	1,3,5trimethylbenzene	108678	4.27E-07	No
Proposed Project	FCL06B	1,3butadiene	106990	1.38E-05	Yes

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCL06B	1butene	106989	1.44E-05	No
Proposed Project	FCL06B	1decene	872059	1.51E-06	No
Proposed Project	FCL06B	1hexene	592416	6.05E-06	No
Proposed Project	FCL06B	1Methyl2Ethylbenzene	611143	5.14E-07	No
Proposed Project	FCL06B	1Methyl3Ethylbenzene	620144	1.22E-06	No
Proposed Project	FCL06B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	5.06E-07	No
Proposed Project	FCL06B	1Methylnaphthalene	90120	1.95E-06	No
Proposed Project	FCL06B	1nonene	124118	2.01E-06	No
Proposed Project	FCL06B	1octene	111660	2.26E-06	No
Proposed Project	FCL06B	1pentene	109671	6.36E-06	No
Proposed Project	FCL06B	2methyl1butene	563462	1.11E-06	No
Proposed Project	FCL06B	2methyl1pentene	763291	2.69E-07	No
Proposed Project	FCL06B	2methyl2butene	513359	1.52E-06	No
Proposed Project	FCL06B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	3.39E-06	No
Proposed Project	FCL06B	2methylnaphthalene	91576	1.63E-06	No
Proposed Project	FCL06B	2Methylpentane	107835	3.33E-06	No
Proposed Project	FCL06B	3methyl1butene	563451	8.85E-07	No
Proposed Project	FCL06B	4methyl1pentene	691372	5.46E-07	No
Proposed Project	FCL06B	Acetaldehyde	75070	3.51E-05	Yes
Proposed Project	FCL06B	Acetone	67641	3.80E-06	No
Proposed Project	FCL06B	Acetylene	74862	3.22E-05	No
Proposed Project	FCL06B	Acrolein (2propenal)	107028	2.00E-05	Yes
Proposed Project	FCL06B	Ammonium	14798039	1.17E-05	No
Proposed Project	FCL06B	Antimony	7440360	0.00E+00	No
Proposed Project	FCL06B	Benzaldehyde	100527	3.87E-06	No
Proposed Project	FCL06B	Benzene	71432	1.38E-05	Yes
Proposed Project	FCL06B	Bromine	7726956	3.26E-08	No
Proposed Project	FCL06B	Butyraldehyde	123728	1.30E-06	No
Proposed Project	FCL06B	Calcium	7440702	0.00E+00	No
Proposed Project	FCL06B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FCL06B	Chromium	7440473	4.30E-08	No
Proposed Project	FCL06B	Cis2butene	590181	1.80E-06	No
Proposed Project	FCL06B	Cis2pentene	627203	2.18E-06	No
Proposed Project	FCL06B	Copper	7440508	3.55E-07	Yes
Proposed Project	FCL06B	Crotonaldehyde (or 2Butenal)	4170303	8.17E-06	No
Proposed Project	FCL06B	Cumene	98828	2.37E-08	No
Proposed Project	FCL06B	Decanal	112312	4.62E-05	No
Proposed Project	FCL06B	Dimethyl napthalene	28804888	7.12E-07	No
Proposed Project	FCL06B	Dodecenal	112549	2.31E-05	No
Proposed Project	FCL06B	Elemental Carbon	7440440	3.55E-05	No
Proposed Project	FCL06B	Ethane	74840	4.40E-06	No
Proposed Project	FCL06B	Ethylbenzene	100414	1.42E-06	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCL06B	Ethylene	74851	1.27E-04	No
Proposed Project	FCL06B	Formaldehyde	50000	1.02E-04	Yes
Proposed Project	FCL06B	Furfuryl alcohol	98000	5.43E-07	No
Proposed Project	FCL06B	Glyoxal	107222	1.51E-05	No
Proposed Project	FCL06B	Heptadecane	629787	7.42E-08	No
Proposed Project	FCL06B	Heptene	25339564	3.62E-06	No
Proposed Project	FCL06B	Hexadecane	544763	4.29E-07	No
Proposed Project	FCL06B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	6.00E-08	No
Proposed Project	FCL06B	Indium	7440746	0.00E+00	No
Proposed Project	FCL06B	Insolchlorine	7782505	1.18E-07	Yes
Proposed Project	FCL06B	Iron	7439896	0.00E+00	No
Proposed Project	FCL06B	Isovaleraldehyde	590863	2.53E-07	No
Proposed Project	FCL06B	Lead	7439921	1.47E-06	Yes
Proposed Project	FCL06B	Magnesium	7439954	1.90E-07	No
Proposed Project	FCL06B	Manganese	7439965	3.01E-08	Yes
Proposed Project	FCL06B	Methane	74828	3.29E-06	No
Proposed Project	FCL06B	Methanol	67561	1.43E-05	Yes
Proposed Project	FCL06B	Methylglyoxal	78988	1.19E-05	No
Proposed Project	FCL06B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.20E-06	No
Proposed Project	FCL06B	Naphthalene	91203	4.43E-06	Yes
Proposed Project	FCL06B	N-butylbenzene	104518	6.60E-08	No
Proposed Project	FCL06B	Ndecane	124185	2.66E-06	No
Proposed Project	FCL06B	Ndodecane	112403	4.02E-06	No
Proposed Project	FCL06B	Nheptane	142825	5.24E-07	No
Proposed Project	FCL06B	Nickel	7440020	6.03E-08	Yes
Proposed Project	FCL06B	Nnonane	111842	5.35E-07	No
Proposed Project	FCL06B	Noctane	111659	5.02E-07	No
Proposed Project	FCL06B	Npentane	109660	1.62E-06	No
Proposed Project	FCL06B	Npentylbenzene	538681	5.10E-08	No
Proposed Project	FCL06B	Npropylbenzene	103651	4.19E-07	No
Proposed Project	FCL06B	Ntridecane	629505	4.43E-06	No
Proposed Project	FCL06B	Nundecane	1120214	3.67E-06	No
Proposed Project	FCL06B	oTolualdehyde	529204	1.82E-06	No
Proposed Project	FCL06B	Oxylene	95476	1.37E-06	Yes
Proposed Project	FCL06B	Pentadecane	629629	1.45E-06	No
Proposed Project	FCL06B	Phenol (carbolic acid)	108952	5.81E-06	Yes
Proposed Project	FCL06B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FCL06B	Potassium ion	7440097	1.47E-07	No
Proposed Project	FCL06B	Propane	74986	6.77E-07	No
Proposed Project	FCL06B	Propionaldehyde	123386	6.02E-06	No
Proposed Project	FCL06B	Propylene	115071	3.72E-05	Yes
Proposed Project	FCL06B	pTolualdehyde	104870	3.79E-07	No
Proposed Project	FCL06B	Silicon	7440213	6.57E-07	No
Proposed Project	FCL06B	Silver	7440224	1.11E-07	No
Proposed Project	FCL06B	Styrene	100425	2.55E-06	Yes
Proposed Project	FCL06B	Sulfate	9960	3.78E-05	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCL06B	Sulfur	7704349	0.00E+00	No
Proposed Project	FCL06B	Tetradecane	629594	3.47E-06	No
Proposed Project	FCL06B	Thallium	7440280	0.00E+00	No
Proposed Project	FCL06B	Titanium	7440326	8.67E-09	No
Proposed Project	FCL06B	Toluene	108883	5.22E-06	Yes
Proposed Project	FCL06B	Trans2hexene	4050457	2.37E-07	No
Proposed Project	FCL06B	Trans2pentene	646048	2.84E-06	No
Proposed Project	FCL06B	Valeraldehyde	110623	1.94E-06	No
Proposed Project	FCL06B	Xylenes	1330207	2.31E-06	Yes
Proposed Project	FCL06B	Zinc	7440666	2.67E-08	No
Proposed Project	FCL10A	1,2,3trimethylbenzene	526738	3.26E-05	No
Proposed Project	FCL10A	1,2,4Trimethylbenzene	95636	1.07E-04	No
Proposed Project	FCL10A	1,3,5trimethylbenzene	108678	1.66E-05	No
Proposed Project	FCL10A	1,3butadiene	106990	5.29E-04	Yes
Proposed Project	FCL10A	1butene	106989	5.52E-04	No
Proposed Project	FCL10A	1decene	872059	5.79E-05	No
Proposed Project	FCL10A	1hexene	592416	2.32E-04	No
Proposed Project	FCL10A	1Methyl2Ethylbenzene	611143	2.00E-05	No
Proposed Project	FCL10A	1Methyl3Ethylbenzene	620144	4.73E-05	No
Proposed Project	FCL10A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.97E-05	No
Proposed Project	FCL10A	1Methylnaphthalene	90120	7.59E-05	No
Proposed Project	FCL10A	1nonene	124118	7.71E-05	No
Proposed Project	FCL10A	1octene	111660	8.66E-05	No
Proposed Project	FCL10A	1pentene	109671	2.44E-04	No
Proposed Project	FCL10A	2methyl1butene	563462	4.30E-05	No
Proposed Project	FCL10A	2methyl1pentene	763291	1.04E-05	No
Proposed Project	FCL10A	2methyl2butene	513359	5.81E-05	No
Proposed Project	FCL10A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.32E-04	No
Proposed Project	FCL10A	2methylnaphthalene	91576	6.33E-05	No
Proposed Project	FCL10A	2Methylpentane	107835	1.28E-04	No
Proposed Project	FCL10A	3methyl1butene	563451	3.44E-05	No
Proposed Project	FCL10A	4methyl1pentene	691372	2.12E-05	No
Proposed Project	FCL10A	Acetaldehyde	75070	1.34E-03	Yes
Proposed Project	FCL10A	Acetone	67641	1.34E-04	No
Proposed Project	FCL10A	Acetylene	74862	1.24E-03	No
Proposed Project	FCL10A	Acrolein (2propenal)	107028	7.67E-04	Yes
Proposed Project	FCL10A	Ammonium	14798039	4.02E-04	No
Proposed Project	FCL10A	Antimony	7440360	0.00E+00	No
Proposed Project	FCL10A	Benzaldehyde	100527	1.48E-04	No
Proposed Project	FCL10A	Benzene	71432	5.29E-04	Yes
Proposed Project	FCL10A	Bromine	7726956	1.12E-06	No
Proposed Project	FCL10A	Butyraldehyde	123728	4.51E-05	No
Proposed Project	FCL10A	Calcium	7440702	0.00E+00	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCL10A	Chloride ion	16887006	0.00E+00	No
Proposed Project	FCL10A	Chromium	7440473	1.47E-06	No
Proposed Project	FCL10A	Cis2butene	590181	6.77E-05	No
Proposed Project	FCL10A	Cis2pentene	627203	8.48E-05	No
Proposed Project	FCL10A	Copper	7440508	1.21E-05	Yes
Proposed Project	FCL10A	Crotonaldehyde (or 2Butenal)	4170303	3.17E-04	No
Proposed Project	FCL10A	Cumene	98828	9.21E-07	No
Proposed Project	FCL10A	Decanal	112312	1.79E-03	No
Proposed Project	FCL10A	Dimethyl napthalene	28804888	2.76E-05	No
Proposed Project	FCL10A	Dodecenal	112549	8.97E-04	No
Proposed Project	FCL10A	Elemental Carbon	7440440	1.21E-03	No
Proposed Project	FCL10A	Ethane	74840	1.67E-04	No
Proposed Project	FCL10A	Ethylbenzene	100414	5.45E-05	Yes
Proposed Project	FCL10A	Ethylene	74851	4.86E-03	No
Proposed Project	FCL10A	Formaldehyde	50000	3.88E-03	Yes
Proposed Project	FCL10A	Furfuryl alcohol	98000	1.31E-05	No
Proposed Project	FCL10A	Glyoxal	107222	5.76E-04	No
Proposed Project	FCL10A	Heptadecane	629787	2.84E-06	No
Proposed Project	FCL10A	Heptene	25339564	1.38E-04	No
Proposed Project	FCL10A	Hexadecane	544763	1.61E-05	No
Proposed Project	FCL10A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	1.44E-06	No
Proposed Project	FCL10A	Indium	7440746	0.00E+00	No
Proposed Project	FCL10A	Insolchlorine	7782505	4.04E-06	Yes
Proposed Project	FCL10A	Iron	7439896	0.00E+00	No
Proposed Project	FCL10A	Isovaleraldehyde	590863	9.83E-06	No
Proposed Project	FCL10A	Lead	7439921	3.47E-05	Yes
Proposed Project	FCL10A	Magnesium	7439954	6.48E-06	No
Proposed Project	FCL10A	Manganese	7439965	1.03E-06	Yes
Proposed Project	FCL10A	Methane	74828	7.90E-05	No
Proposed Project	FCL10A	Methanol	67561	5.54E-04	Yes
Proposed Project	FCL10A	Methylglyoxal	78988	4.62E-04	No
Proposed Project	FCL10A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	8.54E-05	No
Proposed Project	FCL10A	Naphthalene	91203	1.70E-04	Yes
Proposed Project	FCL10A	N-butylbenzene	104518	1.59E-06	No
Proposed Project	FCL10A	Ndecane	124185	1.01E-04	No
Proposed Project	FCL10A	Ndodecane	112403	1.51E-04	No
Proposed Project	FCL10A	Nheptane	142825	2.01E-05	No
Proposed Project	FCL10A	Nickel	7440020	2.06E-06	Yes
Proposed Project	FCL10A	Nnonane	111842	2.01E-05	No
Proposed Project	FCL10A	Noctane	111659	1.93E-05	No
Proposed Project	FCL10A	Npentane	109660	6.22E-05	No
Proposed Project	FCL10A	Npentylbenzene	538681	1.23E-06	No
Proposed Project	FCL10A	Npropylbenzene	103651	1.63E-05	No
Proposed Project	FCL10A	Ntridecane	629505	1.69E-04	No
Proposed Project	FCL10A	Nundecane	1120214	1.40E-04	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCL10A	oTolualdehyde	529204	7.06E-05	No
Proposed Project	FCL10A	Oxylene	95476	5.23E-05	Yes
Proposed Project	FCL10A	Pentadecane	629629	5.51E-05	No
Proposed Project	FCL10A	Phenol (carbolic acid)	108952	2.25E-04	Yes
Proposed Project	FCL10A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FCL10A	Potassium ion	7440097	5.03E-06	No
Proposed Project	FCL10A	Propane	74986	2.54E-05	No
Proposed Project	FCL10A	Propionaldehyde	123386	2.30E-04	No
Proposed Project	FCL10A	Propylene	115071	1.43E-03	Yes
Proposed Project	FCL10A	pTolualdehyde	104870	1.47E-05	No
Proposed Project	FCL10A	Silicon	7440213	2.25E-05	No
Proposed Project	FCL10A	Silver	7440224	3.79E-06	No
Proposed Project	FCL10A	Styrene	100425	9.76E-05	Yes
Proposed Project	FCL10A	Sulfate	9960	1.29E-03	Yes
Proposed Project	FCL10A	Sulfur	7704349	0.00E+00	No
Proposed Project	FCL10A	Tetradecane	629594	1.32E-04	No
Proposed Project	FCL10A	Thallium	7440280	0.00E+00	No
Proposed Project	FCL10A	Titanium	7440326	2.97E-07	No
Proposed Project	FCL10A	Toluene	108883	2.01E-04	Yes
Proposed Project	FCL10A	Trans2hexene	4050457	9.21E-06	No
Proposed Project	FCL10A	Trans2pentene	646048	1.10E-04	No
Proposed Project	FCL10A	Valeraldehyde	110623	7.52E-05	No
Proposed Project	FCL10A	Xylenes	1330207	8.85E-05	Yes
Proposed Project	FCL10A	Zinc	7440666	9.13E-07	No
Proposed Project	FCL10B	1,2,3trimethylbenzene	526738	1.11E-05	No
Proposed Project	FCL10B	1,2,4Trimethylbenzene	95636	3.66E-05	No
Proposed Project	FCL10B	1,3,5trimethylbenzene	108678	5.64E-06	No
Proposed Project	FCL10B	1,3butadiene	106990	1.83E-04	Yes
Proposed Project	FCL10B	1butene	106989	1.90E-04	No
Proposed Project	FCL10B	1decene	872059	1.99E-05	No
Proposed Project	FCL10B	1hexene	592416	7.99E-05	No
Proposed Project	FCL10B	1Methyl2Ethylbenzene	611143	6.79E-06	No
Proposed Project	FCL10B	1Methyl3Ethylbenzene	620144	1.61E-05	No
Proposed Project	FCL10B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	6.69E-06	No
Proposed Project	FCL10B	1Methylnaphthalene	90120	2.58E-05	No
Proposed Project	FCL10B	1nonene	124118	2.66E-05	No
Proposed Project	FCL10B	1octene	111660	2.98E-05	No
Proposed Project	FCL10B	1pentene	109671	8.41E-05	No
Proposed Project	FCL10B	2methyl1butene	563462	1.46E-05	No
Proposed Project	FCL10B	2methyl1pentene	763291	3.55E-06	No
Proposed Project	FCL10B	2methyl2butene	513359	2.00E-05	No
Proposed Project	FCL10B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	4.48E-05	No
Proposed Project	FCL10B	2methylnaphthalene	91576	2.15E-05	No

Appendix D1. TAC Emission Rates By Source Group
Mineta San Jose International Airport
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCL10B	2Methylpentane	107835	4.40E-05	No
Proposed Project	FCL10B	3methyl1butene	563451	1.17E-05	No
Proposed Project	FCL10B	4methyl1pentene	691372	7.21E-06	No
Proposed Project	FCL10B	Acetaldehyde	75070	4.64E-04	Yes
Proposed Project	FCL10B	Acetone	67641	5.02E-05	No
Proposed Project	FCL10B	Acetylene	74862	4.26E-04	No
Proposed Project	FCL10B	Acrolein (2propenal)	107028	2.64E-04	Yes
Proposed Project	FCL10B	Ammonium	14798039	1.55E-04	No
Proposed Project	FCL10B	Antimony	7440360	0.00E+00	No
Proposed Project	FCL10B	Benzaldehyde	100527	5.12E-05	No
Proposed Project	FCL10B	Benzene	71432	1.83E-04	Yes
Proposed Project	FCL10B	Bromine	7726956	4.31E-07	No
Proposed Project	FCL10B	Butyraldehyde	123728	1.72E-05	No
Proposed Project	FCL10B	Calcium	7440702	0.00E+00	No
Proposed Project	FCL10B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FCL10B	Chromium	7440473	5.69E-07	No
Proposed Project	FCL10B	Cis2butene	590181	2.37E-05	No
Proposed Project	FCL10B	Cis2pentene	627203	2.88E-05	No
Proposed Project	FCL10B	Copper	7440508	4.69E-06	Yes
Proposed Project	FCL10B	Crotonaldehyde (or 2Butenal)	4170303	1.08E-04	No
Proposed Project	FCL10B	Cumene	98828	3.14E-07	No
Proposed Project	FCL10B	Decanal	112312	6.11E-04	No
Proposed Project	FCL10B	Dimethyl napthalene	28804888	9.41E-06	No
Proposed Project	FCL10B	Dodecenal	112549	3.05E-04	No
Proposed Project	FCL10B	Elemental Carbon	7440440	4.70E-04	No
Proposed Project	FCL10B	Ethane	74840	5.81E-05	No
Proposed Project	FCL10B	Ethylbenzene	100414	1.88E-05	Yes
Proposed Project	FCL10B	Ethylene	74851	1.68E-03	No
Proposed Project	FCL10B	Formaldehyde	50000	1.34E-03	Yes
Proposed Project	FCL10B	Furfuryl alcohol	98000	7.18E-06	No
Proposed Project	FCL10B	Glyoxal	107222	2.00E-04	No
Proposed Project	FCL10B	Heptadecane	629787	9.80E-07	No
Proposed Project	FCL10B	Heptene	25339564	4.78E-05	No
Proposed Project	FCL10B	Hexadecane	544763	5.68E-06	No
Proposed Project	FCL10B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	7.94E-07	No
Proposed Project	FCL10B	Indium	7440746	0.00E+00	No
Proposed Project	FCL10B	Insolchlorine	7782505	1.56E-06	Yes
Proposed Project	FCL10B	Iron	7439896	0.00E+00	No
Proposed Project	FCL10B	Isovaleraldehyde	590863	3.34E-06	No
Proposed Project	FCL10B	Lead	7439921	1.95E-05	Yes
Proposed Project	FCL10B	Magnesium	7439954	2.51E-06	No
Proposed Project	FCL10B	Manganese	7439965	3.98E-07	Yes
Proposed Project	FCL10B	Methane	74828	4.34E-05	No
Proposed Project	FCL10B	Methanol	67561	1.89E-04	Yes
Proposed Project	FCL10B	Methylglyoxal	78988	1.57E-04	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCL10B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.91E-05	No
Proposed Project	FCL10B	Naphthalene	91203	5.86E-05	Yes
Proposed Project	FCL10B	N-butylbenzene	104518	8.73E-07	No
Proposed Project	FCL10B	Ndecane	124185	3.51E-05	No
Proposed Project	FCL10B	Ndodecane	112403	5.31E-05	No
Proposed Project	FCL10B	Nheptane	142825	6.93E-06	No
Proposed Project	FCL10B	Nickel	7440020	7.98E-07	Yes
Proposed Project	FCL10B	Nnonane	111842	7.07E-06	No
Proposed Project	FCL10B	Noctane	111659	6.64E-06	No
Proposed Project	FCL10B	Npentane	109660	2.14E-05	No
Proposed Project	FCL10B	Npentylbenzene	538681	6.74E-07	No
Proposed Project	FCL10B	Npropylbenzene	103651	5.54E-06	No
Proposed Project	FCL10B	Ntridecane	629505	5.85E-05	No
Proposed Project	FCL10B	Nundecane	1120214	4.85E-05	No
Proposed Project	FCL10B	oTolualdehyde	529204	2.40E-05	No
Proposed Project	FCL10B	Oxylene	95476	1.81E-05	Yes
Proposed Project	FCL10B	Pentadecane	629629	1.92E-05	No
Proposed Project	FCL10B	Phenol (carbolic acid)	108952	7.67E-05	Yes
Proposed Project	FCL10B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FCL10B	Potassium ion	7440097	1.94E-06	No
Proposed Project	FCL10B	Propane	74986	8.95E-06	No
Proposed Project	FCL10B	Propionaldehyde	123386	7.95E-05	No
Proposed Project	FCL10B	Propylene	115071	4.92E-04	Yes
Proposed Project	FCL10B	pTolualdehyde	104870	5.02E-06	No
Proposed Project	FCL10B	Silicon	7440213	8.69E-06	No
Proposed Project	FCL10B	Silver	7440224	1.47E-06	No
Proposed Project	FCL10B	Styrene	100425	3.38E-05	Yes
Proposed Project	FCL10B	Sulfate	9960	5.00E-04	Yes
Proposed Project	FCL10B	Sulfur	7704349	0.00E+00	No
Proposed Project	FCL10B	Tetradecane	629594	4.58E-05	No
Proposed Project	FCL10B	Thallium	7440280	0.00E+00	No
Proposed Project	FCL10B	Titanium	7440326	1.15E-07	No
Proposed Project	FCL10B	Toluene	108883	6.90E-05	Yes
Proposed Project	FCL10B	Trans2hexene	4050457	3.14E-06	No
Proposed Project	FCL10B	Trans2pentene	646048	3.75E-05	No
Proposed Project	FCL10B	Valeraldehyde	110623	2.56E-05	No
Proposed Project	FCL10B	Xylenes	1330207	3.05E-05	Yes
Proposed Project	FCL10B	Zinc	7440666	3.53E-07	No
Proposed Project	FCT04A	1,2,3trimethylbenzene	526738	1.09E-06	No
Proposed Project	FCT04A	1,2,4Trimethylbenzene	95636	3.61E-06	No
Proposed Project	FCT04A	1,3,5trimethylbenzene	108678	5.56E-07	No
Proposed Project	FCT04A	1,3butadiene	106990	1.74E-05	Yes
Proposed Project	FCT04A	1butene	106989	1.81E-05	No
Proposed Project	FCT04A	1decene	872059	1.91E-06	No
Proposed Project	FCT04A	1hexene	592416	7.58E-06	No
Proposed Project	FCT04A	1Methyl2Ethylbenzene	611143	6.70E-07	No
Proposed Project	FCT04A	1Methyl3Ethylbenzene	620144	1.59E-06	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCT04A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	6.59E-07	No
Proposed Project	FCT04A	1Methylnaphthalene	90120	2.54E-06	No
Proposed Project	FCT04A	1nonene	124118	2.53E-06	No
Proposed Project	FCT04A	1octene	111660	2.84E-06	No
Proposed Project	FCT04A	1pentene	109671	7.99E-06	No
Proposed Project	FCT04A	2methyl1butene	563462	1.44E-06	No
Proposed Project	FCT04A	2methyl1pentene	763291	3.50E-07	No
Proposed Project	FCT04A	2methyl2butene	513359	1.91E-06	No
Proposed Project	FCT04A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	4.42E-06	No
Proposed Project	FCT04A	2methylnaphthalene	91576	2.12E-06	No
Proposed Project	FCT04A	2Methylpentane	107835	4.20E-06	No
Proposed Project	FCT04A	3methyl1butene	563451	1.15E-06	No
Proposed Project	FCT04A	4methyl1pentene	691372	7.11E-07	No
Proposed Project	FCT04A	Acetaldehyde	75070	4.40E-05	Yes
Proposed Project	FCT04A	Acetone	67641	3.80E-06	No
Proposed Project	FCT04A	Acetylene	74862	4.06E-05	No
Proposed Project	FCT04A	Acrolein (2propenal)	107028	2.52E-05	Yes
Proposed Project	FCT04A	Ammonium	14798039	1.06E-04	No
Proposed Project	FCT04A	Antimony	7440360	0.00E+00	No
Proposed Project	FCT04A	Benzaldehyde	100527	4.84E-06	No
Proposed Project	FCT04A	Benzene	71432	1.73E-05	Yes
Proposed Project	FCT04A	Bromine	7726956	2.93E-07	No
Proposed Project	FCT04A	Butyraldehyde	123728	1.23E-06	No
Proposed Project	FCT04A	Calcium	7440702	0.00E+00	No
Proposed Project	FCT04A	Chloride ion	16887006	0.00E+00	No
Proposed Project	FCT04A	Chromium	7440473	3.87E-07	No
Proposed Project	FCT04A	Cis2butene	590181	2.16E-06	No
Proposed Project	FCT04A	Cis2pentene	627203	2.84E-06	No
Proposed Project	FCT04A	Copper	7440508	3.19E-06	Yes
Proposed Project	FCT04A	Crotonaldehyde (or 2Butenal)	4170303	1.06E-05	No
Proposed Project	FCT04A	Cumene	98828	3.09E-08	No
Proposed Project	FCT04A	Decanal	112312	6.02E-05	No
Proposed Project	FCT04A	Dimethyl napthalene	28804888	9.27E-07	No
Proposed Project	FCT04A	Dodecenal	112549	3.01E-05	No
Proposed Project	FCT04A	Elemental Carbon	7440440	3.19E-04	No
Proposed Project	FCT04A	Ethane	74840	5.37E-06	No
Proposed Project	FCT04A	Ethylbenzene	100414	1.79E-06	Yes
Proposed Project	FCT04A	Ethylene	74851	1.59E-04	No
Proposed Project	FCT04A	Formaldehyde	50000	1.27E-04	Yes
Proposed Project	FCT04A	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FCT04A	Glyoxal	107222	1.87E-05	No
Proposed Project	FCT04A	Heptadecane	629787	9.27E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCT04A	Heptene	25339564	4.51E-06	No
Proposed Project	FCT04A	Hexadecane	544763	5.05E-07	No
Proposed Project	FCT04A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FCT04A	Indium	7440746	0.00E+00	No
Proposed Project	FCT04A	Insolchlorine	7782505	1.06E-06	Yes
Proposed Project	FCT04A	Iron	7439896	0.00E+00	No
Proposed Project	FCT04A	Isovaleraldehyde	590863	3.30E-07	No
Proposed Project	FCT04A	Magnesium	7439954	1.70E-06	No
Proposed Project	FCT04A	Manganese	7439965	2.70E-07	Yes
Proposed Project	FCT04A	Methane	74828	0.00E+00	No
Proposed Project	FCT04A	Methanol	67561	1.86E-05	Yes
Proposed Project	FCT04A	Methylglyoxal	78988	1.55E-05	No
Proposed Project	FCT04A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.86E-06	No
Proposed Project	FCT04A	Naphthalene	91203	5.57E-06	Yes
Proposed Project	FCT04A	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FCT04A	Ndecane	124185	3.30E-06	No
Proposed Project	FCT04A	Ndodecane	112403	4.76E-06	No
Proposed Project	FCT04A	Nheptane	142825	6.59E-07	No
Proposed Project	FCT04A	Nickel	7440020	5.42E-07	Yes
Proposed Project	FCT04A	Nnonane	111842	6.39E-07	No
Proposed Project	FCT04A	Noctane	111659	6.39E-07	No
Proposed Project	FCT04A	Npentane	109660	2.04E-06	No
Proposed Project	FCT04A	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FCT04A	Npropylbenzene	103651	5.46E-07	No
Proposed Project	FCT04A	Ntridecane	629505	5.51E-06	No
Proposed Project	FCT04A	Nundecane	1120214	4.57E-06	No
Proposed Project	FCT04A	oTolualdehyde	529204	2.37E-06	No
Proposed Project	FCT04A	Oxylene	95476	1.71E-06	Yes
Proposed Project	FCT04A	Pentadecane	629629	1.78E-06	No
Proposed Project	FCT04A	Phenol (carbolic acid)	108952	7.48E-06	Yes
Proposed Project	FCT04A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FCT04A	Potassium ion	7440097	1.32E-06	No
Proposed Project	FCT04A	Propane	74986	8.03E-07	No
Proposed Project	FCT04A	Propionaldehyde	123386	7.49E-06	No
Proposed Project	FCT04A	Propylene	115071	4.67E-05	Yes
Proposed Project	FCT04A	pTolualdehyde	104870	4.94E-07	No
Proposed Project	FCT04A	Silicon	7440213	5.91E-06	No
Proposed Project	FCT04A	Silver	7440224	9.96E-07	No
Proposed Project	FCT04A	Styrene	100425	3.18E-06	Yes
Proposed Project	FCT04A	Sulfate	9960	3.40E-04	Yes
Proposed Project	FCT04A	Sulfur	7704349	0.00E+00	No
Proposed Project	FCT04A	Tetradecane	629594	4.29E-06	No
Proposed Project	FCT04A	Thallium	7440280	0.00E+00	No
Proposed Project	FCT04A	Titanium	7440326	7.79E-08	No
Proposed Project	FCT04A	Toluene	108883	6.61E-06	Yes
Proposed Project	FCT04A	Trans2hexene	4050457	3.09E-07	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCT04A	Trans2pentene	646048	3.70E-06	No
Proposed Project	FCT04A	Valeraldehyde	110623	2.52E-06	No
Proposed Project	FCT04A	Xylenes	1330207	2.90E-06	Yes
Proposed Project	FCT04A	Zinc	7440666	2.40E-07	No
Proposed Project	FCT04B	1,2,3trimethylbenzene	526738	4.36E-07	No
Proposed Project	FCT04B	1,2,4Trimethylbenzene	95636	1.44E-06	No
Proposed Project	FCT04B	1,3,5trimethylbenzene	108678	2.22E-07	No
Proposed Project	FCT04B	1,3butadiene	106990	6.95E-06	Yes
Proposed Project	FCT04B	1butene	106989	7.22E-06	No
Proposed Project	FCT04B	1decene	872059	7.62E-07	No
Proposed Project	FCT04B	1hexene	592416	3.03E-06	No
Proposed Project	FCT04B	1Methyl2Ethylbenzene	611143	2.68E-07	No
Proposed Project	FCT04B	1Methyl3Ethylbenzene	620144	6.34E-07	No
Proposed Project	FCT04B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	2.63E-07	No
Proposed Project	FCT04B	1Methylnaphthalene	90120	1.02E-06	No
Proposed Project	FCT04B	1nonene	124118	1.01E-06	No
Proposed Project	FCT04B	1octene	111660	1.14E-06	No
Proposed Project	FCT04B	1pentene	109671	3.19E-06	No
Proposed Project	FCT04B	2methyl1butene	563462	5.76E-07	No
Proposed Project	FCT04B	2methyl1pentene	763291	1.40E-07	No
Proposed Project	FCT04B	2methyl2butene	513359	7.62E-07	No
Proposed Project	FCT04B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.77E-06	No
Proposed Project	FCT04B	2methylnaphthalene	91576	8.48E-07	No
Proposed Project	FCT04B	2Methylpentane	107835	1.68E-06	No
Proposed Project	FCT04B	3methyl1butene	563451	4.61E-07	No
Proposed Project	FCT04B	4methyl1pentene	691372	2.84E-07	No
Proposed Project	FCT04B	Acetaldehyde	75070	1.76E-05	Yes
Proposed Project	FCT04B	Acetone	67641	1.52E-06	No
Proposed Project	FCT04B	Acetylene	74862	1.62E-05	No
Proposed Project	FCT04B	Acrolein (2propenal)	107028	1.01E-05	Yes
Proposed Project	FCT04B	Ammonium	14798039	4.04E-05	No
Proposed Project	FCT04B	Antimony	7440360	0.00E+00	No
Proposed Project	FCT04B	Benzaldehyde	100527	1.94E-06	No
Proposed Project	FCT04B	Benzene	71432	6.92E-06	Yes
Proposed Project	FCT04B	Bromine	7726956	1.12E-07	No
Proposed Project	FCT04B	Butyraldehyde	123728	4.90E-07	No
Proposed Project	FCT04B	Calcium	7440702	0.00E+00	No
Proposed Project	FCT04B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FCT04B	Chromium	7440473	1.48E-07	No
Proposed Project	FCT04B	Cis2butene	590181	8.65E-07	No
Proposed Project	FCT04B	Cis2pentene	627203	1.14E-06	No
Proposed Project	FCT04B	Copper	7440508	1.22E-06	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCT04B	Crotonaldehyde (or 2Butenal)	4170303	4.25E-06	No
Proposed Project	FCT04B	Cumene	98828	1.24E-08	No
Proposed Project	FCT04B	Decanal	112312	2.41E-05	No
Proposed Project	FCT04B	Dimethyl napthalene	28804888	3.71E-07	No
Proposed Project	FCT04B	Dodecenal	112549	1.20E-05	No
Proposed Project	FCT04B	Elemental Carbon	7440440	1.22E-04	No
Proposed Project	FCT04B	Ethane	74840	2.15E-06	No
Proposed Project	FCT04B	Ethylbenzene	100414	7.16E-07	Yes
Proposed Project	FCT04B	Ethylene	74851	6.37E-05	No
Proposed Project	FCT04B	Formaldehyde	50000	5.07E-05	Yes
Proposed Project	FCT04B	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FCT04B	Glyoxal	107222	7.48E-06	No
Proposed Project	FCT04B	Heptadecane	629787	3.71E-08	No
Proposed Project	FCT04B	Heptene	25339564	1.80E-06	No
Proposed Project	FCT04B	Hexadecane	544763	2.02E-07	No
Proposed Project	FCT04B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FCT04B	Indium	7440746	0.00E+00	No
Proposed Project	FCT04B	Insolchlorine	7782505	4.07E-07	Yes
Proposed Project	FCT04B	Iron	7439896	0.00E+00	No
Proposed Project	FCT04B	Isovaleraldehyde	590863	1.32E-07	No
Proposed Project	FCT04B	Magnesium	7439954	6.52E-07	No
Proposed Project	FCT04B	Manganese	7439965	1.04E-07	Yes
Proposed Project	FCT04B	Methane	74828	0.00E+00	No
Proposed Project	FCT04B	Methanol	67561	7.43E-06	Yes
Proposed Project	FCT04B	Methylglyoxal	78988	6.19E-06	No
Proposed Project	FCT04B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.14E-06	No
Proposed Project	FCT04B	Naphthalene	91203	2.23E-06	Yes
Proposed Project	FCT04B	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FCT04B	Ndecane	124185	1.32E-06	No
Proposed Project	FCT04B	Ndodecane	112403	1.90E-06	No
Proposed Project	FCT04B	Nheptane	142825	2.63E-07	No
Proposed Project	FCT04B	Nickel	7440020	2.08E-07	Yes
Proposed Project	FCT04B	Nnonane	111842	2.55E-07	No
Proposed Project	FCT04B	Noctane	111659	2.55E-07	No
Proposed Project	FCT04B	Npentane	109660	8.15E-07	No
Proposed Project	FCT04B	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FCT04B	Npropylbenzene	103651	2.18E-07	No
Proposed Project	FCT04B	Ntridecane	629505	2.20E-06	No
Proposed Project	FCT04B	Nundecane	1120214	1.83E-06	No
Proposed Project	FCT04B	oTolualdehyde	529204	9.47E-07	No
Proposed Project	FCT04B	Oxylene	95476	6.83E-07	Yes
Proposed Project	FCT04B	Pentadecane	629629	7.12E-07	No
Proposed Project	FCT04B	Phenol (carbolic acid)	108952	2.99E-06	Yes
Proposed Project	FCT04B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FCT04B	Potassium ion	7440097	5.06E-07	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCT04B	Propane	74986	3.21E-07	No
Proposed Project	FCT04B	Propionaldehyde	123386	2.99E-06	No
Proposed Project	FCT04B	Propylene	115071	1.87E-05	Yes
Proposed Project	FCT04B	pTolualdehyde	104870	1.98E-07	No
Proposed Project	FCT04B	Silicon	7440213	2.26E-06	No
Proposed Project	FCT04B	Silver	7440224	3.81E-07	No
Proposed Project	FCT04B	Styrene	100425	1.27E-06	Yes
Proposed Project	FCT04B	Sulfate	9960	1.30E-04	Yes
Proposed Project	FCT04B	Sulfur	7704349	0.00E+00	No
Proposed Project	FCT04B	Tetradecane	629594	1.71E-06	No
Proposed Project	FCT04B	Thallium	7440280	0.00E+00	No
Proposed Project	FCT04B	Titanium	7440326	2.98E-08	No
Proposed Project	FCT04B	Toluene	108883	2.64E-06	Yes
Proposed Project	FCT04B	Trans2hexene	4050457	1.24E-07	No
Proposed Project	FCT04B	Trans2pentene	646048	1.48E-06	No
Proposed Project	FCT04B	Valeraldehyde	110623	1.01E-06	No
Proposed Project	FCT04B	Xylenes	1330207	1.16E-06	Yes
Proposed Project	FCT04B	Zinc	7440666	9.19E-08	No
Proposed Project	FCT18A	1,2,3trimethylbenzene	526738	1.76E-05	No
Proposed Project	FCT18A	1,2,4Trimethylbenzene	95636	5.80E-05	No
Proposed Project	FCT18A	1,3,5trimethylbenzene	108678	8.95E-06	No
Proposed Project	FCT18A	1,3butadiene	106990	2.79E-04	Yes
Proposed Project	FCT18A	1butene	106989	2.91E-04	No
Proposed Project	FCT18A	1decene	872059	3.06E-05	No
Proposed Project	FCT18A	1hexene	592416	1.22E-04	No
Proposed Project	FCT18A	1Methyl2Ethylbenzene	611143	1.08E-05	No
Proposed Project	FCT18A	1Methyl3Ethylbenzene	620144	2.55E-05	No
Proposed Project	FCT18A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.06E-05	No
Proposed Project	FCT18A	1Methylnaphthalene	90120	4.09E-05	No
Proposed Project	FCT18A	1nonene	124118	4.08E-05	No
Proposed Project	FCT18A	1octene	111660	4.57E-05	No
Proposed Project	FCT18A	1pentene	109671	1.29E-04	No
Proposed Project	FCT18A	2methyl1butene	563462	2.32E-05	No
Proposed Project	FCT18A	2methyl1pentene	763291	5.63E-06	No
Proposed Project	FCT18A	2methyl2butene	513359	3.06E-05	No
Proposed Project	FCT18A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	7.11E-05	No
Proposed Project	FCT18A	2methylnaphthalene	91576	3.41E-05	No
Proposed Project	FCT18A	2Methylpentane	107835	6.76E-05	No
Proposed Project	FCT18A	3methyl1butene	563451	1.86E-05	No
Proposed Project	FCT18A	4methyl1pentene	691372	1.14E-05	No
Proposed Project	FCT18A	Acetaldehyde	75070	7.08E-04	Yes
Proposed Project	FCT18A	Acetone	67641	6.11E-05	No
Proposed Project	FCT18A	Acetylene	74862	6.53E-04	No

Appendix D1. TAC Emission Rates By Source Group
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San Jose, California

Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCT18A	Acrolein (2propenal)	107028	4.06E-04	Yes
Proposed Project	FCT18A	Ammonium	14798039	1.70E-03	No
Proposed Project	FCT18A	Antimony	7440360	0.00E+00	No
Proposed Project	FCT18A	Benzaldehyde	100527	7.79E-05	No
Proposed Project	FCT18A	Benzene	71432	2.78E-04	Yes
Proposed Project	FCT18A	Bromine	7726956	4.72E-06	No
Proposed Project	FCT18A	Butyraldehyde	123728	1.97E-05	No
Proposed Project	FCT18A	Calcium	7440702	0.00E+00	No
Proposed Project	FCT18A	Chloride ion	16887006	0.00E+00	No
Proposed Project	FCT18A	Chromium	7440473	6.22E-06	No
Proposed Project	FCT18A	Cis2butene	590181	3.48E-05	No
Proposed Project	FCT18A	Cis2pentene	627203	4.57E-05	No
Proposed Project	FCT18A	Copper	7440508	5.13E-05	Yes
Proposed Project	FCT18A	Crotonaldehyde (or 2Butenal)	4170303	1.71E-04	No
Proposed Project	FCT18A	Cumene	98828	4.97E-07	No
Proposed Project	FCT18A	Decanal	112312	9.68E-04	No
Proposed Project	FCT18A	Dimethyl napthalene	28804888	1.49E-05	No
Proposed Project	FCT18A	Dodecenal	112549	4.84E-04	No
Proposed Project	FCT18A	Elemental Carbon	7440440	5.13E-03	No
Proposed Project	FCT18A	Ethane	74840	8.63E-05	No
Proposed Project	FCT18A	Ethylbenzene	100414	2.88E-05	Yes
Proposed Project	FCT18A	Ethylene	74851	2.56E-03	No
Proposed Project	FCT18A	Formaldehyde	50000	2.04E-03	Yes
Proposed Project	FCT18A	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FCT18A	Glyoxal	107222	3.01E-04	No
Proposed Project	FCT18A	Heptadecane	629787	1.49E-06	No
Proposed Project	FCT18A	Heptene	25339564	7.26E-05	No
Proposed Project	FCT18A	Hexadecane	544763	8.12E-06	No
Proposed Project	FCT18A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FCT18A	Indium	7440746	0.00E+00	No
Proposed Project	FCT18A	Insolchlorine	7782505	1.71E-05	Yes
Proposed Project	FCT18A	Iron	7439896	0.00E+00	No
Proposed Project	FCT18A	Isovaleraldehyde	590863	5.30E-06	No
Proposed Project	FCT18A	Magnesium	7439954	2.74E-05	No
Proposed Project	FCT18A	Manganese	7439965	4.35E-06	Yes
Proposed Project	FCT18A	Methane	74828	0.00E+00	No
Proposed Project	FCT18A	Methanol	67561	2.99E-04	Yes
Proposed Project	FCT18A	Methylglyoxal	78988	2.49E-04	No
Proposed Project	FCT18A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	4.61E-05	No
Proposed Project	FCT18A	Naphthalene	91203	8.96E-05	Yes
Proposed Project	FCT18A	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FCT18A	Ndecane	124185	5.30E-05	No
Proposed Project	FCT18A	Ndodecane	112403	7.65E-05	No
Proposed Project	FCT18A	Nheptane	142825	1.06E-05	No
Proposed Project	FCT18A	Nickel	7440020	8.72E-06	Yes

Appendix D1. TAC Emission Rates By Source Group
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San Jose, California

Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCT18A	Nnonane	111842	1.03E-05	No
Proposed Project	FCT18A	Noctane	111659	1.03E-05	No
Proposed Project	FCT18A	Npentane	109660	3.28E-05	No
Proposed Project	FCT18A	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FCT18A	Npropylbenzene	103651	8.78E-06	No
Proposed Project	FCT18A	Ntridecane	629505	8.86E-05	No
Proposed Project	FCT18A	Nundecane	1120214	7.36E-05	No
Proposed Project	FCT18A	oTolualdehyde	529204	3.81E-05	No
Proposed Project	FCT18A	Oxylene	95476	2.75E-05	Yes
Proposed Project	FCT18A	Pentadecane	629629	2.87E-05	No
Proposed Project	FCT18A	Phenol (carbolic acid)	108952	1.20E-04	Yes
Proposed Project	FCT18A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FCT18A	Potassium ion	7440097	2.13E-05	No
Proposed Project	FCT18A	Propane	74986	1.29E-05	No
Proposed Project	FCT18A	Propionaldehyde	123386	1.20E-04	No
Proposed Project	FCT18A	Propylene	115071	7.51E-04	Yes
Proposed Project	FCT18A	pTolualdehyde	104870	7.95E-06	No
Proposed Project	FCT18A	Silicon	7440213	9.50E-05	No
Proposed Project	FCT18A	Silver	7440224	1.60E-05	No
Proposed Project	FCT18A	Styrene	100425	5.12E-05	Yes
Proposed Project	FCT18A	Sulfate	9960	5.46E-03	Yes
Proposed Project	FCT18A	Sulfur	7704349	0.00E+00	No
Proposed Project	FCT18A	Tetradecane	629594	6.89E-05	No
Proposed Project	FCT18A	Thallium	7440280	0.00E+00	No
Proposed Project	FCT18A	Titanium	7440326	1.25E-06	No
Proposed Project	FCT18A	Toluene	108883	1.06E-04	Yes
Proposed Project	FCT18A	Trans2hexene	4050457	4.97E-06	No
Proposed Project	FCT18A	Trans2pentene	646048	5.95E-05	No
Proposed Project	FCT18A	Valeraldehyde	110623	4.06E-05	No
Proposed Project	FCT18A	Xylenes	1330207	4.67E-05	Yes
Proposed Project	FCT18A	Zinc	7440666	3.86E-06	No
Proposed Project	FCT18B	1,2,3trimethylbenzene	526738	7.02E-06	No
Proposed Project	FCT18B	1,2,4Trimethylbenzene	95636	2.32E-05	No
Proposed Project	FCT18B	1,3,5trimethylbenzene	108678	3.58E-06	No
Proposed Project	FCT18B	1,3butadiene	106990	1.12E-04	Yes
Proposed Project	FCT18B	1butene	106989	1.16E-04	No
Proposed Project	FCT18B	1decene	872059	1.22E-05	No
Proposed Project	FCT18B	1hexene	592416	4.87E-05	No
Proposed Project	FCT18B	1Methyl2Ethylbenzene	611143	4.30E-06	No
Proposed Project	FCT18B	1Methyl3Ethylbenzene	620144	1.02E-05	No
Proposed Project	FCT18B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	4.24E-06	No
Proposed Project	FCT18B	1Methylnaphthalene	90120	1.64E-05	No
Proposed Project	FCT18B	1nonene	124118	1.63E-05	No
Proposed Project	FCT18B	1octene	111660	1.83E-05	No
Proposed Project	FCT18B	1pentene	109671	5.14E-05	No
Proposed Project	FCT18B	2methyl1butene	563462	9.27E-06	No
Proposed Project	FCT18B	2methyl1pentene	763291	2.25E-06	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCT18B	2methyl2butene	513359	1.22E-05	No
Proposed Project	FCT18B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	2.84E-05	No
Proposed Project	FCT18B	2methylnaphthalene	91576	1.36E-05	No
Proposed Project	FCT18B	2Methylpentane	107835	2.70E-05	No
Proposed Project	FCT18B	3methyl1butene	563451	7.42E-06	No
Proposed Project	FCT18B	4methyl1pentene	691372	4.57E-06	No
Proposed Project	FCT18B	Acetaldehyde	75070	2.83E-04	Yes
Proposed Project	FCT18B	Acetone	67641	2.44E-05	No
Proposed Project	FCT18B	Acetylene	74862	2.61E-04	No
Proposed Project	FCT18B	Acrolein (2propenal)	107028	1.62E-04	Yes
Proposed Project	FCT18B	Ammonium	14798039	6.50E-04	No
Proposed Project	FCT18B	Antimony	7440360	0.00E+00	No
Proposed Project	FCT18B	Benzaldehyde	100527	3.11E-05	No
Proposed Project	FCT18B	Benzene	71432	1.11E-04	Yes
Proposed Project	FCT18B	Bromine	7726956	1.81E-06	No
Proposed Project	FCT18B	Butyraldehyde	123728	7.88E-06	No
Proposed Project	FCT18B	Calcium	7440702	0.00E+00	No
Proposed Project	FCT18B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FCT18B	Chromium	7440473	2.38E-06	No
Proposed Project	FCT18B	Cis2butene	590181	1.39E-05	No
Proposed Project	FCT18B	Cis2pentene	627203	1.83E-05	No
Proposed Project	FCT18B	Copper	7440508	1.96E-05	Yes
Proposed Project	FCT18B	Crotonaldehyde (or 2Butenal)	4170303	6.84E-05	No
Proposed Project	FCT18B	Cumene	98828	1.99E-07	No
Proposed Project	FCT18B	Decanal	112312	3.87E-04	No
Proposed Project	FCT18B	Dimethyl napthalene	28804888	5.96E-06	No
Proposed Project	FCT18B	Dodecenal	112549	1.93E-04	No
Proposed Project	FCT18B	Elemental Carbon	7440440	1.97E-03	No
Proposed Project	FCT18B	Ethane	74840	3.45E-05	No
Proposed Project	FCT18B	Ethylbenzene	100414	1.15E-05	Yes
Proposed Project	FCT18B	Ethylene	74851	1.02E-03	No
Proposed Project	FCT18B	Formaldehyde	50000	8.15E-04	Yes
Proposed Project	FCT18B	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FCT18B	Glyoxal	107222	1.20E-04	No
Proposed Project	FCT18B	Heptadecane	629787	5.96E-07	No
Proposed Project	FCT18B	Heptene	25339564	2.90E-05	No
Proposed Project	FCT18B	Hexadecane	544763	3.24E-06	No
Proposed Project	FCT18B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FCT18B	Indium	7440746	0.00E+00	No
Proposed Project	FCT18B	Insolchlorine	7782505	6.54E-06	Yes
Proposed Project	FCT18B	Iron	7439896	0.00E+00	No
Proposed Project	FCT18B	Isovaleraldehyde	590863	2.12E-06	No
Proposed Project	FCT18B	Magnesium	7439954	1.05E-05	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCT18B	Manganese	7439965	1.67E-06	Yes
Proposed Project	FCT18B	Methane	74828	0.00E+00	No
Proposed Project	FCT18B	Methanol	67561	1.20E-04	Yes
Proposed Project	FCT18B	Methylglyoxal	78988	9.95E-05	No
Proposed Project	FCT18B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.84E-05	No
Proposed Project	FCT18B	Naphthalene	91203	3.58E-05	Yes
Proposed Project	FCT18B	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FCT18B	Ndecane	124185	2.12E-05	No
Proposed Project	FCT18B	Ndodecane	112403	3.06E-05	No
Proposed Project	FCT18B	Nheptane	142825	4.24E-06	No
Proposed Project	FCT18B	Nickel	7440020	3.34E-06	Yes
Proposed Project	FCT18B	Nnonane	111842	4.11E-06	No
Proposed Project	FCT18B	Noctane	111659	4.11E-06	No
Proposed Project	FCT18B	Npentane	109660	1.31E-05	No
Proposed Project	FCT18B	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FCT18B	Npropylbenzene	103651	3.51E-06	No
Proposed Project	FCT18B	Ntridecane	629505	3.54E-05	No
Proposed Project	FCT18B	Nundecane	1120214	2.94E-05	No
Proposed Project	FCT18B	oTolualdehyde	529204	1.52E-05	No
Proposed Project	FCT18B	Oxylene	95476	1.10E-05	Yes
Proposed Project	FCT18B	Pentadecane	629629	1.15E-05	No
Proposed Project	FCT18B	Phenol (carbolic acid)	108952	4.81E-05	Yes
Proposed Project	FCT18B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FCT18B	Potassium ion	7440097	8.14E-06	No
Proposed Project	FCT18B	Propane	74986	5.16E-06	No
Proposed Project	FCT18B	Propionaldehyde	123386	4.81E-05	No
Proposed Project	FCT18B	Propylene	115071	3.00E-04	Yes
Proposed Project	FCT18B	pTolualdehyde	104870	3.18E-06	No
Proposed Project	FCT18B	Silicon	7440213	3.64E-05	No
Proposed Project	FCT18B	Silver	7440224	6.13E-06	No
Proposed Project	FCT18B	Styrene	100425	2.05E-05	Yes
Proposed Project	FCT18B	Sulfate	9960	2.09E-03	Yes
Proposed Project	FCT18B	Sulfur	7704349	0.00E+00	No
Proposed Project	FCT18B	Tetradecane	629594	2.75E-05	No
Proposed Project	FCT18B	Thallium	7440280	0.00E+00	No
Proposed Project	FCT18B	Titanium	7440326	4.80E-07	No
Proposed Project	FCT18B	Toluene	108883	4.25E-05	Yes
Proposed Project	FCT18B	Trans2hexene	4050457	1.99E-06	No
Proposed Project	FCT18B	Trans2pentene	646048	2.38E-05	No
Proposed Project	FCT18B	Valeraldehyde	110623	1.62E-05	No
Proposed Project	FCT18B	Xylenes	1330207	1.87E-05	Yes
Proposed Project	FCT18B	Zinc	7440666	1.48E-06	No
Proposed Project	FCT23A	1,2,3trimethylbenzene	526738	2.00E-06	No
Proposed Project	FCT23A	1,2,4Trimethylbenzene	95636	6.60E-06	No
Proposed Project	FCT23A	1,3,5trimethylbenzene	108678	1.02E-06	No
Proposed Project	FCT23A	1,3butadiene	106990	3.18E-05	Yes
Proposed Project	FCT23A	1butene	106989	3.31E-05	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCT23A	1decene	872059	3.49E-06	No
Proposed Project	FCT23A	1hexene	592416	1.39E-05	No
Proposed Project	FCT23A	1Methyl2Ethylbenzene	611143	1.23E-06	No
Proposed Project	FCT23A	1Methyl3Ethylbenzene	620144	2.91E-06	No
Proposed Project	FCT23A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.21E-06	No
Proposed Project	FCT23A	1Methylnaphthalene	90120	4.66E-06	No
Proposed Project	FCT23A	1nonene	124118	4.64E-06	No
Proposed Project	FCT23A	1octene	111660	5.21E-06	No
Proposed Project	FCT23A	1pentene	109671	1.46E-05	No
Proposed Project	FCT23A	2methyl1butene	563462	2.64E-06	No
Proposed Project	FCT23A	2methyl1pentene	763291	6.41E-07	No
Proposed Project	FCT23A	2methyl2butene	513359	3.49E-06	No
Proposed Project	FCT23A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	8.09E-06	No
Proposed Project	FCT23A	2methylnaphthalene	91576	3.89E-06	No
Proposed Project	FCT23A	2Methylpentane	107835	7.70E-06	No
Proposed Project	FCT23A	3methyl1butene	563451	2.11E-06	No
Proposed Project	FCT23A	4methyl1pentene	691372	1.30E-06	No
Proposed Project	FCT23A	Acetaldehyde	75070	8.06E-05	Yes
Proposed Project	FCT23A	Acetone	67641	6.96E-06	No
Proposed Project	FCT23A	Acetylene	74862	7.43E-05	No
Proposed Project	FCT23A	Acrolein (2propenal)	107028	4.62E-05	Yes
Proposed Project	FCT23A	Ammonium	14798039	1.93E-04	No
Proposed Project	FCT23A	Antimony	7440360	0.00E+00	No
Proposed Project	FCT23A	Benzaldehyde	100527	8.87E-06	No
Proposed Project	FCT23A	Benzene	71432	3.17E-05	Yes
Proposed Project	FCT23A	Bromine	7726956	5.37E-07	No
Proposed Project	FCT23A	Butyraldehyde	123728	2.25E-06	No
Proposed Project	FCT23A	Calcium	7440702	0.00E+00	No
Proposed Project	FCT23A	Chloride ion	16887006	0.00E+00	No
Proposed Project	FCT23A	Chromium	7440473	7.08E-07	No
Proposed Project	FCT23A	Cis2butene	590181	3.96E-06	No
Proposed Project	FCT23A	Cis2pentene	627203	5.21E-06	No
Proposed Project	FCT23A	Copper	7440508	5.84E-06	Yes
Proposed Project	FCT23A	Crotonaldehyde (or 2Butenal)	4170303	1.95E-05	No
Proposed Project	FCT23A	Cumene	98828	5.66E-08	No
Proposed Project	FCT23A	Decanal	112312	1.10E-04	No
Proposed Project	FCT23A	Dimethyl napthalene	28804888	1.70E-06	No
Proposed Project	FCT23A	Dodecenal	112549	5.51E-05	No
Proposed Project	FCT23A	Elemental Carbon	7440440	5.85E-04	No
Proposed Project	FCT23A	Ethane	74840	9.83E-06	No
Proposed Project	FCT23A	Ethylbenzene	100414	3.28E-06	Yes
Proposed Project	FCT23A	Ethylene	74851	2.92E-04	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCT23A	Formaldehyde	50000	2.32E-04	Yes
Proposed Project	FCT23A	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FCT23A	Glyoxal	107222	3.43E-05	No
Proposed Project	FCT23A	Heptadecane	629787	1.70E-07	No
Proposed Project	FCT23A	Heptene	25339564	8.26E-06	No
Proposed Project	FCT23A	Hexadecane	544763	9.24E-07	No
Proposed Project	FCT23A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FCT23A	Indium	7440746	0.00E+00	No
Proposed Project	FCT23A	Insolchlorine	7782505	1.94E-06	Yes
Proposed Project	FCT23A	Iron	7439896	0.00E+00	No
Proposed Project	FCT23A	Isovaleraldehyde	590863	6.04E-07	No
Proposed Project	FCT23A	Magnesium	7439954	3.12E-06	No
Proposed Project	FCT23A	Manganese	7439965	4.95E-07	Yes
Proposed Project	FCT23A	Methane	74828	0.00E+00	No
Proposed Project	FCT23A	Methanol	67561	3.41E-05	Yes
Proposed Project	FCT23A	Methylglyoxal	78988	2.84E-05	No
Proposed Project	FCT23A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	5.25E-06	No
Proposed Project	FCT23A	Naphthalene	91203	1.02E-05	Yes
Proposed Project	FCT23A	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FCT23A	Ndecane	124185	6.04E-06	No
Proposed Project	FCT23A	Ndodecane	112403	8.72E-06	No
Proposed Project	FCT23A	Nheptane	142825	1.21E-06	No
Proposed Project	FCT23A	Nickel	7440020	9.93E-07	Yes
Proposed Project	FCT23A	Nnonane	111842	1.17E-06	No
Proposed Project	FCT23A	Noctane	111659	1.17E-06	No
Proposed Project	FCT23A	Npentane	109660	3.74E-06	No
Proposed Project	FCT23A	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FCT23A	Npropylbenzene	103651	1.00E-06	No
Proposed Project	FCT23A	Ntridecane	629505	1.01E-05	No
Proposed Project	FCT23A	Nundecane	1120214	8.38E-06	No
Proposed Project	FCT23A	oTolualdehyde	529204	4.34E-06	No
Proposed Project	FCT23A	Oxylene	95476	3.13E-06	Yes
Proposed Project	FCT23A	Pentadecane	629629	3.26E-06	No
Proposed Project	FCT23A	Phenol (carbolic acid)	108952	1.37E-05	Yes
Proposed Project	FCT23A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FCT23A	Potassium ion	7440097	2.42E-06	No
Proposed Project	FCT23A	Propane	74986	1.47E-06	No
Proposed Project	FCT23A	Propionaldehyde	123386	1.37E-05	No
Proposed Project	FCT23A	Propylene	115071	8.55E-05	Yes
Proposed Project	FCT23A	pTolualdehyde	104870	9.06E-07	No
Proposed Project	FCT23A	Silicon	7440213	1.08E-05	No
Proposed Project	FCT23A	Silver	7440224	1.82E-06	No
Proposed Project	FCT23A	Styrene	100425	5.83E-06	Yes
Proposed Project	FCT23A	Sulfate	9960	6.22E-04	Yes
Proposed Project	FCT23A	Sulfur	7704349	0.00E+00	No
Proposed Project	FCT23A	Tetradecane	629594	7.85E-06	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCT23A	Thallium	7440280	0.00E+00	No
Proposed Project	FCT23A	Titanium	7440326	1.43E-07	No
Proposed Project	FCT23A	Toluene	108883	1.21E-05	Yes
Proposed Project	FCT23A	Trans2hexene	4050457	5.66E-07	No
Proposed Project	FCT23A	Trans2pentene	646048	6.77E-06	No
Proposed Project	FCT23A	Valeraldehyde	110623	4.62E-06	No
Proposed Project	FCT23A	Xylenes	1330207	5.32E-06	Yes
Proposed Project	FCT23A	Zinc	7440666	4.39E-07	No
Proposed Project	FCT23B	1,2,3trimethylbenzene	526738	7.99E-07	No
Proposed Project	FCT23B	1,2,4Trimethylbenzene	95636	2.64E-06	No
Proposed Project	FCT23B	1,3,5trimethylbenzene	108678	4.07E-07	No
Proposed Project	FCT23B	1,3butadiene	106990	1.27E-05	Yes
Proposed Project	FCT23B	1butene	106989	1.32E-05	No
Proposed Project	FCT23B	1decene	872059	1.40E-06	No
Proposed Project	FCT23B	1hexene	592416	5.55E-06	No
Proposed Project	FCT23B	1Methyl2Ethylbenzene	611143	4.90E-07	No
Proposed Project	FCT23B	1Methyl3Ethylbenzene	620144	1.16E-06	No
Proposed Project	FCT23B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	4.83E-07	No
Proposed Project	FCT23B	1Methylnaphthalene	90120	1.86E-06	No
Proposed Project	FCT23B	1nonene	124118	1.85E-06	No
Proposed Project	FCT23B	1octene	111660	2.08E-06	No
Proposed Project	FCT23B	1pentene	109671	5.85E-06	No
Proposed Project	FCT23B	2methyl1butene	563462	1.06E-06	No
Proposed Project	FCT23B	2methyl1pentene	763291	2.56E-07	No
Proposed Project	FCT23B	2methyl2butene	513359	1.40E-06	No
Proposed Project	FCT23B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	3.23E-06	No
Proposed Project	FCT23B	2methylnaphthalene	91576	1.55E-06	No
Proposed Project	FCT23B	2Methylpentane	107835	3.08E-06	No
Proposed Project	FCT23B	3methyl1butene	563451	8.45E-07	No
Proposed Project	FCT23B	4methyl1pentene	691372	5.20E-07	No
Proposed Project	FCT23B	Acetaldehyde	75070	3.22E-05	Yes
Proposed Project	FCT23B	Acetone	67641	2.78E-06	No
Proposed Project	FCT23B	Acetylene	74862	2.97E-05	No
Proposed Project	FCT23B	Acrolein (2propenal)	107028	1.85E-05	Yes
Proposed Project	FCT23B	Ammonium	14798039	7.40E-05	No
Proposed Project	FCT23B	Antimony	7440360	0.00E+00	No
Proposed Project	FCT23B	Benzaldehyde	100527	3.54E-06	No
Proposed Project	FCT23B	Benzene	71432	1.27E-05	Yes
Proposed Project	FCT23B	Bromine	7726956	2.06E-07	No
Proposed Project	FCT23B	Butyraldehyde	123728	8.97E-07	No
Proposed Project	FCT23B	Calcium	7440702	0.00E+00	No
Proposed Project	FCT23B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FCT23B	Chromium	7440473	2.71E-07	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCT23B	Cis2butene	590181	1.58E-06	No
Proposed Project	FCT23B	Cis2pentene	627203	2.08E-06	No
Proposed Project	FCT23B	Copper	7440508	2.24E-06	Yes
Proposed Project	FCT23B	Crotonaldehyde (or 2Butenal)	4170303	7.79E-06	No
Proposed Project	FCT23B	Cumene	98828	2.26E-08	No
Proposed Project	FCT23B	Decanal	112312	4.41E-05	No
Proposed Project	FCT23B	Dimethyl napthalene	28804888	6.79E-07	No
Proposed Project	FCT23B	Dodecenal	112549	2.20E-05	No
Proposed Project	FCT23B	Elemental Carbon	7440440	2.24E-04	No
Proposed Project	FCT23B	Ethane	74840	3.93E-06	No
Proposed Project	FCT23B	Ethylbenzene	100414	1.31E-06	Yes
Proposed Project	FCT23B	Ethylene	74851	1.17E-04	No
Proposed Project	FCT23B	Formaldehyde	50000	9.28E-05	Yes
Proposed Project	FCT23B	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FCT23B	Glyoxal	107222	1.37E-05	No
Proposed Project	FCT23B	Heptadecane	629787	6.79E-08	No
Proposed Project	FCT23B	Heptene	25339564	3.30E-06	No
Proposed Project	FCT23B	Hexadecane	544763	3.69E-07	No
Proposed Project	FCT23B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FCT23B	Indium	7440746	0.00E+00	No
Proposed Project	FCT23B	Insolchlorine	7782505	7.45E-07	Yes
Proposed Project	FCT23B	Iron	7439896	0.00E+00	No
Proposed Project	FCT23B	Isovaleraldehyde	590863	2.41E-07	No
Proposed Project	FCT23B	Magnesium	7439954	1.19E-06	No
Proposed Project	FCT23B	Manganese	7439965	1.90E-07	Yes
Proposed Project	FCT23B	Methane	74828	0.00E+00	No
Proposed Project	FCT23B	Methanol	67561	1.36E-05	Yes
Proposed Project	FCT23B	Methylglyoxal	78988	1.13E-05	No
Proposed Project	FCT23B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.10E-06	No
Proposed Project	FCT23B	Naphthalene	91203	4.08E-06	Yes
Proposed Project	FCT23B	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FCT23B	Ndecane	124185	2.41E-06	No
Proposed Project	FCT23B	Ndodecane	112403	3.48E-06	No
Proposed Project	FCT23B	Nheptane	142825	4.83E-07	No
Proposed Project	FCT23B	Nickel	7440020	3.80E-07	Yes
Proposed Project	FCT23B	Nnonane	111842	4.68E-07	No
Proposed Project	FCT23B	Noctane	111659	4.68E-07	No
Proposed Project	FCT23B	Npentane	109660	1.49E-06	No
Proposed Project	FCT23B	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FCT23B	Npropylbenzene	103651	4.00E-07	No
Proposed Project	FCT23B	Ntridecane	629505	4.03E-06	No
Proposed Project	FCT23B	Nundecane	1120214	3.35E-06	No
Proposed Project	FCT23B	oTolualdehyde	529204	1.73E-06	No
Proposed Project	FCT23B	Oxylene	95476	1.25E-06	Yes
Proposed Project	FCT23B	Pentadecane	629629	1.30E-06	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCT23B	Phenol (carbolic acid)	108952	5.47E-06	Yes
Proposed Project	FCT23B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FCT23B	Potassium ion	7440097	9.27E-07	No
Proposed Project	FCT23B	Propane	74986	5.88E-07	No
Proposed Project	FCT23B	Propionaldehyde	123386	5.48E-06	No
Proposed Project	FCT23B	Propylene	115071	3.42E-05	Yes
Proposed Project	FCT23B	pTolualdehyde	104870	3.62E-07	No
Proposed Project	FCT23B	Silicon	7440213	4.14E-06	No
Proposed Project	FCT23B	Silver	7440224	6.99E-07	No
Proposed Project	FCT23B	Styrene	100425	2.33E-06	Yes
Proposed Project	FCT23B	Sulfate	9960	2.38E-04	Yes
Proposed Project	FCT23B	Sulfur	7704349	0.00E+00	No
Proposed Project	FCT23B	Tetradecane	629594	3.14E-06	No
Proposed Project	FCT23B	Thallium	7440280	0.00E+00	No
Proposed Project	FCT23B	Titanium	7440326	5.46E-08	No
Proposed Project	FCT23B	Toluene	108883	4.84E-06	Yes
Proposed Project	FCT23B	Trans2hexene	4050457	2.26E-07	No
Proposed Project	FCT23B	Trans2pentene	646048	2.71E-06	No
Proposed Project	FCT23B	Valeraldehyde	110623	1.85E-06	No
Proposed Project	FCT23B	Xylenes	1330207	2.13E-06	Yes
Proposed Project	FCT23B	Zinc	7440666	1.68E-07	No
Proposed Project	FCT27A	1,2,3trimethylbenzene	526738	7.24E-08	No
Proposed Project	FCT27A	1,2,4Trimethylbenzene	95636	2.39E-07	No
Proposed Project	FCT27A	1,3,5trimethylbenzene	108678	3.69E-08	No
Proposed Project	FCT27A	1,3butadiene	106990	1.15E-06	Yes
Proposed Project	FCT27A	1butene	106989	1.20E-06	No
Proposed Project	FCT27A	1decene	872059	1.26E-07	No
Proposed Project	FCT27A	1hexene	592416	5.03E-07	No
Proposed Project	FCT27A	1Methyl2Ethylbenzene	611143	4.44E-08	No
Proposed Project	FCT27A	1Methyl3Ethylbenzene	620144	1.05E-07	No
Proposed Project	FCT27A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	4.37E-08	No
Proposed Project	FCT27A	1Methylnaphthalene	90120	1.69E-07	No
Proposed Project	FCT27A	1nonene	124118	1.68E-07	No
Proposed Project	FCT27A	1octene	111660	1.88E-07	No
Proposed Project	FCT27A	1pentene	109671	5.30E-07	No
Proposed Project	FCT27A	2methyl1butene	563462	9.56E-08	No
Proposed Project	FCT27A	2methyl1pentene	763291	2.32E-08	No
Proposed Project	FCT27A	2methyl2butene	513359	1.26E-07	No
Proposed Project	FCT27A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	2.93E-07	No
Proposed Project	FCT27A	2methylnaphthalene	91576	1.41E-07	No
Proposed Project	FCT27A	2Methylpentane	107835	2.79E-07	No
Proposed Project	FCT27A	3methyl1butene	563451	7.65E-08	No
Proposed Project	FCT27A	4methyl1pentene	691372	4.71E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCT27A	Acetaldehyde	75070	2.92E-06	Yes
Proposed Project	FCT27A	Acetone	67641	2.52E-07	No
Proposed Project	FCT27A	Acetylene	74862	2.69E-06	No
Proposed Project	FCT27A	Acrolein (2propenal)	107028	1.67E-06	Yes
Proposed Project	FCT27A	Ammonium	14798039	6.99E-06	No
Proposed Project	FCT27A	Antimony	7440360	0.00E+00	No
Proposed Project	FCT27A	Benzaldehyde	100527	3.21E-07	No
Proposed Project	FCT27A	Benzene	71432	1.15E-06	Yes
Proposed Project	FCT27A	Bromine	7726956	1.94E-08	No
Proposed Project	FCT27A	Butyraldehyde	123728	8.13E-08	No
Proposed Project	FCT27A	Calcium	7440702	0.00E+00	No
Proposed Project	FCT27A	Chloride ion	16887006	0.00E+00	No
Proposed Project	FCT27A	Chromium	7440473	2.56E-08	No
Proposed Project	FCT27A	Cis2butene	590181	1.43E-07	No
Proposed Project	FCT27A	Cis2pentene	627203	1.88E-07	No
Proposed Project	FCT27A	Copper	7440508	2.11E-07	Yes
Proposed Project	FCT27A	Crotonaldehyde (or 2Butenal)	4170303	7.05E-07	No
Proposed Project	FCT27A	Cumene	98828	2.05E-09	No
Proposed Project	FCT27A	Decanal	112312	3.99E-06	No
Proposed Project	FCT27A	Dimethyl napthalene	28804888	6.15E-08	No
Proposed Project	FCT27A	Dodecenal	112549	1.99E-06	No
Proposed Project	FCT27A	Elemental Carbon	7440440	2.12E-05	No
Proposed Project	FCT27A	Ethane	74840	3.56E-07	No
Proposed Project	FCT27A	Ethylbenzene	100414	1.19E-07	Yes
Proposed Project	FCT27A	Ethylene	74851	1.06E-05	No
Proposed Project	FCT27A	Formaldehyde	50000	8.41E-06	Yes
Proposed Project	FCT27A	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FCT27A	Glyoxal	107222	1.24E-06	No
Proposed Project	FCT27A	Heptadecane	629787	6.15E-09	No
Proposed Project	FCT27A	Heptene	25339564	2.99E-07	No
Proposed Project	FCT27A	Hexadecane	544763	3.35E-08	No
Proposed Project	FCT27A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FCT27A	Indium	7440746	0.00E+00	No
Proposed Project	FCT27A	Insolchlorine	7782505	7.04E-08	Yes
Proposed Project	FCT27A	Iron	7439896	0.00E+00	No
Proposed Project	FCT27A	Isovaleraldehyde	590863	2.19E-08	No
Proposed Project	FCT27A	Magnesium	7439954	1.13E-07	No
Proposed Project	FCT27A	Manganese	7439965	1.79E-08	Yes
Proposed Project	FCT27A	Methane	74828	0.00E+00	No
Proposed Project	FCT27A	Methanol	67561	1.23E-06	Yes
Proposed Project	FCT27A	Methylglyoxal	78988	1.03E-06	No
Proposed Project	FCT27A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.90E-07	No
Proposed Project	FCT27A	Naphthalene	91203	3.69E-07	Yes
Proposed Project	FCT27A	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FCT27A	Ndecane	124185	2.19E-07	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCT27A	Ndodecane	112403	3.15E-07	No
Proposed Project	FCT27A	Nheptane	142825	4.37E-08	No
Proposed Project	FCT27A	Nickel	7440020	3.59E-08	Yes
Proposed Project	FCT27A	Nnonane	111842	4.23E-08	No
Proposed Project	FCT27A	Noctane	111659	4.23E-08	No
Proposed Project	FCT27A	Npentane	109660	1.35E-07	No
Proposed Project	FCT27A	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FCT27A	Npropylbenzene	103651	3.62E-08	No
Proposed Project	FCT27A	Ntridecane	629505	3.65E-07	No
Proposed Project	FCT27A	Nundecane	1120214	3.03E-07	No
Proposed Project	FCT27A	oTolualdehyde	529204	1.57E-07	No
Proposed Project	FCT27A	Oxylene	95476	1.13E-07	Yes
Proposed Project	FCT27A	Pentadecane	629629	1.18E-07	No
Proposed Project	FCT27A	Phenol (carbolic acid)	108952	4.96E-07	Yes
Proposed Project	FCT27A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FCT27A	Potassium ion	7440097	8.76E-08	No
Proposed Project	FCT27A	Propane	74986	5.33E-08	No
Proposed Project	FCT27A	Propionaldehyde	123386	4.96E-07	No
Proposed Project	FCT27A	Propylene	115071	3.10E-06	Yes
Proposed Project	FCT27A	pTolualdehyde	104870	3.28E-08	No
Proposed Project	FCT27A	Silicon	7440213	3.91E-07	No
Proposed Project	FCT27A	Silver	7440224	6.60E-08	No
Proposed Project	FCT27A	Styrene	100425	2.11E-07	Yes
Proposed Project	FCT27A	Sulfate	9960	2.25E-05	Yes
Proposed Project	FCT27A	Sulfur	7704349	0.00E+00	No
Proposed Project	FCT27A	Tetradecane	629594	2.84E-07	No
Proposed Project	FCT27A	Thallium	7440280	0.00E+00	No
Proposed Project	FCT27A	Titanium	7440326	5.16E-09	No
Proposed Project	FCT27A	Toluene	108883	4.38E-07	Yes
Proposed Project	FCT27A	Trans2hexene	4050457	2.05E-08	No
Proposed Project	FCT27A	Trans2pentene	646048	2.45E-07	No
Proposed Project	FCT27A	Valeraldehyde	110623	1.67E-07	No
Proposed Project	FCT27A	Xylenes	1330207	1.93E-07	Yes
Proposed Project	FCT27A	Zinc	7440666	1.59E-08	No
Proposed Project	FCT27B	1,2,3trimethylbenzene	526738	2.89E-08	No
Proposed Project	FCT27B	1,2,4Trimethylbenzene	95636	9.55E-08	No
Proposed Project	FCT27B	1,3,5trimethylbenzene	108678	1.47E-08	No
Proposed Project	FCT27B	1,3butadiene	106990	4.60E-07	Yes
Proposed Project	FCT27B	1butene	106989	4.79E-07	No
Proposed Project	FCT27B	1decene	872059	5.05E-08	No
Proposed Project	FCT27B	1hexene	592416	2.01E-07	No
Proposed Project	FCT27B	1Methyl2Ethylbenzene	611143	1.77E-08	No
Proposed Project	FCT27B	1Methyl3Ethylbenzene	620144	4.20E-08	No
Proposed Project	FCT27B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.75E-08	No
Proposed Project	FCT27B	1Methylnaphthalene	90120	6.74E-08	No
Proposed Project	FCT27B	1nonene	124118	6.71E-08	No
Proposed Project	FCT27B	1octene	111660	7.53E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCT27B	1pentene	109671	2.12E-07	No
Proposed Project	FCT27B	2methyl1butene	563462	3.82E-08	No
Proposed Project	FCT27B	2methyl1pentene	763291	9.28E-09	No
Proposed Project	FCT27B	2methyl2butene	513359	5.05E-08	No
Proposed Project	FCT27B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.17E-07	No
Proposed Project	FCT27B	2methylnaphthalene	91576	5.62E-08	No
Proposed Project	FCT27B	2Methylpentane	107835	1.11E-07	No
Proposed Project	FCT27B	3methyl1butene	563451	3.06E-08	No
Proposed Project	FCT27B	4methyl1pentene	691372	1.88E-08	No
Proposed Project	FCT27B	Acetaldehyde	75070	1.17E-06	Yes
Proposed Project	FCT27B	Acetone	67641	1.01E-07	No
Proposed Project	FCT27B	Acetylene	74862	1.07E-06	No
Proposed Project	FCT27B	Acrolein (2propenal)	107028	6.68E-07	Yes
Proposed Project	FCT27B	Ammonium	14798039	2.68E-06	No
Proposed Project	FCT27B	Antimony	7440360	0.00E+00	No
Proposed Project	FCT27B	Benzaldehyde	100527	1.28E-07	No
Proposed Project	FCT27B	Benzene	71432	4.59E-07	Yes
Proposed Project	FCT27B	Bromine	7726956	7.45E-09	No
Proposed Project	FCT27B	Butyraldehyde	123728	3.25E-08	No
Proposed Project	FCT27B	Calcium	7440702	0.00E+00	No
Proposed Project	FCT27B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FCT27B	Chromium	7440473	9.81E-09	No
Proposed Project	FCT27B	Cis2butene	590181	5.73E-08	No
Proposed Project	FCT27B	Cis2pentene	627203	7.53E-08	No
Proposed Project	FCT27B	Copper	7440508	8.09E-08	Yes
Proposed Project	FCT27B	Crotonaldehyde (or 2Butenal)	4170303	2.82E-07	No
Proposed Project	FCT27B	Cumene	98828	8.19E-10	No
Proposed Project	FCT27B	Decanal	112312	1.59E-06	No
Proposed Project	FCT27B	Dimethyl napthalene	28804888	2.46E-08	No
Proposed Project	FCT27B	Dodecenal	112549	7.97E-07	No
Proposed Project	FCT27B	Elemental Carbon	7440440	8.10E-06	No
Proposed Project	FCT27B	Ethane	74840	1.42E-07	No
Proposed Project	FCT27B	Ethylbenzene	100414	4.75E-08	Yes
Proposed Project	FCT27B	Ethylene	74851	4.22E-06	No
Proposed Project	FCT27B	Formaldehyde	50000	3.36E-06	Yes
Proposed Project	FCT27B	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FCT27B	Glyoxal	107222	4.96E-07	No
Proposed Project	FCT27B	Heptadecane	629787	2.46E-09	No
Proposed Project	FCT27B	Heptene	25339564	1.20E-07	No
Proposed Project	FCT27B	Hexadecane	544763	1.34E-08	No
Proposed Project	FCT27B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FCT27B	Indium	7440746	0.00E+00	No
Proposed Project	FCT27B	Insolchlorine	7782505	2.70E-08	Yes

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FCT27B	Iron	7439896	0.00E+00	No
Proposed Project	FCT27B	Isovaleraldehyde	590863	8.73E-09	No
Proposed Project	FCT27B	Magnesium	7439954	4.32E-08	No
Proposed Project	FCT27B	Manganese	7439965	6.86E-09	Yes
Proposed Project	FCT27B	Methane	74828	0.00E+00	No
Proposed Project	FCT27B	Methanol	67561	4.93E-07	Yes
Proposed Project	FCT27B	Methylglyoxal	78988	4.10E-07	No
Proposed Project	FCT27B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	7.59E-08	No
Proposed Project	FCT27B	Naphthalene	91203	1.48E-07	Yes
Proposed Project	FCT27B	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FCT27B	Ndecane	124185	8.73E-08	No
Proposed Project	FCT27B	Ndodecane	112403	1.26E-07	No
Proposed Project	FCT27B	Nheptane	142825	1.75E-08	No
Proposed Project	FCT27B	Nickel	7440020	1.38E-08	Yes
Proposed Project	FCT27B	Nnonane	111842	1.69E-08	No
Proposed Project	FCT27B	Noctane	111659	1.69E-08	No
Proposed Project	FCT27B	Npentane	109660	5.40E-08	No
Proposed Project	FCT27B	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FCT27B	Npropylbenzene	103651	1.45E-08	No
Proposed Project	FCT27B	Ntridecane	629505	1.46E-07	No
Proposed Project	FCT27B	Nundecane	1120214	1.21E-07	No
Proposed Project	FCT27B	oTolualdehyde	529204	6.28E-08	No
Proposed Project	FCT27B	Oxylene	95476	4.53E-08	Yes
Proposed Project	FCT27B	Pentadecane	629629	4.72E-08	No
Proposed Project	FCT27B	Phenol (carbolic acid)	108952	1.98E-07	Yes
Proposed Project	FCT27B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FCT27B	Potassium ion	7440097	3.35E-08	No
Proposed Project	FCT27B	Propane	74986	2.13E-08	No
Proposed Project	FCT27B	Propionaldehyde	123386	1.98E-07	No
Proposed Project	FCT27B	Propylene	115071	1.24E-06	Yes
Proposed Project	FCT27B	pTolualdehyde	104870	1.31E-08	No
Proposed Project	FCT27B	Silicon	7440213	1.50E-07	No
Proposed Project	FCT27B	Silver	7440224	2.53E-08	No
Proposed Project	FCT27B	Styrene	100425	8.43E-08	Yes
Proposed Project	FCT27B	Sulfate	9960	8.63E-06	Yes
Proposed Project	FCT27B	Sulfur	7704349	0.00E+00	No
Proposed Project	FCT27B	Tetradecane	629594	1.14E-07	No
Proposed Project	FCT27B	Thallium	7440280	0.00E+00	No
Proposed Project	FCT27B	Titanium	7440326	1.98E-09	No
Proposed Project	FCT27B	Toluene	108883	1.75E-07	Yes
Proposed Project	FCT27B	Trans2hexene	4050457	8.19E-09	No
Proposed Project	FCT27B	Trans2pentene	646048	9.80E-08	No
Proposed Project	FCT27B	Valeraldehyde	110623	6.69E-08	No
Proposed Project	FCT27B	Xylenes	1330207	7.70E-08	Yes
Proposed Project	FCT27B	Zinc	7440666	6.09E-09	No
Proposed Project	FGT21A	1,2,3trimethylbenzene	526738	7.92E-10	No
Proposed Project	FGT21A	1,2,4Trimethylbenzene	95636	2.61E-09	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FGT21A	1,3,5trimethylbenzene	108678	4.03E-10	No
Proposed Project	FGT21A	1,3butadiene	106990	6.72E-05	Yes
Proposed Project	FGT21A	1butene	106989	7.66E-05	No
Proposed Project	FGT21A	1decene	872059	6.42E-06	No
Proposed Project	FGT21A	1hexene	592416	3.25E-05	No
Proposed Project	FGT21A	1Methyl2Ethylbenzene	611143	4.86E-10	No
Proposed Project	FGT21A	1Methyl3Ethylbenzene	620144	1.15E-09	No
Proposed Project	FGT21A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	4.78E-10	No
Proposed Project	FGT21A	1Methylnaphthalene	90120	1.85E-09	No
Proposed Project	FGT21A	1nonene	124118	9.41E-06	No
Proposed Project	FGT21A	1octene	111660	1.07E-05	No
Proposed Project	FGT21A	1pentene	109671	3.21E-05	No
Proposed Project	FGT21A	2methyl1butene	563462	1.05E-09	No
Proposed Project	FGT21A	2methyl1pentene	763291	2.54E-10	No
Proposed Project	FGT21A	2methyl2butene	513359	7.70E-06	No
Proposed Project	FGT21A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	3.20E-09	No
Proposed Project	FGT21A	2methylnaphthalene	91576	1.54E-09	No
Proposed Project	FGT21A	2Methylpentane	107835	1.50E-05	No
Proposed Project	FGT21A	3methyl1butene	563451	8.37E-10	No
Proposed Project	FGT21A	4methyl1pentene	691372	5.15E-10	No
Proposed Project	FGT21A	Acetaldehyde	75070	1.85E-04	Yes
Proposed Project	FGT21A	Acetone	67641	1.25E-04	No
Proposed Project	FGT21A	Acetylene	74862	1.58E-04	No
Proposed Project	FGT21A	Acrolein (2propenal)	107028	8.81E-05	Yes
Proposed Project	FGT21A	Ammonium	14798039	6.25E-06	No
Proposed Project	FGT21A	Antimony	7440360	0.00E+00	No
Proposed Project	FGT21A	Benzaldehyde	100527	2.27E-05	No
Proposed Project	FGT21A	Benzene	71432	7.66E-05	Yes
Proposed Project	FGT21A	Bromine	7726956	1.74E-08	No
Proposed Project	FGT21A	Butyraldehyde	123728	5.09E-05	No
Proposed Project	FGT21A	Calcium	7440702	0.00E+00	No
Proposed Project	FGT21A	Chloride ion	16887006	0.00E+00	No
Proposed Project	FGT21A	Chromium	7440473	2.29E-08	No
Proposed Project	FGT21A	Cis2butene	590181	1.92E-05	No
Proposed Project	FGT21A	Cis2pentene	627203	2.06E-09	No
Proposed Project	FGT21A	Copper	7440508	1.89E-07	Yes
Proposed Project	FGT21A	Crotonaldehyde (or 2Butenal)	4170303	7.72E-09	No
Proposed Project	FGT21A	Cumene	98828	2.24E-11	No
Proposed Project	FGT21A	Decanal	112312	4.37E-08	No
Proposed Project	FGT21A	Dimethyl napthalene	28804888	6.72E-10	No
Proposed Project	FGT21A	Dodecenal	112549	2.18E-08	No
Proposed Project	FGT21A	Elemental Carbon	7440440	1.89E-05	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FGT21A	Ethane	74840	3.94E-05	No
Proposed Project	FGT21A	Ethylbenzene	100414	6.42E-06	Yes
Proposed Project	FGT21A	Ethylene	74851	6.63E-04	No
Proposed Project	FGT21A	Formaldehyde	50000	6.05E-04	Yes
Proposed Project	FGT21A	Furfuryl alcohol	98000	7.74E-05	No
Proposed Project	FGT21A	Glyoxal	107222	1.08E-04	No
Proposed Project	FGT21A	Heptadecane	629787	4.28E-07	No
Proposed Project	FGT21A	Heptene	25339564	2.22E-05	No
Proposed Project	FGT21A	Hexadecane	544763	5.99E-06	No
Proposed Project	FGT21A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	8.55E-06	No
Proposed Project	FGT21A	Indium	7440746	0.00E+00	No
Proposed Project	FGT21A	Insolchlorine	7782505	6.28E-08	Yes
Proposed Project	FGT21A	Iron	7439896	0.00E+00	No
Proposed Project	FGT21A	Isovaleraldehyde	590863	2.39E-10	No
Proposed Project	FGT21A	Lead	7439921	2.17E-04	Yes
Proposed Project	FGT21A	Magnesium	7439954	1.01E-07	No
Proposed Project	FGT21A	Manganese	7439965	1.60E-08	Yes
Proposed Project	FGT21A	Methane	74828	4.68E-04	No
Proposed Project	FGT21A	Methanol	67561	1.35E-08	Yes
Proposed Project	FGT21A	Methylglyoxal	78988	1.12E-08	No
Proposed Project	FGT21A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.08E-09	No
Proposed Project	FGT21A	Naphthalene	91203	2.18E-05	Yes
Proposed Project	FGT21A	N-butylbenzene	104518	9.41E-06	No
Proposed Project	FGT21A	Ndecane	124185	1.80E-05	No
Proposed Project	FGT21A	Ndodecane	112403	5.18E-05	No
Proposed Project	FGT21A	Nheptane	142825	2.57E-06	No
Proposed Project	FGT21A	Nickel	7440020	3.21E-08	Yes
Proposed Project	FGT21A	Nnonane	111842	6.42E-06	No
Proposed Project	FGT21A	Noctane	111659	1.71E-06	No
Proposed Project	FGT21A	Npentane	109660	8.13E-06	No
Proposed Project	FGT21A	Npentylbenzene	538681	7.27E-06	No
Proposed Project	FGT21A	Npropylbenzene	103651	3.96E-10	No
Proposed Project	FGT21A	Ntridecane	629505	2.82E-05	No
Proposed Project	FGT21A	Nundecane	1120214	2.22E-05	No
Proposed Project	FGT21A	oTolualdehyde	529204	1.72E-09	No
Proposed Project	FGT21A	Oxylene	95476	7.70E-06	Yes
Proposed Project	FGT21A	Pentadecane	629629	1.15E-05	No
Proposed Project	FGT21A	Phenol (carbolic acid)	108952	9.42E-06	Yes
Proposed Project	FGT21A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FGT21A	Potassium ion	7440097	7.82E-08	No
Proposed Project	FGT21A	Propane	74986	8.55E-06	No
Proposed Project	FGT21A	Propionaldehyde	123386	3.85E-05	No
Proposed Project	FGT21A	Propylene	115071	1.96E-04	Yes
Proposed Project	FGT21A	pTolualdehyde	104870	3.59E-10	No
Proposed Project	FGT21A	Silicon	7440213	3.50E-07	No
Proposed Project	FGT21A	Silver	7440224	5.90E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FGT21A	Styrene	100425	1.58E-05	Yes
Proposed Project	FGT21A	Sulfate	9960	2.01E-05	Yes
Proposed Project	FGT21A	Sulfur	7704349	0.00E+00	No
Proposed Project	FGT21A	Tetradecane	629594	2.52E-05	No
Proposed Project	FGT21A	Thallium	7440280	0.00E+00	No
Proposed Project	FGT21A	Titanium	7440326	4.61E-09	No
Proposed Project	FGT21A	Toluene	108883	2.10E-05	Yes
Proposed Project	FGT21A	Trans2hexene	4050457	2.24E-10	No
Proposed Project	FGT21A	Trans2pentene	646048	2.68E-09	No
Proposed Project	FGT21A	Valeraldehyde	110623	1.83E-09	No
Proposed Project	FGT21A	Xylenes	1330207	1.11E-05	Yes
Proposed Project	FGT21A	Zinc	7440666	1.42E-08	No
Proposed Project	FGT21B	1,2,3trimethylbenzene	526738	4.37E-10	No
Proposed Project	FGT21B	1,2,4Trimethylbenzene	95636	1.44E-09	No
Proposed Project	FGT21B	1,3,5trimethylbenzene	108678	2.22E-10	No
Proposed Project	FGT21B	1,3butadiene	106990	2.68E-05	Yes
Proposed Project	FGT21B	1butene	106989	3.06E-05	No
Proposed Project	FGT21B	1decene	872059	2.56E-06	No
Proposed Project	FGT21B	1hexene	592416	1.30E-05	No
Proposed Project	FGT21B	1Methyl2Ethylbenzene	611143	2.68E-10	No
Proposed Project	FGT21B	1Methyl3Ethylbenzene	620144	6.34E-10	No
Proposed Project	FGT21B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	2.64E-10	No
Proposed Project	FGT21B	1Methylnaphthalene	90120	1.02E-09	No
Proposed Project	FGT21B	1nonene	124118	3.76E-06	No
Proposed Project	FGT21B	1octene	111660	4.27E-06	No
Proposed Project	FGT21B	1pentene	109671	1.28E-05	No
Proposed Project	FGT21B	2methyl1butene	563462	5.77E-10	No
Proposed Project	FGT21B	2methyl1pentene	763291	1.40E-10	No
Proposed Project	FGT21B	2methyl2butene	513359	3.08E-06	No
Proposed Project	FGT21B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.77E-09	No
Proposed Project	FGT21B	2methylnaphthalene	91576	8.49E-10	No
Proposed Project	FGT21B	2Methylpentane	107835	5.98E-06	No
Proposed Project	FGT21B	3methyl1butene	563451	4.61E-10	No
Proposed Project	FGT21B	4methyl1pentene	691372	2.84E-10	No
Proposed Project	FGT21B	Acetaldehyde	75070	7.39E-05	Yes
Proposed Project	FGT21B	Acetone	67641	5.01E-05	No
Proposed Project	FGT21B	Acetylene	74862	6.31E-05	No
Proposed Project	FGT21B	Acrolein (2propenal)	107028	3.52E-05	Yes
Proposed Project	FGT21B	Ammonium	14798039	3.63E-06	No
Proposed Project	FGT21B	Antimony	7440360	0.00E+00	No
Proposed Project	FGT21B	Benzaldehyde	100527	9.06E-06	No
Proposed Project	FGT21B	Benzene	71432	3.06E-05	Yes
Proposed Project	FGT21B	Bromine	7726956	1.01E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FGT21B	Butyraldehyde	123728	2.03E-05	No
Proposed Project	FGT21B	Calcium	7440702	0.00E+00	No
Proposed Project	FGT21B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FGT21B	Chromium	7440473	1.33E-08	No
Proposed Project	FGT21B	Cis2butene	590181	7.69E-06	No
Proposed Project	FGT21B	Cis2pentene	627203	1.14E-09	No
Proposed Project	FGT21B	Copper	7440508	1.10E-07	Yes
Proposed Project	FGT21B	Crotonaldehyde (or 2Butenal)	4170303	4.26E-09	No
Proposed Project	FGT21B	Cumene	98828	1.24E-11	No
Proposed Project	FGT21B	Decanal	112312	2.41E-08	No
Proposed Project	FGT21B	Dimethyl napthalene	28804888	3.71E-10	No
Proposed Project	FGT21B	Dodecenal	112549	1.20E-08	No
Proposed Project	FGT21B	Elemental Carbon	7440440	1.10E-05	No
Proposed Project	FGT21B	Ethane	74840	1.57E-05	No
Proposed Project	FGT21B	Ethylbenzene	100414	2.56E-06	Yes
Proposed Project	FGT21B	Ethylene	74851	2.65E-04	No
Proposed Project	FGT21B	Formaldehyde	50000	2.42E-04	Yes
Proposed Project	FGT21B	Furfuryl alcohol	98000	3.09E-05	No
Proposed Project	FGT21B	Glyoxal	107222	4.33E-05	No
Proposed Project	FGT21B	Heptadecane	629787	1.71E-07	No
Proposed Project	FGT21B	Heptene	25339564	8.89E-06	No
Proposed Project	FGT21B	Hexadecane	544763	2.39E-06	No
Proposed Project	FGT21B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	3.42E-06	No
Proposed Project	FGT21B	Indium	7440746	0.00E+00	No
Proposed Project	FGT21B	Insolchlorine	7782505	3.65E-08	Yes
Proposed Project	FGT21B	Iron	7439896	0.00E+00	No
Proposed Project	FGT21B	Isovaleraldehyde	590863	1.32E-10	No
Proposed Project	FGT21B	Lead	7439921	8.79E-05	Yes
Proposed Project	FGT21B	Magnesium	7439954	5.86E-08	No
Proposed Project	FGT21B	Manganese	7439965	9.30E-09	Yes
Proposed Project	FGT21B	Methane	74828	1.87E-04	No
Proposed Project	FGT21B	Methanol	67561	7.44E-09	Yes
Proposed Project	FGT21B	Methylglyoxal	78988	6.19E-09	No
Proposed Project	FGT21B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.15E-09	No
Proposed Project	FGT21B	Naphthalene	91203	8.72E-06	Yes
Proposed Project	FGT21B	N-butylbenzene	104518	3.76E-06	No
Proposed Project	FGT21B	Ndecane	124185	7.18E-06	No
Proposed Project	FGT21B	Ndodecane	112403	2.07E-05	No
Proposed Project	FGT21B	Nheptane	142825	1.03E-06	No
Proposed Project	FGT21B	Nickel	7440020	1.87E-08	Yes
Proposed Project	FGT21B	Nnonane	111842	2.56E-06	No
Proposed Project	FGT21B	Noctane	111659	6.84E-07	No
Proposed Project	FGT21B	Npentane	109660	3.25E-06	No
Proposed Project	FGT21B	Npentylbenzene	538681	2.91E-06	No
Proposed Project	FGT21B	Npropylbenzene	103651	2.18E-10	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FGT21B	Ntridecane	629505	1.13E-05	No
Proposed Project	FGT21B	Nundecane	1120214	8.89E-06	No
Proposed Project	FGT21B	oTolualdehyde	529204	9.48E-10	No
Proposed Project	FGT21B	Oxylene	95476	3.08E-06	Yes
Proposed Project	FGT21B	Pentadecane	629629	4.62E-06	No
Proposed Project	FGT21B	Phenol (carbolic acid)	108952	3.76E-06	Yes
Proposed Project	FGT21B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FGT21B	Potassium ion	7440097	4.55E-08	No
Proposed Project	FGT21B	Propane	74986	3.42E-06	No
Proposed Project	FGT21B	Propionaldehyde	123386	1.54E-05	No
Proposed Project	FGT21B	Propylene	115071	7.85E-05	Yes
Proposed Project	FGT21B	pTolualdehyde	104870	1.98E-10	No
Proposed Project	FGT21B	Silicon	7440213	2.03E-07	No
Proposed Project	FGT21B	Silver	7440224	3.43E-08	No
Proposed Project	FGT21B	Styrene	100425	6.33E-06	Yes
Proposed Project	FGT21B	Sulfate	9960	1.17E-05	Yes
Proposed Project	FGT21B	Sulfur	7704349	0.00E+00	No
Proposed Project	FGT21B	Tetradecane	629594	1.01E-05	No
Proposed Project	FGT21B	Thallium	7440280	0.00E+00	No
Proposed Project	FGT21B	Titanium	7440326	2.68E-09	No
Proposed Project	FGT21B	Toluene	108883	8.38E-06	Yes
Proposed Project	FGT21B	Trans2hexene	4050457	1.24E-10	No
Proposed Project	FGT21B	Trans2pentene	646048	1.48E-09	No
Proposed Project	FGT21B	Valeraldehyde	110623	1.01E-09	No
Proposed Project	FGT21B	Xylenes	1330207	4.45E-06	Yes
Proposed Project	FGT21B	Zinc	7440666	8.25E-09	No
Proposed Project	FGT23A	1,2,3trimethylbenzene	526738	8.24E-11	No
Proposed Project	FGT23A	1,2,4Trimethylbenzene	95636	2.72E-10	No
Proposed Project	FGT23A	1,3,5trimethylbenzene	108678	4.20E-11	No
Proposed Project	FGT23A	1,3butadiene	106990	6.99E-06	Yes
Proposed Project	FGT23A	1butene	106989	7.97E-06	No
Proposed Project	FGT23A	1decene	872059	6.68E-07	No
Proposed Project	FGT23A	1hexene	592416	3.38E-06	No
Proposed Project	FGT23A	1Methyl2Ethylbenzene	611143	5.05E-11	No
Proposed Project	FGT23A	1Methyl3Ethylbenzene	620144	1.20E-10	No
Proposed Project	FGT23A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	4.98E-11	No
Proposed Project	FGT23A	1Methylnaphthalene	90120	1.92E-10	No
Proposed Project	FGT23A	1nonene	124118	9.79E-07	No
Proposed Project	FGT23A	1octene	111660	1.11E-06	No
Proposed Project	FGT23A	1pentene	109671	3.34E-06	No
Proposed Project	FGT23A	2methyl1butene	563462	1.09E-10	No
Proposed Project	FGT23A	2methyl1pentene	763291	2.64E-11	No
Proposed Project	FGT23A	2methyl2butene	513359	8.01E-07	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FGT23A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	3.33E-10	No
Proposed Project	FGT23A	2methylnaphthalene	91576	1.60E-10	No
Proposed Project	FGT23A	2Methylpentane	107835	1.56E-06	No
Proposed Project	FGT23A	3methyl1butene	563451	8.71E-11	No
Proposed Project	FGT23A	4methyl1pentene	691372	5.36E-11	No
Proposed Project	FGT23A	Acetaldehyde	75070	1.92E-05	Yes
Proposed Project	FGT23A	Acetone	67641	1.30E-05	No
Proposed Project	FGT23A	Acetylene	74862	1.64E-05	No
Proposed Project	FGT23A	Acrolein (2propenal)	107028	9.17E-06	Yes
Proposed Project	FGT23A	Ammonium	14798039	6.50E-07	No
Proposed Project	FGT23A	Antimony	7440360	0.00E+00	No
Proposed Project	FGT23A	Benzaldehyde	100527	2.36E-06	No
Proposed Project	FGT23A	Benzene	71432	7.97E-06	Yes
Proposed Project	FGT23A	Bromine	7726956	1.81E-09	No
Proposed Project	FGT23A	Butyraldehyde	123728	5.30E-06	No
Proposed Project	FGT23A	Calcium	7440702	0.00E+00	No
Proposed Project	FGT23A	Chloride ion	16887006	0.00E+00	No
Proposed Project	FGT23A	Chromium	7440473	2.38E-09	No
Proposed Project	FGT23A	Cis2butene	590181	2.00E-06	No
Proposed Project	FGT23A	Cis2pentene	627203	2.15E-10	No
Proposed Project	FGT23A	Copper	7440508	1.96E-08	Yes
Proposed Project	FGT23A	Crotonaldehyde (or 2Butenal)	4170303	8.03E-10	No
Proposed Project	FGT23A	Cumene	98828	2.33E-12	No
Proposed Project	FGT23A	Decanal	112312	4.54E-09	No
Proposed Project	FGT23A	Dimethyl napthalene	28804888	7.00E-11	No
Proposed Project	FGT23A	Dodecenal	112549	2.27E-09	No
Proposed Project	FGT23A	Elemental Carbon	7440440	1.97E-06	No
Proposed Project	FGT23A	Ethane	74840	4.09E-06	No
Proposed Project	FGT23A	Ethylbenzene	100414	6.68E-07	Yes
Proposed Project	FGT23A	Ethylene	74851	6.90E-05	No
Proposed Project	FGT23A	Formaldehyde	50000	6.29E-05	Yes
Proposed Project	FGT23A	Furfuryl alcohol	98000	8.06E-06	No
Proposed Project	FGT23A	Glyoxal	107222	1.13E-05	No
Proposed Project	FGT23A	Heptadecane	629787	4.45E-08	No
Proposed Project	FGT23A	Heptene	25339564	2.31E-06	No
Proposed Project	FGT23A	Hexadecane	544763	6.23E-07	No
Proposed Project	FGT23A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	8.90E-07	No
Proposed Project	FGT23A	Indium	7440746	0.00E+00	No
Proposed Project	FGT23A	Insolchlorine	7782505	6.54E-09	Yes
Proposed Project	FGT23A	Iron	7439896	0.00E+00	No
Proposed Project	FGT23A	Isovaleraldehyde	590863	2.49E-11	No
Proposed Project	FGT23A	Lead	7439921	2.26E-05	Yes
Proposed Project	FGT23A	Magnesium	7439954	1.05E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FGT23A	Manganese	7439965	1.67E-09	Yes
Proposed Project	FGT23A	Methane	74828	4.87E-05	No
Proposed Project	FGT23A	Methanol	67561	1.40E-09	Yes
Proposed Project	FGT23A	Methylglyoxal	78988	1.17E-09	No
Proposed Project	FGT23A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.16E-10	No
Proposed Project	FGT23A	Naphthalene	91203	2.27E-06	Yes
Proposed Project	FGT23A	N-butylbenzene	104518	9.79E-07	No
Proposed Project	FGT23A	Ndecane	124185	1.87E-06	No
Proposed Project	FGT23A	Ndodecane	112403	5.39E-06	No
Proposed Project	FGT23A	Nheptane	142825	2.67E-07	No
Proposed Project	FGT23A	Nickel	7440020	3.34E-09	Yes
Proposed Project	FGT23A	Nnonane	111842	6.68E-07	No
Proposed Project	FGT23A	Noctane	111659	1.78E-07	No
Proposed Project	FGT23A	Npentane	109660	8.46E-07	No
Proposed Project	FGT23A	Npentylbenzene	538681	7.57E-07	No
Proposed Project	FGT23A	Npropylbenzene	103651	4.12E-11	No
Proposed Project	FGT23A	Ntridecane	629505	2.94E-06	No
Proposed Project	FGT23A	Nundecane	1120214	2.31E-06	No
Proposed Project	FGT23A	oTolualdehyde	529204	1.79E-10	No
Proposed Project	FGT23A	Oxylene	95476	8.01E-07	Yes
Proposed Project	FGT23A	Pentadecane	629629	1.20E-06	No
Proposed Project	FGT23A	Phenol (carbolic acid)	108952	9.80E-07	Yes
Proposed Project	FGT23A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FGT23A	Potassium ion	7440097	8.14E-09	No
Proposed Project	FGT23A	Propane	74986	8.90E-07	No
Proposed Project	FGT23A	Propionaldehyde	123386	4.01E-06	No
Proposed Project	FGT23A	Propylene	115071	2.04E-05	Yes
Proposed Project	FGT23A	pTolualdehyde	104870	3.73E-11	No
Proposed Project	FGT23A	Silicon	7440213	3.64E-08	No
Proposed Project	FGT23A	Silver	7440224	6.13E-09	No
Proposed Project	FGT23A	Styrene	100425	1.65E-06	Yes
Proposed Project	FGT23A	Sulfate	9960	2.09E-06	Yes
Proposed Project	FGT23A	Sulfur	7704349	0.00E+00	No
Proposed Project	FGT23A	Tetradecane	629594	2.63E-06	No
Proposed Project	FGT23A	Thallium	7440280	0.00E+00	No
Proposed Project	FGT23A	Titanium	7440326	4.80E-10	No
Proposed Project	FGT23A	Toluene	108883	2.18E-06	Yes
Proposed Project	FGT23A	Trans2hexene	4050457	2.33E-11	No
Proposed Project	FGT23A	Trans2pentene	646048	2.79E-10	No
Proposed Project	FGT23A	Valeraldehyde	110623	1.90E-10	No
Proposed Project	FGT23A	Xylenes	1330207	1.16E-06	Yes
Proposed Project	FGT23A	Zinc	7440666	1.48E-09	No
Proposed Project	FGT23B	1,2,3trimethylbenzene	526738	4.54E-11	No
Proposed Project	FGT23B	1,2,4Trimethylbenzene	95636	1.50E-10	No
Proposed Project	FGT23B	1,3,5trimethylbenzene	108678	2.32E-11	No
Proposed Project	FGT23B	1,3butadiene	106990	2.79E-06	Yes
Proposed Project	FGT23B	1butene	106989	3.18E-06	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FGT23B	1decene	872059	2.67E-07	No
Proposed Project	FGT23B	1hexene	592416	1.35E-06	No
Proposed Project	FGT23B	1Methyl2Ethylbenzene	611143	2.79E-11	No
Proposed Project	FGT23B	1Methyl3Ethylbenzene	620144	6.60E-11	No
Proposed Project	FGT23B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	2.74E-11	No
Proposed Project	FGT23B	1Methylnaphthalene	90120	1.06E-10	No
Proposed Project	FGT23B	1nonene	124118	3.91E-07	No
Proposed Project	FGT23B	1octene	111660	4.45E-07	No
Proposed Project	FGT23B	1pentene	109671	1.33E-06	No
Proposed Project	FGT23B	2methyl1butene	563462	6.00E-11	No
Proposed Project	FGT23B	2methyl1pentene	763291	1.46E-11	No
Proposed Project	FGT23B	2methyl2butene	513359	3.20E-07	No
Proposed Project	FGT23B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.84E-10	No
Proposed Project	FGT23B	2methylnaphthalene	91576	8.83E-11	No
Proposed Project	FGT23B	2Methylpentane	107835	6.23E-07	No
Proposed Project	FGT23B	3methyl1butene	563451	4.80E-11	No
Proposed Project	FGT23B	4methyl1pentene	691372	2.96E-11	No
Proposed Project	FGT23B	Acetaldehyde	75070	7.69E-06	Yes
Proposed Project	FGT23B	Acetone	67641	5.21E-06	No
Proposed Project	FGT23B	Acetylene	74862	6.57E-06	No
Proposed Project	FGT23B	Acrolein (2propenal)	107028	3.67E-06	Yes
Proposed Project	FGT23B	Ammonium	14798039	3.78E-07	No
Proposed Project	FGT23B	Antimony	7440360	0.00E+00	No
Proposed Project	FGT23B	Benzaldehyde	100527	9.43E-07	No
Proposed Project	FGT23B	Benzene	71432	3.18E-06	Yes
Proposed Project	FGT23B	Bromine	7726956	1.05E-09	No
Proposed Project	FGT23B	Butyraldehyde	123728	2.12E-06	No
Proposed Project	FGT23B	Calcium	7440702	0.00E+00	No
Proposed Project	FGT23B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FGT23B	Chromium	7440473	1.38E-09	No
Proposed Project	FGT23B	Cis2butene	590181	8.01E-07	No
Proposed Project	FGT23B	Cis2pentene	627203	1.18E-10	No
Proposed Project	FGT23B	Copper	7440508	1.14E-08	Yes
Proposed Project	FGT23B	Crotonaldehyde (or 2Butenal)	4170303	4.43E-10	No
Proposed Project	FGT23B	Cumene	98828	1.29E-12	No
Proposed Project	FGT23B	Decanal	112312	2.50E-09	No
Proposed Project	FGT23B	Dimethyl napthalene	28804888	3.86E-11	No
Proposed Project	FGT23B	Dodecenal	112549	1.25E-09	No
Proposed Project	FGT23B	Elemental Carbon	7440440	1.14E-06	No
Proposed Project	FGT23B	Ethane	74840	1.64E-06	No
Proposed Project	FGT23B	Ethylbenzene	100414	2.67E-07	Yes
Proposed Project	FGT23B	Ethylene	74851	2.76E-05	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FGT23B	Formaldehyde	50000	2.52E-05	Yes
Proposed Project	FGT23B	Furfuryl alcohol	98000	3.22E-06	No
Proposed Project	FGT23B	Glyoxal	107222	4.50E-06	No
Proposed Project	FGT23B	Heptadecane	629787	1.78E-08	No
Proposed Project	FGT23B	Heptene	25339564	9.25E-07	No
Proposed Project	FGT23B	Hexadecane	544763	2.49E-07	No
Proposed Project	FGT23B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	3.56E-07	No
Proposed Project	FGT23B	Indium	7440746	0.00E+00	No
Proposed Project	FGT23B	Insolchlorine	7782505	3.80E-09	Yes
Proposed Project	FGT23B	Iron	7439896	0.00E+00	No
Proposed Project	FGT23B	Isovaleraldehyde	590863	1.37E-11	No
Proposed Project	FGT23B	Lead	7439921	9.14E-06	Yes
Proposed Project	FGT23B	Magnesium	7439954	6.10E-09	No
Proposed Project	FGT23B	Manganese	7439965	9.68E-10	Yes
Proposed Project	FGT23B	Methane	74828	1.95E-05	No
Proposed Project	FGT23B	Methanol	67561	7.74E-10	Yes
Proposed Project	FGT23B	Methylglyoxal	78988	6.44E-10	No
Proposed Project	FGT23B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.19E-10	No
Proposed Project	FGT23B	Naphthalene	91203	9.07E-07	Yes
Proposed Project	FGT23B	N-butylbenzene	104518	3.91E-07	No
Proposed Project	FGT23B	Ndecane	124185	7.47E-07	No
Proposed Project	FGT23B	Ndodecane	112403	2.15E-06	No
Proposed Project	FGT23B	Nheptane	142825	1.07E-07	No
Proposed Project	FGT23B	Nickel	7440020	1.94E-09	Yes
Proposed Project	FGT23B	Nnonane	111842	2.67E-07	No
Proposed Project	FGT23B	Noctane	111659	7.12E-08	No
Proposed Project	FGT23B	Npentane	109660	3.38E-07	No
Proposed Project	FGT23B	Npentylbenzene	538681	3.02E-07	No
Proposed Project	FGT23B	Npropylbenzene	103651	2.27E-11	No
Proposed Project	FGT23B	Ntridecane	629505	1.17E-06	No
Proposed Project	FGT23B	Nundecane	1120214	9.25E-07	No
Proposed Project	FGT23B	oTolualdehyde	529204	9.86E-11	No
Proposed Project	FGT23B	Oxylene	95476	3.20E-07	Yes
Proposed Project	FGT23B	Pentadecane	629629	4.80E-07	No
Proposed Project	FGT23B	Phenol (carbolic acid)	108952	3.92E-07	Yes
Proposed Project	FGT23B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FGT23B	Potassium ion	7440097	4.73E-09	No
Proposed Project	FGT23B	Propane	74986	3.56E-07	No
Proposed Project	FGT23B	Propionaldehyde	123386	1.60E-06	No
Proposed Project	FGT23B	Propylene	115071	8.17E-06	Yes
Proposed Project	FGT23B	pTolualdehyde	104870	2.06E-11	No
Proposed Project	FGT23B	Silicon	7440213	2.11E-08	No
Proposed Project	FGT23B	Silver	7440224	3.57E-09	No
Proposed Project	FGT23B	Styrene	100425	6.58E-07	Yes
Proposed Project	FGT23B	Sulfate	9960	1.22E-06	Yes
Proposed Project	FGT23B	Sulfur	7704349	0.00E+00	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FGT23B	Tetradecane	629594	1.05E-06	No
Proposed Project	FGT23B	Thallium	7440280	0.00E+00	No
Proposed Project	FGT23B	Titanium	7440326	2.79E-10	No
Proposed Project	FGT23B	Toluene	108883	8.72E-07	Yes
Proposed Project	FGT23B	Trans2hexene	4050457	1.29E-11	No
Proposed Project	FGT23B	Trans2pentene	646048	1.54E-10	No
Proposed Project	FGT23B	Valeraldehyde	110623	1.05E-10	No
Proposed Project	FGT23B	Xylenes	1330207	4.63E-07	Yes
Proposed Project	FGT23B	Zinc	7440666	8.58E-10	No
Proposed Project	FMT35A	1,2,3trimethylbenzene	526738	1.22E-08	No
Proposed Project	FMT35A	1,2,4Trimethylbenzene	95636	4.04E-08	No
Proposed Project	FMT35A	1,3,5trimethylbenzene	108678	6.24E-09	No
Proposed Project	FMT35A	1,3butadiene	106990	1.95E-07	Yes
Proposed Project	FMT35A	1butene	106989	2.03E-07	No
Proposed Project	FMT35A	1decene	872059	2.14E-08	No
Proposed Project	FMT35A	1hexene	592416	8.51E-08	No
Proposed Project	FMT35A	1Methyl2Ethylbenzene	611143	7.51E-09	No
Proposed Project	FMT35A	1Methyl3Ethylbenzene	620144	1.78E-08	No
Proposed Project	FMT35A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	7.40E-09	No
Proposed Project	FMT35A	1Methylnaphthalene	90120	2.85E-08	No
Proposed Project	FMT35A	1nonene	124118	2.84E-08	No
Proposed Project	FMT35A	1octene	111660	3.19E-08	No
Proposed Project	FMT35A	1pentene	109671	8.97E-08	No
Proposed Project	FMT35A	2methyl1butene	563462	1.62E-08	No
Proposed Project	FMT35A	2methyl1pentene	763291	3.93E-09	No
Proposed Project	FMT35A	2methyl2butene	513359	2.14E-08	No
Proposed Project	FMT35A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	4.96E-08	No
Proposed Project	FMT35A	2methylnaphthalene	91576	2.38E-08	No
Proposed Project	FMT35A	2Methylpentane	107835	4.71E-08	No
Proposed Project	FMT35A	3methyl1butene	563451	1.29E-08	No
Proposed Project	FMT35A	4methyl1pentene	691372	7.97E-09	No
Proposed Project	FMT35A	Acetaldehyde	75070	4.94E-07	Yes
Proposed Project	FMT35A	Acetone	67641	4.26E-08	No
Proposed Project	FMT35A	Acetylene	74862	4.55E-07	No
Proposed Project	FMT35A	Acrolein (2propenal)	107028	2.83E-07	Yes
Proposed Project	FMT35A	Ammonium	14798039	1.48E-06	No
Proposed Project	FMT35A	Antimony	7440360	0.00E+00	No
Proposed Project	FMT35A	Benzaldehyde	100527	5.43E-08	No
Proposed Project	FMT35A	Benzene	71432	1.94E-07	Yes
Proposed Project	FMT35A	Bromine	7726956	4.12E-09	No
Proposed Project	FMT35A	Butyraldehyde	123728	1.38E-08	No
Proposed Project	FMT35A	Calcium	7440702	0.00E+00	No
Proposed Project	FMT35A	Chloride ion	16887006	0.00E+00	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FMT35A	Chromium	7440473	5.43E-09	No
Proposed Project	FMT35A	Cis2butene	590181	2.43E-08	No
Proposed Project	FMT35A	Cis2pentene	627203	3.19E-08	No
Proposed Project	FMT35A	Copper	7440508	4.48E-08	Yes
Proposed Project	FMT35A	Crotonaldehyde (or 2Butenal)	4170303	1.19E-07	No
Proposed Project	FMT35A	Cumene	98828	3.47E-10	No
Proposed Project	FMT35A	Decanal	112312	6.75E-07	No
Proposed Project	FMT35A	Dimethyl napthalene	28804888	1.04E-08	No
Proposed Project	FMT35A	Dodecenal	112549	3.38E-07	No
Proposed Project	FMT35A	Elemental Carbon	7440440	4.48E-06	No
Proposed Project	FMT35A	Ethane	74840	6.02E-08	No
Proposed Project	FMT35A	Ethylbenzene	100414	2.01E-08	Yes
Proposed Project	FMT35A	Ethylene	74851	1.79E-06	No
Proposed Project	FMT35A	Formaldehyde	50000	1.42E-06	Yes
Proposed Project	FMT35A	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FMT35A	Glyoxal	107222	2.10E-07	No
Proposed Project	FMT35A	Heptadecane	629787	1.04E-09	No
Proposed Project	FMT35A	Heptene	25339564	5.06E-08	No
Proposed Project	FMT35A	Hexadecane	544763	5.66E-09	No
Proposed Project	FMT35A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FMT35A	Indium	7440746	0.00E+00	No
Proposed Project	FMT35A	Insolchlorine	7782505	1.49E-08	Yes
Proposed Project	FMT35A	Iron	7439896	0.00E+00	No
Proposed Project	FMT35A	Isovaleraldehyde	590863	3.70E-09	No
Proposed Project	FMT35A	Magnesium	7439954	2.39E-08	No
Proposed Project	FMT35A	Manganese	7439965	3.80E-09	Yes
Proposed Project	FMT35A	Methane	74828	0.00E+00	No
Proposed Project	FMT35A	Methanol	67561	2.09E-07	Yes
Proposed Project	FMT35A	Methylglyoxal	78988	1.74E-07	No
Proposed Project	FMT35A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	3.21E-08	No
Proposed Project	FMT35A	Naphthalene	91203	6.25E-08	Yes
Proposed Project	FMT35A	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FMT35A	Ndecane	124185	3.70E-08	No
Proposed Project	FMT35A	Ndodecane	112403	5.34E-08	No
Proposed Project	FMT35A	Nheptane	142825	7.40E-09	No
Proposed Project	FMT35A	Nickel	7440020	7.62E-09	Yes
Proposed Project	FMT35A	Nnonane	111842	7.16E-09	No
Proposed Project	FMT35A	Noctane	111659	7.16E-09	No
Proposed Project	FMT35A	Npentane	109660	2.29E-08	No
Proposed Project	FMT35A	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FMT35A	Npropylbenzene	103651	6.12E-09	No
Proposed Project	FMT35A	Ntridecane	629505	6.18E-08	No
Proposed Project	FMT35A	Nundecane	1120214	5.13E-08	No
Proposed Project	FMT35A	oTolualdehyde	529204	2.66E-08	No
Proposed Project	FMT35A	Oxylene	95476	1.92E-08	Yes

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FMT35A	Pentadecane	629629	2.00E-08	No
Proposed Project	FMT35A	Phenol (carbolic acid)	108952	8.39E-08	Yes
Proposed Project	FMT35A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FMT35A	Potassium ion	7440097	1.86E-08	No
Proposed Project	FMT35A	Propane	74986	9.01E-09	No
Proposed Project	FMT35A	Propionaldehyde	123386	8.40E-08	No
Proposed Project	FMT35A	Propylene	115071	5.24E-07	Yes
Proposed Project	FMT35A	pTolualdehyde	104870	5.55E-09	No
Proposed Project	FMT35A	Silicon	7440213	8.29E-08	No
Proposed Project	FMT35A	Silver	7440224	1.40E-08	No
Proposed Project	FMT35A	Styrene	100425	3.57E-08	Yes
Proposed Project	FMT35A	Sulfate	9960	4.77E-06	Yes
Proposed Project	FMT35A	Sulfur	7704349	0.00E+00	No
Proposed Project	FMT35A	Tetradecane	629594	4.81E-08	No
Proposed Project	FMT35A	Thallium	7440280	0.00E+00	No
Proposed Project	FMT35A	Titanium	7440326	1.09E-09	No
Proposed Project	FMT35A	Toluene	108883	7.42E-08	Yes
Proposed Project	FMT35A	Trans2hexene	4050457	3.47E-09	No
Proposed Project	FMT35A	Trans2pentene	646048	4.15E-08	No
Proposed Project	FMT35A	Valeraldehyde	110623	2.83E-08	No
Proposed Project	FMT35A	Xylenes	1330207	3.26E-08	Yes
Proposed Project	FMT35A	Zinc	7440666	3.37E-09	No
Proposed Project	FMT35B	1,2,3trimethylbenzene	526738	4.38E-08	No
Proposed Project	FMT35B	1,2,4Trimethylbenzene	95636	1.44E-07	No
Proposed Project	FMT35B	1,3,5trimethylbenzene	108678	2.23E-08	No
Proposed Project	FMT35B	1,3butadiene	106990	6.96E-07	Yes
Proposed Project	FMT35B	1butene	106989	7.24E-07	No
Proposed Project	FMT35B	1decene	872059	7.64E-08	No
Proposed Project	FMT35B	1hexene	592416	3.04E-07	No
Proposed Project	FMT35B	1Methyl2Ethylbenzene	611143	2.68E-08	No
Proposed Project	FMT35B	1Methyl3Ethylbenzene	620144	6.36E-08	No
Proposed Project	FMT35B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	2.64E-08	No
Proposed Project	FMT35B	1Methylnaphthalene	90120	1.02E-07	No
Proposed Project	FMT35B	1nonene	124118	1.02E-07	No
Proposed Project	FMT35B	1octene	111660	1.14E-07	No
Proposed Project	FMT35B	1pentene	109671	3.20E-07	No
Proposed Project	FMT35B	2methyl1butene	563462	5.78E-08	No
Proposed Project	FMT35B	2methyl1pentene	763291	1.40E-08	No
Proposed Project	FMT35B	2methyl2butene	513359	7.64E-08	No
Proposed Project	FMT35B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.77E-07	No
Proposed Project	FMT35B	2methylnaphthalene	91576	8.50E-08	No
Proposed Project	FMT35B	2Methylpentane	107835	1.68E-07	No
Proposed Project	FMT35B	3methyl1butene	563451	4.62E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FMT35B	4methyl1pentene	691372	2.85E-08	No
Proposed Project	FMT35B	Acetaldehyde	75070	1.76E-06	Yes
Proposed Project	FMT35B	Acetone	67641	1.52E-07	No
Proposed Project	FMT35B	Acetylene	74862	1.63E-06	No
Proposed Project	FMT35B	Acrolein (2propenal)	107028	1.01E-06	Yes
Proposed Project	FMT35B	Ammonium	14798039	9.40E-07	No
Proposed Project	FMT35B	Antimony	7440360	0.00E+00	No
Proposed Project	FMT35B	Benzaldehyde	100527	1.94E-07	No
Proposed Project	FMT35B	Benzene	71432	6.94E-07	Yes
Proposed Project	FMT35B	Bromine	7726956	2.61E-09	No
Proposed Project	FMT35B	Butyraldehyde	123728	4.91E-08	No
Proposed Project	FMT35B	Calcium	7440702	0.00E+00	No
Proposed Project	FMT35B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FMT35B	Chromium	7440473	3.44E-09	No
Proposed Project	FMT35B	Cis2butene	590181	8.67E-08	No
Proposed Project	FMT35B	Cis2pentene	627203	1.14E-07	No
Proposed Project	FMT35B	Copper	7440508	2.84E-08	Yes
Proposed Project	FMT35B	Crotonaldehyde (or 2Butenal)	4170303	4.26E-07	No
Proposed Project	FMT35B	Cumene	98828	1.24E-09	No
Proposed Project	FMT35B	Decanal	112312	2.41E-06	No
Proposed Project	FMT35B	Dimethyl napthalene	28804888	3.72E-08	No
Proposed Project	FMT35B	Dodecenal	112549	1.21E-06	No
Proposed Project	FMT35B	Elemental Carbon	7440440	2.84E-06	No
Proposed Project	FMT35B	Ethane	74840	2.15E-07	No
Proposed Project	FMT35B	Ethylbenzene	100414	7.18E-08	Yes
Proposed Project	FMT35B	Ethylene	74851	6.38E-06	No
Proposed Project	FMT35B	Formaldehyde	50000	5.08E-06	Yes
Proposed Project	FMT35B	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FMT35B	Glyoxal	107222	7.50E-07	No
Proposed Project	FMT35B	Heptadecane	629787	3.72E-09	No
Proposed Project	FMT35B	Heptene	25339564	1.81E-07	No
Proposed Project	FMT35B	Hexadecane	544763	2.02E-08	No
Proposed Project	FMT35B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FMT35B	Indium	7440746	0.00E+00	No
Proposed Project	FMT35B	Insolchlorine	7782505	9.46E-09	Yes
Proposed Project	FMT35B	Iron	7439896	0.00E+00	No
Proposed Project	FMT35B	Isovaleraldehyde	590863	1.32E-08	No
Proposed Project	FMT35B	Magnesium	7439954	1.52E-08	No
Proposed Project	FMT35B	Manganese	7439965	2.41E-09	Yes
Proposed Project	FMT35B	Methane	74828	0.00E+00	No
Proposed Project	FMT35B	Methanol	67561	7.45E-07	Yes
Proposed Project	FMT35B	Methylglyoxal	78988	6.20E-07	No
Proposed Project	FMT35B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.15E-07	No
Proposed Project	FMT35B	Naphthalene	91203	2.23E-07	Yes
Proposed Project	FMT35B	N-butylbenzene	104518	0.00E+00	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FMT35B	Ndecane	124185	1.32E-07	No
Proposed Project	FMT35B	Ndodecane	112403	1.91E-07	No
Proposed Project	FMT35B	Nheptane	142825	2.64E-08	No
Proposed Project	FMT35B	Nickel	7440020	4.83E-09	Yes
Proposed Project	FMT35B	Nnonane	111842	2.56E-08	No
Proposed Project	FMT35B	Noctane	111659	2.56E-08	No
Proposed Project	FMT35B	Npentane	109660	8.17E-08	No
Proposed Project	FMT35B	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FMT35B	Npropylbenzene	103651	2.19E-08	No
Proposed Project	FMT35B	Ntridecane	629505	2.21E-07	No
Proposed Project	FMT35B	Nundecane	1120214	1.83E-07	No
Proposed Project	FMT35B	oTolualdehyde	529204	9.49E-08	No
Proposed Project	FMT35B	Oxylene	95476	6.85E-08	Yes
Proposed Project	FMT35B	Pentadecane	629629	7.14E-08	No
Proposed Project	FMT35B	Phenol (carbolic acid)	108952	3.00E-07	Yes
Proposed Project	FMT35B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FMT35B	Potassium ion	7440097	1.18E-08	No
Proposed Project	FMT35B	Propane	74986	3.22E-08	No
Proposed Project	FMT35B	Propionaldehyde	123386	3.00E-07	No
Proposed Project	FMT35B	Propylene	115071	1.87E-06	Yes
Proposed Project	FMT35B	pTolualdehyde	104870	1.98E-08	No
Proposed Project	FMT35B	Silicon	7440213	5.26E-08	No
Proposed Project	FMT35B	Silver	7440224	8.88E-09	No
Proposed Project	FMT35B	Styrene	100425	1.28E-07	Yes
Proposed Project	FMT35B	Sulfate	9960	3.03E-06	Yes
Proposed Project	FMT35B	Sulfur	7704349	0.00E+00	No
Proposed Project	FMT35B	Tetradecane	629594	1.72E-07	No
Proposed Project	FMT35B	Thallium	7440280	0.00E+00	No
Proposed Project	FMT35B	Titanium	7440326	6.94E-10	No
Proposed Project	FMT35B	Toluene	108883	2.65E-07	Yes
Proposed Project	FMT35B	Trans2hexene	4050457	1.24E-08	No
Proposed Project	FMT35B	Trans2pentene	646048	1.48E-07	No
Proposed Project	FMT35B	Valeraldehyde	110623	1.01E-07	No
Proposed Project	FMT35B	Xylenes	1330207	1.16E-07	Yes
Proposed Project	FMT35B	Zinc	7440666	2.14E-09	No
Proposed Project	FRA	1,2,3trimethylbenzene	526738	2.37E-05	No
Proposed Project	FRA	1,2,4Trimethylbenzene	95636	7.81E-05	No
Proposed Project	FRA	1,3,5trimethylbenzene	108678	1.21E-05	No
Proposed Project	FRA	1,3butadiene	106990	3.82E-04	Yes
Proposed Project	FRA	1butene	106989	3.97E-04	No
Proposed Project	FRA	1decene	872059	4.18E-05	No
Proposed Project	FRA	1hexene	592416	1.67E-04	No
Proposed Project	FRA	1Methyl2Ethylbenzene	611143	1.45E-05	No
Proposed Project	FRA	1Methyl3Ethylbenzene	620144	3.44E-05	No
Proposed Project	FRA	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.43E-05	No
Proposed Project	FRA	1Methylnaphthalene	90120	5.51E-05	No
Proposed Project	FRA	1nonene	124118	5.56E-05	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FRA	1octene	111660	6.24E-05	No
Proposed Project	FRA	1pentene	109671	1.76E-04	No
Proposed Project	FRA	2methyl1butene	563462	3.12E-05	No
Proposed Project	FRA	2methyl1pentene	763291	7.59E-06	No
Proposed Project	FRA	2methyl2butene	513359	4.19E-05	No
Proposed Project	FRA	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	9.58E-05	No
Proposed Project	FRA	2methylnaphthalene	91576	4.60E-05	No
Proposed Project	FRA	2Methylpentane	107835	9.22E-05	No
Proposed Project	FRA	3methyl1butene	563451	2.50E-05	No
Proposed Project	FRA	4methyl1pentene	691372	1.54E-05	No
Proposed Project	FRA	Acetaldehyde	75070	9.68E-04	Yes
Proposed Project	FRA	Acetone	67641	9.21E-05	No
Proposed Project	FRA	Acetylene	74862	8.91E-04	No
Proposed Project	FRA	Acrolein (2propenal)	107028	5.53E-04	Yes
Proposed Project	FRA	Ammonium	14798039	9.15E-04	No
Proposed Project	FRA	Antimony	7440360	0.00E+00	No
Proposed Project	FRA	Benzaldehyde	100527	1.07E-04	No
Proposed Project	FRA	Benzene	71432	3.81E-04	Yes
Proposed Project	FRA	Bromine	7726956	2.54E-06	No
Proposed Project	FRA	Butyraldehyde	123728	3.05E-05	No
Proposed Project	FRA	Calcium	7440702	0.00E+00	No
Proposed Project	FRA	Chloride ion	16887006	0.00E+00	No
Proposed Project	FRA	Chromium	7440473	3.35E-06	No
Proposed Project	FRA	Cis2butene	590181	4.84E-05	No
Proposed Project	FRA	Cis2pentene	627203	6.16E-05	No
Proposed Project	FRA	Copper	7440508	2.76E-05	Yes
Proposed Project	FRA	Crotonaldehyde (or 2Butenal)	4170303	2.31E-04	No
Proposed Project	FRA	Cumene	98828	6.70E-07	No
Proposed Project	FRA	Decanal	112312	1.30E-03	No
Proposed Project	FRA	Dimethyl napthalene	28804888	2.01E-05	No
Proposed Project	FRA	Dodecenal	112549	6.52E-04	No
Proposed Project	FRA	Elemental Carbon	7440440	2.77E-03	No
Proposed Project	FRA	Ethane	74840	1.19E-04	No
Proposed Project	FRA	Ethylbenzene	100414	3.93E-05	Yes
Proposed Project	FRA	Ethylene	74851	3.50E-03	No
Proposed Project	FRA	Formaldehyde	50000	2.79E-03	Yes
Proposed Project	FRA	Furfuryl alcohol	98000	6.03E-06	No
Proposed Project	FRA	Glyoxal	107222	4.14E-04	No
Proposed Project	FRA	Heptadecane	629787	2.04E-06	No
Proposed Project	FRA	Heptene	25339564	9.95E-05	No
Proposed Project	FRA	Hexadecane	544763	1.14E-05	No
Proposed Project	FRA	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	6.66E-07	No
Proposed Project	FRA	Indium	7440746	0.00E+00	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FRA	Insolchlorine	7782505	9.21E-06	Yes
Proposed Project	FRA	Iron	7439896	0.00E+00	No
Proposed Project	FRA	Isovaleraldehyde	590863	7.14E-06	No
Proposed Project	FRA	Lead	7439921	1.71E-05	Yes
Proposed Project	FRA	Magnesium	7439954	1.48E-05	No
Proposed Project	FRA	Manganese	7439965	2.34E-06	Yes
Proposed Project	FRA	Methane	74828	3.65E-05	No
Proposed Project	FRA	Methanol	67561	4.03E-04	Yes
Proposed Project	FRA	Methylglyoxal	78988	3.35E-04	No
Proposed Project	FRA	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	6.20E-05	No
Proposed Project	FRA	Naphthalene	91203	1.22E-04	Yes
Proposed Project	FRA	N-butylbenzene	104518	7.33E-07	No
Proposed Project	FRA	Ndecane	124185	7.28E-05	No
Proposed Project	FRA	Ndodecane	112403	1.07E-04	No
Proposed Project	FRA	Nheptane	142825	1.45E-05	No
Proposed Project	FRA	Nickel	7440020	4.70E-06	Yes
Proposed Project	FRA	Nnonane	111842	1.43E-05	No
Proposed Project	FRA	Noctane	111659	1.40E-05	No
Proposed Project	FRA	Npentane	109660	4.48E-05	No
Proposed Project	FRA	Npentylbenzene	538681	5.66E-07	No
Proposed Project	FRA	Npropylbenzene	103651	1.18E-05	No
Proposed Project	FRA	Ntridecane	629505	1.22E-04	No
Proposed Project	FRA	Nundecane	1120214	1.01E-04	No
Proposed Project	FRA	oTolualdehyde	529204	5.13E-05	No
Proposed Project	FRA	Oxylene	95476	3.77E-05	Yes
Proposed Project	FRA	Pentadecane	629629	3.95E-05	No
Proposed Project	FRA	Phenol (carbolic acid)	108952	1.63E-04	Yes
Proposed Project	FRA	Phosphorus	7723140	0.00E+00	No
Proposed Project	FRA	Potassium ion	7440097	1.15E-05	No
Proposed Project	FRA	Propane	74986	1.81E-05	No
Proposed Project	FRA	Propionaldehyde	123386	1.65E-04	No
Proposed Project	FRA	Propylene	115071	1.03E-03	Yes
Proposed Project	FRA	pTolualdehyde	104870	1.07E-05	No
Proposed Project	FRA	Silicon	7440213	5.12E-05	No
Proposed Project	FRA	Silver	7440224	8.64E-06	No
Proposed Project	FRA	Styrene	100425	7.02E-05	Yes
Proposed Project	FRA	Sulfate	9960	2.95E-03	Yes
Proposed Project	FRA	Sulfur	7704349	0.00E+00	No
Proposed Project	FRA	Tetradecane	629594	9.48E-05	No
Proposed Project	FRA	Thallium	7440280	0.00E+00	No
Proposed Project	FRA	Titanium	7440326	6.76E-07	No
Proposed Project	FRA	Toluene	108883	1.45E-04	Yes
Proposed Project	FRA	Trans2hexene	4050457	6.70E-06	No
Proposed Project	FRA	Trans2pentene	646048	8.01E-05	No
Proposed Project	FRA	Valeraldehyde	110623	5.47E-05	No
Proposed Project	FRA	Xylenes	1330207	6.38E-05	Yes
Proposed Project	FRA	Zinc	7440666	2.08E-06	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FRB	1,2,3trimethylbenzene	526738	3.00E-05	No
Proposed Project	FRB	1,2,4Trimethylbenzene	95636	9.91E-05	No
Proposed Project	FRB	1,3,5trimethylbenzene	108678	1.53E-05	No
Proposed Project	FRB	1,3butadiene	106990	4.84E-04	Yes
Proposed Project	FRB	1butene	106989	5.04E-04	No
Proposed Project	FRB	1decene	872059	5.30E-05	No
Proposed Project	FRB	1hexene	592416	2.12E-04	No
Proposed Project	FRB	1Methyl2Ethylbenzene	611143	1.84E-05	No
Proposed Project	FRB	1Methyl3Ethylbenzene	620144	4.36E-05	No
Proposed Project	FRB	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.81E-05	No
Proposed Project	FRB	1Methylnaphthalene	90120	6.99E-05	No
Proposed Project	FRB	1nonene	124118	7.06E-05	No
Proposed Project	FRB	1octene	111660	7.92E-05	No
Proposed Project	FRB	1pentene	109671	2.23E-04	No
Proposed Project	FRB	2methyl1butene	563462	3.96E-05	No
Proposed Project	FRB	2methyl1pentene	763291	9.63E-06	No
Proposed Project	FRB	2methyl2butene	513359	5.31E-05	No
Proposed Project	FRB	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.21E-04	No
Proposed Project	FRB	2methylnaphthalene	91576	5.83E-05	No
Proposed Project	FRB	2Methylpentane	107835	1.17E-04	No
Proposed Project	FRB	3methyl1butene	563451	3.17E-05	No
Proposed Project	FRB	4methyl1pentene	691372	1.95E-05	No
Proposed Project	FRB	Acetaldehyde	75070	1.23E-03	Yes
Proposed Project	FRB	Acetone	67641	1.17E-04	No
Proposed Project	FRB	Acetylene	74862	1.13E-03	No
Proposed Project	FRB	Acrolein (2propenal)	107028	7.02E-04	Yes
Proposed Project	FRB	Ammonium	14798039	1.16E-03	No
Proposed Project	FRB	Antimony	7440360	0.00E+00	No
Proposed Project	FRB	Benzaldehyde	100527	1.35E-04	No
Proposed Project	FRB	Benzene	71432	4.83E-04	Yes
Proposed Project	FRB	Bromine	7726956	3.23E-06	No
Proposed Project	FRB	Butyraldehyde	123728	3.87E-05	No
Proposed Project	FRB	Calcium	7440702	0.00E+00	No
Proposed Project	FRB	Chloride ion	16887006	0.00E+00	No
Proposed Project	FRB	Chromium	7440473	4.25E-06	No
Proposed Project	FRB	Cis2butene	590181	6.14E-05	No
Proposed Project	FRB	Cis2pentene	627203	7.81E-05	No
Proposed Project	FRB	Copper	7440508	3.51E-05	Yes
Proposed Project	FRB	Crotonaldehyde (or 2Butenal)	4170303	2.92E-04	No
Proposed Project	FRB	Cumene	98828	8.49E-07	No
Proposed Project	FRB	Decanal	112312	1.65E-03	No
Proposed Project	FRB	Dimethyl napthalene	28804888	2.55E-05	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FRB	Dodecenal	112549	8.27E-04	No
Proposed Project	FRB	Elemental Carbon	7440440	3.51E-03	No
Proposed Project	FRB	Ethane	74840	1.51E-04	No
Proposed Project	FRB	Ethylbenzene	100414	4.99E-05	Yes
Proposed Project	FRB	Ethylene	74851	4.44E-03	No
Proposed Project	FRB	Formaldehyde	50000	3.54E-03	Yes
Proposed Project	FRB	Furfuryl alcohol	98000	7.64E-06	No
Proposed Project	FRB	Glyoxal	107222	5.25E-04	No
Proposed Project	FRB	Heptadecane	629787	2.59E-06	No
Proposed Project	FRB	Heptene	25339564	1.26E-04	No
Proposed Project	FRB	Hexadecane	544763	1.45E-05	No
Proposed Project	FRB	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	8.45E-07	No
Proposed Project	FRB	Indium	7440746	0.00E+00	No
Proposed Project	FRB	Insolchlorine	7782505	1.17E-05	Yes
Proposed Project	FRB	Iron	7439896	0.00E+00	No
Proposed Project	FRB	Isovaleraldehyde	590863	9.06E-06	No
Proposed Project	FRB	Lead	7439921	2.17E-05	Yes
Proposed Project	FRB	Magnesium	7439954	1.87E-05	No
Proposed Project	FRB	Manganese	7439965	2.97E-06	Yes
Proposed Project	FRB	Methane	74828	4.62E-05	No
Proposed Project	FRB	Methanol	67561	5.11E-04	Yes
Proposed Project	FRB	Methylglyoxal	78988	4.26E-04	No
Proposed Project	FRB	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	7.87E-05	No
Proposed Project	FRB	Naphthalene	91203	1.55E-04	Yes
Proposed Project	FRB	N-butylbenzene	104518	9.29E-07	No
Proposed Project	FRB	Ndecane	124185	9.24E-05	No
Proposed Project	FRB	Ndodecane	112403	1.36E-04	No
Proposed Project	FRB	Nheptane	142825	1.84E-05	No
Proposed Project	FRB	Nickel	7440020	5.96E-06	Yes
Proposed Project	FRB	Nnonane	111842	1.82E-05	No
Proposed Project	FRB	Noctane	111659	1.77E-05	No
Proposed Project	FRB	Npentane	109660	5.69E-05	No
Proposed Project	FRB	Npentylbenzene	538681	7.18E-07	No
Proposed Project	FRB	Npropylbenzene	103651	1.50E-05	No
Proposed Project	FRB	Ntridecane	629505	1.54E-04	No
Proposed Project	FRB	Nundecane	1120214	1.28E-04	No
Proposed Project	FRB	oTolualdehyde	529204	6.51E-05	No
Proposed Project	FRB	Oxylene	95476	4.78E-05	Yes
Proposed Project	FRB	Pentadecane	629629	5.01E-05	No
Proposed Project	FRB	Phenol (carbolic acid)	108952	2.06E-04	Yes
Proposed Project	FRB	Phosphorus	7723140	0.00E+00	No
Proposed Project	FRB	Potassium ion	7440097	1.45E-05	No
Proposed Project	FRB	Propane	74986	2.29E-05	No
Proposed Project	FRB	Propionaldehyde	123386	2.10E-04	No
Proposed Project	FRB	Propylene	115071	1.30E-03	Yes
Proposed Project	FRB	pTolualdehyde	104870	1.36E-05	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FRB	Silicon	7440213	6.50E-05	No
Proposed Project	FRB	Silver	7440224	1.10E-05	No
Proposed Project	FRB	Styrene	100425	8.90E-05	Yes
Proposed Project	FRB	Sulfate	9960	3.74E-03	Yes
Proposed Project	FRB	Sulfur	7704349	0.00E+00	No
Proposed Project	FRB	Tetradecane	629594	1.20E-04	No
Proposed Project	FRB	Thallium	7440280	0.00E+00	No
Proposed Project	FRB	Titanium	7440326	8.57E-07	No
Proposed Project	FRB	Toluene	108883	1.84E-04	Yes
Proposed Project	FRB	Trans2hexene	4050457	8.49E-06	No
Proposed Project	FRB	Trans2pentene	646048	1.02E-04	No
Proposed Project	FRB	Valeraldehyde	110623	6.94E-05	No
Proposed Project	FRB	Xylenes	1330207	8.09E-05	Yes
Proposed Project	FRB	Zinc	7440666	2.64E-06	No
Proposed Project	FUT09A	1,2,3trimethylbenzene	526738	9.97E-08	No
Proposed Project	FUT09A	1,2,4Trimethylbenzene	95636	3.29E-07	No
Proposed Project	FUT09A	1,3,5trimethylbenzene	108678	5.08E-08	No
Proposed Project	FUT09A	1,3butadiene	106990	1.59E-06	Yes
Proposed Project	FUT09A	1butene	106989	1.65E-06	No
Proposed Project	FUT09A	1decene	872059	1.74E-07	No
Proposed Project	FUT09A	1hexene	592416	6.92E-07	No
Proposed Project	FUT09A	1Methyl2Ethylbenzene	611143	6.12E-08	No
Proposed Project	FUT09A	1Methyl3Ethylbenzene	620144	1.45E-07	No
Proposed Project	FUT09A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	6.02E-08	No
Proposed Project	FUT09A	1Methylnaphthalene	90120	2.32E-07	No
Proposed Project	FUT09A	1nonene	124118	2.31E-07	No
Proposed Project	FUT09A	1octene	111660	2.60E-07	No
Proposed Project	FUT09A	1pentene	109671	7.30E-07	No
Proposed Project	FUT09A	2methyl1butene	563462	1.32E-07	No
Proposed Project	FUT09A	2methyl1pentene	763291	3.20E-08	No
Proposed Project	FUT09A	2methyl2butene	513359	1.74E-07	No
Proposed Project	FUT09A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	4.04E-07	No
Proposed Project	FUT09A	2methylnaphthalene	91576	1.94E-07	No
Proposed Project	FUT09A	2Methylpentane	107835	3.84E-07	No
Proposed Project	FUT09A	3methyl1butene	563451	1.05E-07	No
Proposed Project	FUT09A	4methyl1pentene	691372	6.49E-08	No
Proposed Project	FUT09A	Acetaldehyde	75070	4.02E-06	Yes
Proposed Project	FUT09A	Acetone	67641	3.47E-07	No
Proposed Project	FUT09A	Acetylene	74862	3.71E-06	No
Proposed Project	FUT09A	Acrolein (2propenal)	107028	2.30E-06	Yes
Proposed Project	FUT09A	Ammonium	14798039	7.28E-06	No
Proposed Project	FUT09A	Antimony	7440360	0.00E+00	No
Proposed Project	FUT09A	Benzaldehyde	100527	4.42E-07	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FUT09A	Benzene	71432	1.58E-06	Yes
Proposed Project	FUT09A	Bromine	7726956	2.02E-08	No
Proposed Project	FUT09A	Butyraldehyde	123728	1.12E-07	No
Proposed Project	FUT09A	Calcium	7440702	0.00E+00	No
Proposed Project	FUT09A	Chloride ion	16887006	0.00E+00	No
Proposed Project	FUT09A	Chromium	7440473	2.67E-08	No
Proposed Project	FUT09A	Cis2butene	590181	1.98E-07	No
Proposed Project	FUT09A	Cis2pentene	627203	2.60E-07	No
Proposed Project	FUT09A	Copper	7440508	2.20E-07	Yes
Proposed Project	FUT09A	Crotonaldehyde (or 2Butenal)	4170303	9.72E-07	No
Proposed Project	FUT09A	Cumene	98828	2.82E-09	No
Proposed Project	FUT09A	Decanal	112312	5.50E-06	No
Proposed Project	FUT09A	Dimethyl napthalene	28804888	8.47E-08	No
Proposed Project	FUT09A	Dodecenal	112549	2.75E-06	No
Proposed Project	FUT09A	Elemental Carbon	7440440	2.20E-05	No
Proposed Project	FUT09A	Ethane	74840	4.90E-07	No
Proposed Project	FUT09A	Ethylbenzene	100414	1.64E-07	Yes
Proposed Project	FUT09A	Ethylene	74851	1.45E-05	No
Proposed Project	FUT09A	Formaldehyde	50000	1.16E-05	Yes
Proposed Project	FUT09A	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FUT09A	Glyoxal	107222	1.71E-06	No
Proposed Project	FUT09A	Heptadecane	629787	8.47E-09	No
Proposed Project	FUT09A	Heptene	25339564	4.12E-07	No
Proposed Project	FUT09A	Hexadecane	544763	4.61E-08	No
Proposed Project	FUT09A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FUT09A	Indium	7440746	0.00E+00	No
Proposed Project	FUT09A	Insolchlorine	7782505	7.32E-08	Yes
Proposed Project	FUT09A	Iron	7439896	0.00E+00	No
Proposed Project	FUT09A	Isovaleraldehyde	590863	3.01E-08	No
Proposed Project	FUT09A	Magnesium	7439954	1.17E-07	No
Proposed Project	FUT09A	Manganese	7439965	1.86E-08	Yes
Proposed Project	FUT09A	Methane	74828	0.00E+00	No
Proposed Project	FUT09A	Methanol	67561	1.70E-06	Yes
Proposed Project	FUT09A	Methylglyoxal	78988	1.41E-06	No
Proposed Project	FUT09A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.62E-07	No
Proposed Project	FUT09A	Naphthalene	91203	5.09E-07	Yes
Proposed Project	FUT09A	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FUT09A	Ndecane	124185	3.01E-07	No
Proposed Project	FUT09A	Ndodecane	112403	4.35E-07	No
Proposed Project	FUT09A	Nheptane	142825	6.02E-08	No
Proposed Project	FUT09A	Nickel	7440020	3.74E-08	Yes
Proposed Project	FUT09A	Nnonane	111842	5.83E-08	No
Proposed Project	FUT09A	Noctane	111659	5.83E-08	No
Proposed Project	FUT09A	Npentane	109660	1.86E-07	No
Proposed Project	FUT09A	Npentylbenzene	538681	0.00E+00	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FUT09A	Npropylbenzene	103651	4.99E-08	No
Proposed Project	FUT09A	Ntridecane	629505	5.03E-07	No
Proposed Project	FUT09A	Nundecane	1120214	4.18E-07	No
Proposed Project	FUT09A	oTolualdehyde	529204	2.16E-07	No
Proposed Project	FUT09A	Oxylene	95476	1.56E-07	Yes
Proposed Project	FUT09A	Pentadecane	629629	1.63E-07	No
Proposed Project	FUT09A	Phenol (carbolic acid)	108952	6.83E-07	Yes
Proposed Project	FUT09A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FUT09A	Potassium ion	7440097	9.11E-08	No
Proposed Project	FUT09A	Propane	74986	7.34E-08	No
Proposed Project	FUT09A	Propionaldehyde	123386	6.84E-07	No
Proposed Project	FUT09A	Propylene	115071	4.27E-06	Yes
Proposed Project	FUT09A	pTolualdehyde	104870	4.52E-08	No
Proposed Project	FUT09A	Silicon	7440213	4.07E-07	No
Proposed Project	FUT09A	Silver	7440224	6.87E-08	No
Proposed Project	FUT09A	Styrene	100425	2.91E-07	Yes
Proposed Project	FUT09A	Sulfate	9960	2.34E-05	Yes
Proposed Project	FUT09A	Sulfur	7704349	0.00E+00	No
Proposed Project	FUT09A	Tetradecane	629594	3.91E-07	No
Proposed Project	FUT09A	Thallium	7440280	0.00E+00	No
Proposed Project	FUT09A	Titanium	7440326	5.37E-09	No
Proposed Project	FUT09A	Toluene	108883	6.04E-07	Yes
Proposed Project	FUT09A	Trans2hexene	4050457	2.82E-08	No
Proposed Project	FUT09A	Trans2pentene	646048	3.38E-07	No
Proposed Project	FUT09A	Valeraldehyde	110623	2.30E-07	No
Proposed Project	FUT09A	Xylenes	1330207	2.65E-07	Yes
Proposed Project	FUT09A	Zinc	7440666	1.65E-08	No
Proposed Project	FUT09B	1,2,3trimethylbenzene	526738	3.78E-08	No
Proposed Project	FUT09B	1,2,4Trimethylbenzene	95636	1.25E-07	No
Proposed Project	FUT09B	1,3,5trimethylbenzene	108678	1.93E-08	No
Proposed Project	FUT09B	1,3butadiene	106990	6.02E-07	Yes
Proposed Project	FUT09B	1butene	106989	6.26E-07	No
Proposed Project	FUT09B	1decene	872059	6.60E-08	No
Proposed Project	FUT09B	1hexene	592416	2.63E-07	No
Proposed Project	FUT09B	1Methyl2Ethylbenzene	611143	2.32E-08	No
Proposed Project	FUT09B	1Methyl3Ethylbenzene	620144	5.50E-08	No
Proposed Project	FUT09B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	2.28E-08	No
Proposed Project	FUT09B	1Methylnaphthalene	90120	8.82E-08	No
Proposed Project	FUT09B	1nonene	124118	8.78E-08	No
Proposed Project	FUT09B	1octene	111660	9.85E-08	No
Proposed Project	FUT09B	1pentene	109671	2.77E-07	No
Proposed Project	FUT09B	2methyl1butene	563462	5.00E-08	No
Proposed Project	FUT09B	2methyl1pentene	763291	1.21E-08	No
Proposed Project	FUT09B	2methyl2butene	513359	6.60E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FUT09B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.53E-07	No
Proposed Project	FUT09B	2methylnaphthalene	91576	7.35E-08	No
Proposed Project	FUT09B	2Methylpentane	107835	1.46E-07	No
Proposed Project	FUT09B	3methyl1butene	563451	4.00E-08	No
Proposed Project	FUT09B	4methyl1pentene	691372	2.46E-08	No
Proposed Project	FUT09B	Acetaldehyde	75070	1.52E-06	Yes
Proposed Project	FUT09B	Acetone	67641	1.32E-07	No
Proposed Project	FUT09B	Acetylene	74862	1.41E-06	No
Proposed Project	FUT09B	Acrolein (2propenal)	107028	8.74E-07	Yes
Proposed Project	FUT09B	Ammonium	14798039	4.05E-06	No
Proposed Project	FUT09B	Antimony	7440360	0.00E+00	No
Proposed Project	FUT09B	Benzaldehyde	100527	1.68E-07	No
Proposed Project	FUT09B	Benzene	71432	6.00E-07	Yes
Proposed Project	FUT09B	Bromine	7726956	1.13E-08	No
Proposed Project	FUT09B	Butyraldehyde	123728	4.25E-08	No
Proposed Project	FUT09B	Calcium	7440702	0.00E+00	No
Proposed Project	FUT09B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FUT09B	Chromium	7440473	1.48E-08	No
Proposed Project	FUT09B	Cis2butene	590181	7.50E-08	No
Proposed Project	FUT09B	Cis2pentene	627203	9.85E-08	No
Proposed Project	FUT09B	Copper	7440508	1.22E-07	Yes
Proposed Project	FUT09B	Crotonaldehyde (or 2Butenal)	4170303	3.69E-07	No
Proposed Project	FUT09B	Cumene	98828	1.07E-09	No
Proposed Project	FUT09B	Decanal	112312	2.09E-06	No
Proposed Project	FUT09B	Dimethyl napthalene	28804888	3.21E-08	No
Proposed Project	FUT09B	Dodecenal	112549	1.04E-06	No
Proposed Project	FUT09B	Elemental Carbon	7440440	1.23E-05	No
Proposed Project	FUT09B	Ethane	74840	1.86E-07	No
Proposed Project	FUT09B	Ethylbenzene	100414	6.21E-08	Yes
Proposed Project	FUT09B	Ethylene	74851	5.52E-06	No
Proposed Project	FUT09B	Formaldehyde	50000	4.39E-06	Yes
Proposed Project	FUT09B	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FUT09B	Glyoxal	107222	6.48E-07	No
Proposed Project	FUT09B	Heptadecane	629787	3.21E-09	No
Proposed Project	FUT09B	Heptene	25339564	1.56E-07	No
Proposed Project	FUT09B	Hexadecane	544763	1.75E-08	No
Proposed Project	FUT09B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FUT09B	Indium	7440746	0.00E+00	No
Proposed Project	FUT09B	Insolchlorine	7782505	4.08E-08	Yes
Proposed Project	FUT09B	Iron	7439896	0.00E+00	No
Proposed Project	FUT09B	Isovaleraldehyde	590863	1.14E-08	No
Proposed Project	FUT09B	Magnesium	7439954	6.54E-08	No
Proposed Project	FUT09B	Manganese	7439965	1.04E-08	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FUT09B	Methane	74828	0.00E+00	No
Proposed Project	FUT09B	Methanol	67561	6.44E-07	Yes
Proposed Project	FUT09B	Methylglyoxal	78988	5.36E-07	No
Proposed Project	FUT09B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	9.92E-08	No
Proposed Project	FUT09B	Naphthalene	91203	1.93E-07	Yes
Proposed Project	FUT09B	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FUT09B	Ndecane	124185	1.14E-07	No
Proposed Project	FUT09B	Ndodecane	112403	1.65E-07	No
Proposed Project	FUT09B	Nheptane	142825	2.28E-08	No
Proposed Project	FUT09B	Nickel	7440020	2.08E-08	Yes
Proposed Project	FUT09B	Nnonane	111842	2.21E-08	No
Proposed Project	FUT09B	Noctane	111659	2.21E-08	No
Proposed Project	FUT09B	Npentane	109660	7.07E-08	No
Proposed Project	FUT09B	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FUT09B	Npropylbenzene	103651	1.89E-08	No
Proposed Project	FUT09B	Ntridecane	629505	1.91E-07	No
Proposed Project	FUT09B	Nundecane	1120214	1.58E-07	No
Proposed Project	FUT09B	oTolualdehyde	529204	8.21E-08	No
Proposed Project	FUT09B	Oxylene	95476	5.92E-08	Yes
Proposed Project	FUT09B	Pentadecane	629629	6.17E-08	No
Proposed Project	FUT09B	Phenol (carbolic acid)	108952	2.59E-07	Yes
Proposed Project	FUT09B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FUT09B	Potassium ion	7440097	5.08E-08	No
Proposed Project	FUT09B	Propane	74986	2.78E-08	No
Proposed Project	FUT09B	Propionaldehyde	123386	2.59E-07	No
Proposed Project	FUT09B	Propylene	115071	1.62E-06	Yes
Proposed Project	FUT09B	pTolualdehyde	104870	1.71E-08	No
Proposed Project	FUT09B	Silicon	7440213	2.27E-07	No
Proposed Project	FUT09B	Silver	7440224	3.83E-08	No
Proposed Project	FUT09B	Styrene	100425	1.10E-07	Yes
Proposed Project	FUT09B	Sulfate	9960	1.31E-05	Yes
Proposed Project	FUT09B	Sulfur	7704349	0.00E+00	No
Proposed Project	FUT09B	Tetradecane	629594	1.48E-07	No
Proposed Project	FUT09B	Thallium	7440280	0.00E+00	No
Proposed Project	FUT09B	Titanium	7440326	2.99E-09	No
Proposed Project	FUT09B	Toluene	108883	2.29E-07	Yes
Proposed Project	FUT09B	Trans2hexene	4050457	1.07E-08	No
Proposed Project	FUT09B	Trans2pentene	646048	1.28E-07	No
Proposed Project	FUT09B	Valeraldehyde	110623	8.74E-08	No
Proposed Project	FUT09B	Xylenes	1330207	1.01E-07	Yes
Proposed Project	FUT09B	Zinc	7440666	9.21E-09	No
Proposed Project	FUT1	Benzene	71432	0.00E+00	Yes
Proposed Project	FUT1	Ethylbenzene	100414	2.51E-04	Yes
Proposed Project	FUT1	n-Hexane	110543	1.93E-05	Yes
Proposed Project	FUT1	Toluene	108883	2.51E-04	Yes
Proposed Project	FUT1	Xylenes	1330207	5.99E-04	Yes
Proposed Project	FUT2	Benzene	71432	0.00E+00	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FUT2	Ethylbenzene	100414	2.51E-04	Yes
Proposed Project	FUT2	n-Hexane	110543	1.93E-05	Yes
Proposed Project	FUT2	Toluene	108883	2.51E-04	Yes
Proposed Project	FUT2	Xylenes	1330207	5.99E-04	Yes
Proposed Project	FUT20A	1,2,3trimethylbenzene	526738	8.16E-07	No
Proposed Project	FUT20A	1,2,4Trimethylbenzene	95636	2.69E-06	No
Proposed Project	FUT20A	1,3,5trimethylbenzene	108678	4.16E-07	No
Proposed Project	FUT20A	1,3butadiene	106990	1.30E-05	Yes
Proposed Project	FUT20A	1butene	106989	1.35E-05	No
Proposed Project	FUT20A	1decene	872059	1.42E-06	No
Proposed Project	FUT20A	1hexene	592416	5.66E-06	No
Proposed Project	FUT20A	1Methyl2Ethylbenzene	611143	5.00E-07	No
Proposed Project	FUT20A	1Methyl3Ethylbenzene	620144	1.19E-06	No
Proposed Project	FUT20A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	4.93E-07	No
Proposed Project	FUT20A	1Methylnaphthalene	90120	1.90E-06	No
Proposed Project	FUT20A	1nonene	124118	1.89E-06	No
Proposed Project	FUT20A	1octene	111660	2.12E-06	No
Proposed Project	FUT20A	1pentene	109671	5.97E-06	No
Proposed Project	FUT20A	2methyl1butene	563462	1.08E-06	No
Proposed Project	FUT20A	2methyl1pentene	763291	2.62E-07	No
Proposed Project	FUT20A	2methyl2butene	513359	1.42E-06	No
Proposed Project	FUT20A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	3.30E-06	No
Proposed Project	FUT20A	2methylnaphthalene	91576	1.59E-06	No
Proposed Project	FUT20A	2Methylpentane	107835	3.14E-06	No
Proposed Project	FUT20A	3methyl1butene	563451	8.62E-07	No
Proposed Project	FUT20A	4methyl1pentene	691372	5.31E-07	No
Proposed Project	FUT20A	Acetaldehyde	75070	3.29E-05	Yes
Proposed Project	FUT20A	Acetone	67641	2.84E-06	No
Proposed Project	FUT20A	Acetylene	74862	3.03E-05	No
Proposed Project	FUT20A	Acrolein (2propenal)	107028	1.88E-05	Yes
Proposed Project	FUT20A	Ammonium	14798039	5.95E-05	No
Proposed Project	FUT20A	Antimony	7440360	0.00E+00	No
Proposed Project	FUT20A	Benzaldehyde	100527	3.62E-06	No
Proposed Project	FUT20A	Benzene	71432	1.29E-05	Yes
Proposed Project	FUT20A	Bromine	7726956	1.65E-07	No
Proposed Project	FUT20A	Butyraldehyde	123728	9.16E-07	No
Proposed Project	FUT20A	Calcium	7440702	0.00E+00	No
Proposed Project	FUT20A	Chloride ion	16887006	0.00E+00	No
Proposed Project	FUT20A	Chromium	7440473	2.18E-07	No
Proposed Project	FUT20A	Cis2butene	590181	1.62E-06	No
Proposed Project	FUT20A	Cis2pentene	627203	2.12E-06	No
Proposed Project	FUT20A	Copper	7440508	1.80E-06	Yes

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FUT20A	Crotonaldehyde (or 2Butenal)	4170303	7.95E-06	No
Proposed Project	FUT20A	Cumene	98828	2.31E-08	No
Proposed Project	FUT20A	Decanal	112312	4.50E-05	No
Proposed Project	FUT20A	Dimethyl napthalene	28804888	6.93E-07	No
Proposed Project	FUT20A	Dodecenal	112549	2.25E-05	No
Proposed Project	FUT20A	Elemental Carbon	7440440	1.80E-04	No
Proposed Project	FUT20A	Ethane	74840	4.01E-06	No
Proposed Project	FUT20A	Ethylbenzene	100414	1.34E-06	Yes
Proposed Project	FUT20A	Ethylene	74851	1.19E-04	No
Proposed Project	FUT20A	Formaldehyde	50000	9.47E-05	Yes
Proposed Project	FUT20A	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FUT20A	Glyoxal	107222	1.40E-05	No
Proposed Project	FUT20A	Heptadecane	629787	6.93E-08	No
Proposed Project	FUT20A	Heptene	25339564	3.37E-06	No
Proposed Project	FUT20A	Hexadecane	544763	3.77E-07	No
Proposed Project	FUT20A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FUT20A	Indium	7440746	0.00E+00	No
Proposed Project	FUT20A	Insolchlorine	7782505	5.99E-07	Yes
Proposed Project	FUT20A	Iron	7439896	0.00E+00	No
Proposed Project	FUT20A	Isovaleraldehyde	590863	2.46E-07	No
Proposed Project	FUT20A	Magnesium	7439954	9.61E-07	No
Proposed Project	FUT20A	Manganese	7439965	1.53E-07	Yes
Proposed Project	FUT20A	Methane	74828	0.00E+00	No
Proposed Project	FUT20A	Methanol	67561	1.39E-05	Yes
Proposed Project	FUT20A	Methylglyoxal	78988	1.16E-05	No
Proposed Project	FUT20A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.14E-06	No
Proposed Project	FUT20A	Naphthalene	91203	4.16E-06	Yes
Proposed Project	FUT20A	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FUT20A	Ndecane	124185	2.46E-06	No
Proposed Project	FUT20A	Ndodecane	112403	3.56E-06	No
Proposed Project	FUT20A	Nheptane	142825	4.93E-07	No
Proposed Project	FUT20A	Nickel	7440020	3.06E-07	Yes
Proposed Project	FUT20A	Nnonane	111842	4.77E-07	No
Proposed Project	FUT20A	Noctane	111659	4.77E-07	No
Proposed Project	FUT20A	Npentane	109660	1.52E-06	No
Proposed Project	FUT20A	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FUT20A	Npropylbenzene	103651	4.08E-07	No
Proposed Project	FUT20A	Ntridecane	629505	4.12E-06	No
Proposed Project	FUT20A	Nundecane	1120214	3.42E-06	No
Proposed Project	FUT20A	oTolualdehyde	529204	1.77E-06	No
Proposed Project	FUT20A	Oxylene	95476	1.28E-06	Yes
Proposed Project	FUT20A	Pentadecane	629629	1.33E-06	No
Proposed Project	FUT20A	Phenol (carbolic acid)	108952	5.59E-06	Yes
Proposed Project	FUT20A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FUT20A	Potassium ion	7440097	7.45E-07	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FUT20A	Propane	74986	6.00E-07	No
Proposed Project	FUT20A	Propionaldehyde	123386	5.60E-06	No
Proposed Project	FUT20A	Propylene	115071	3.49E-05	Yes
Proposed Project	FUT20A	pTolualdehyde	104870	3.69E-07	No
Proposed Project	FUT20A	Silicon	7440213	3.33E-06	No
Proposed Project	FUT20A	Silver	7440224	5.62E-07	No
Proposed Project	FUT20A	Styrene	100425	2.38E-06	Yes
Proposed Project	FUT20A	Sulfate	9960	1.92E-04	Yes
Proposed Project	FUT20A	Sulfur	7704349	0.00E+00	No
Proposed Project	FUT20A	Tetradecane	629594	3.20E-06	No
Proposed Project	FUT20A	Thallium	7440280	0.00E+00	No
Proposed Project	FUT20A	Titanium	7440326	4.40E-08	No
Proposed Project	FUT20A	Toluene	108883	4.94E-06	Yes
Proposed Project	FUT20A	Trans2hexene	4050457	2.31E-07	No
Proposed Project	FUT20A	Trans2pentene	646048	2.76E-06	No
Proposed Project	FUT20A	Valeraldehyde	110623	1.89E-06	No
Proposed Project	FUT20A	Xylenes	1330207	2.17E-06	Yes
Proposed Project	FUT20A	Zinc	7440666	1.35E-07	No
Proposed Project	FUT20B	1,2,3trimethylbenzene	526738	3.10E-07	No
Proposed Project	FUT20B	1,2,4Trimethylbenzene	95636	1.02E-06	No
Proposed Project	FUT20B	1,3,5trimethylbenzene	108678	1.58E-07	No
Proposed Project	FUT20B	1,3butadiene	106990	4.93E-06	Yes
Proposed Project	FUT20B	1butene	106989	5.12E-06	No
Proposed Project	FUT20B	1decene	872059	5.40E-07	No
Proposed Project	FUT20B	1hexene	592416	2.15E-06	No
Proposed Project	FUT20B	1Methyl2Ethylbenzene	611143	1.90E-07	No
Proposed Project	FUT20B	1Methyl3Ethylbenzene	620144	4.50E-07	No
Proposed Project	FUT20B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	1.87E-07	No
Proposed Project	FUT20B	1Methylnaphthalene	90120	7.21E-07	No
Proposed Project	FUT20B	1nonene	124118	7.18E-07	No
Proposed Project	FUT20B	1octene	111660	8.06E-07	No
Proposed Project	FUT20B	1pentene	109671	2.27E-06	No
Proposed Project	FUT20B	2methyl1butene	563462	4.09E-07	No
Proposed Project	FUT20B	2methyl1pentene	763291	9.93E-08	No
Proposed Project	FUT20B	2methyl2butene	513359	5.40E-07	No
Proposed Project	FUT20B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.25E-06	No
Proposed Project	FUT20B	2methylnaphthalene	91576	6.01E-07	No
Proposed Project	FUT20B	2Methylpentane	107835	1.19E-06	No
Proposed Project	FUT20B	3methyl1butene	563451	3.27E-07	No
Proposed Project	FUT20B	4methyl1pentene	691372	2.01E-07	No
Proposed Project	FUT20B	Acetaldehyde	75070	1.25E-05	Yes
Proposed Project	FUT20B	Acetone	67641	1.08E-06	No
Proposed Project	FUT20B	Acetylene	74862	1.15E-05	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FUT20B	Acrolein (2propenal)	107028	7.15E-06	Yes
Proposed Project	FUT20B	Ammonium	14798039	3.32E-05	No
Proposed Project	FUT20B	Antimony	7440360	0.00E+00	No
Proposed Project	FUT20B	Benzaldehyde	100527	1.37E-06	No
Proposed Project	FUT20B	Benzene	71432	4.91E-06	Yes
Proposed Project	FUT20B	Bromine	7726956	9.22E-08	No
Proposed Project	FUT20B	Butyraldehyde	123728	3.47E-07	No
Proposed Project	FUT20B	Calcium	7440702	0.00E+00	No
Proposed Project	FUT20B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FUT20B	Chromium	7440473	1.21E-07	No
Proposed Project	FUT20B	Cis2butene	590181	6.13E-07	No
Proposed Project	FUT20B	Cis2pentene	627203	8.06E-07	No
Proposed Project	FUT20B	Copper	7440508	1.00E-06	Yes
Proposed Project	FUT20B	Crotonaldehyde (or 2Butenal)	4170303	3.02E-06	No
Proposed Project	FUT20B	Cumene	98828	8.76E-09	No
Proposed Project	FUT20B	Decanal	112312	1.71E-05	No
Proposed Project	FUT20B	Dimethyl napthalene	28804888	2.63E-07	No
Proposed Project	FUT20B	Dodecenal	112549	8.53E-06	No
Proposed Project	FUT20B	Elemental Carbon	7440440	1.00E-04	No
Proposed Project	FUT20B	Ethane	74840	1.52E-06	No
Proposed Project	FUT20B	Ethylbenzene	100414	5.08E-07	Yes
Proposed Project	FUT20B	Ethylene	74851	4.51E-05	No
Proposed Project	FUT20B	Formaldehyde	50000	3.59E-05	Yes
Proposed Project	FUT20B	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FUT20B	Glyoxal	107222	5.30E-06	No
Proposed Project	FUT20B	Heptadecane	629787	2.63E-08	No
Proposed Project	FUT20B	Heptene	25339564	1.28E-06	No
Proposed Project	FUT20B	Hexadecane	544763	1.43E-07	No
Proposed Project	FUT20B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FUT20B	Indium	7440746	0.00E+00	No
Proposed Project	FUT20B	Insolchlorine	7782505	3.34E-07	Yes
Proposed Project	FUT20B	Iron	7439896	0.00E+00	No
Proposed Project	FUT20B	Isovaleraldehyde	590863	9.34E-08	No
Proposed Project	FUT20B	Magnesium	7439954	5.35E-07	No
Proposed Project	FUT20B	Manganese	7439965	8.50E-08	Yes
Proposed Project	FUT20B	Methane	74828	0.00E+00	No
Proposed Project	FUT20B	Methanol	67561	5.27E-06	Yes
Proposed Project	FUT20B	Methylglyoxal	78988	4.39E-06	No
Proposed Project	FUT20B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	8.12E-07	No
Proposed Project	FUT20B	Naphthalene	91203	1.58E-06	Yes
Proposed Project	FUT20B	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FUT20B	Ndecane	124185	9.34E-07	No
Proposed Project	FUT20B	Ndodecane	112403	1.35E-06	No
Proposed Project	FUT20B	Nheptane	142825	1.87E-07	No
Proposed Project	FUT20B	Nickel	7440020	1.70E-07	Yes

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FUT20B	Nnonane	111842	1.81E-07	No
Proposed Project	FUT20B	Noctane	111659	1.81E-07	No
Proposed Project	FUT20B	Npentane	109660	5.78E-07	No
Proposed Project	FUT20B	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FUT20B	Npropylbenzene	103651	1.55E-07	No
Proposed Project	FUT20B	Ntridecane	629505	1.56E-06	No
Proposed Project	FUT20B	Nundecane	1120214	1.30E-06	No
Proposed Project	FUT20B	oTolualdehyde	529204	6.72E-07	No
Proposed Project	FUT20B	Oxylene	95476	4.85E-07	Yes
Proposed Project	FUT20B	Pentadecane	629629	5.05E-07	No
Proposed Project	FUT20B	Phenol (carbolic acid)	108952	2.12E-06	Yes
Proposed Project	FUT20B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FUT20B	Potassium ion	7440097	4.15E-07	No
Proposed Project	FUT20B	Propane	74986	2.28E-07	No
Proposed Project	FUT20B	Propionaldehyde	123386	2.12E-06	No
Proposed Project	FUT20B	Propylene	115071	1.32E-05	Yes
Proposed Project	FUT20B	pTolualdehyde	104870	1.40E-07	No
Proposed Project	FUT20B	Silicon	7440213	1.86E-06	No
Proposed Project	FUT20B	Silver	7440224	3.13E-07	No
Proposed Project	FUT20B	Styrene	100425	9.02E-07	Yes
Proposed Project	FUT20B	Sulfate	9960	1.07E-04	Yes
Proposed Project	FUT20B	Sulfur	7704349	0.00E+00	No
Proposed Project	FUT20B	Tetradecane	629594	1.21E-06	No
Proposed Project	FUT20B	Thallium	7440280	0.00E+00	No
Proposed Project	FUT20B	Titanium	7440326	2.45E-08	No
Proposed Project	FUT20B	Toluene	108883	1.87E-06	Yes
Proposed Project	FUT20B	Trans2hexene	4050457	8.76E-08	No
Proposed Project	FUT20B	Trans2pentene	646048	1.05E-06	No
Proposed Project	FUT20B	Valeraldehyde	110623	7.15E-07	No
Proposed Project	FUT20B	Xylenes	1330207	8.23E-07	Yes
Proposed Project	FUT20B	Zinc	7440666	7.54E-08	No
Proposed Project	FUT23A	1,2,3trimethylbenzene	526738	1.02E-07	No
Proposed Project	FUT23A	1,2,4Trimethylbenzene	95636	3.35E-07	No
Proposed Project	FUT23A	1,3,5trimethylbenzene	108678	5.17E-08	No
Proposed Project	FUT23A	1,3butadiene	106990	1.62E-06	Yes
Proposed Project	FUT23A	1butene	106989	1.68E-06	No
Proposed Project	FUT23A	1decene	872059	1.77E-07	No
Proposed Project	FUT23A	1hexene	592416	7.05E-07	No
Proposed Project	FUT23A	1Methyl2Ethylbenzene	611143	6.23E-08	No
Proposed Project	FUT23A	1Methyl3Ethylbenzene	620144	1.47E-07	No
Proposed Project	FUT23A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	6.13E-08	No
Proposed Project	FUT23A	1Methylnaphthalene	90120	2.37E-07	No
Proposed Project	FUT23A	1nonene	124118	2.36E-07	No
Proposed Project	FUT23A	1octene	111660	2.64E-07	No
Proposed Project	FUT23A	1pentene	109671	7.43E-07	No
Proposed Project	FUT23A	2methyl1butene	563462	1.34E-07	No
Proposed Project	FUT23A	2methyl1pentene	763291	3.26E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FUT23A	2methyl2butene	513359	1.77E-07	No
Proposed Project	FUT23A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	4.11E-07	No
Proposed Project	FUT23A	2methylnaphthalene	91576	1.97E-07	No
Proposed Project	FUT23A	2Methylpentane	107835	3.91E-07	No
Proposed Project	FUT23A	3methyl1butene	563451	1.07E-07	No
Proposed Project	FUT23A	4methyl1pentene	691372	6.61E-08	No
Proposed Project	FUT23A	Acetaldehyde	75070	4.09E-06	Yes
Proposed Project	FUT23A	Acetone	67641	3.53E-07	No
Proposed Project	FUT23A	Acetylene	74862	3.77E-06	No
Proposed Project	FUT23A	Acrolein (2propenal)	107028	2.35E-06	Yes
Proposed Project	FUT23A	Ammonium	14798039	7.41E-06	No
Proposed Project	FUT23A	Antimony	7440360	0.00E+00	No
Proposed Project	FUT23A	Benzaldehyde	100527	4.50E-07	No
Proposed Project	FUT23A	Benzene	71432	1.61E-06	Yes
Proposed Project	FUT23A	Bromine	7726956	2.06E-08	No
Proposed Project	FUT23A	Butyraldehyde	123728	1.14E-07	No
Proposed Project	FUT23A	Calcium	7440702	0.00E+00	No
Proposed Project	FUT23A	Chloride ion	16887006	0.00E+00	No
Proposed Project	FUT23A	Chromium	7440473	2.71E-08	No
Proposed Project	FUT23A	Cis2butene	590181	2.01E-07	No
Proposed Project	FUT23A	Cis2pentene	627203	2.64E-07	No
Proposed Project	FUT23A	Copper	7440508	2.24E-07	Yes
Proposed Project	FUT23A	Crotonaldehyde (or 2Butenal)	4170303	9.89E-07	No
Proposed Project	FUT23A	Cumene	98828	2.87E-09	No
Proposed Project	FUT23A	Decanal	112312	5.60E-06	No
Proposed Project	FUT23A	Dimethyl napthalene	28804888	8.62E-08	No
Proposed Project	FUT23A	Dodecenal	112549	2.80E-06	No
Proposed Project	FUT23A	Elemental Carbon	7440440	2.24E-05	No
Proposed Project	FUT23A	Ethane	74840	4.99E-07	No
Proposed Project	FUT23A	Ethylbenzene	100414	1.67E-07	Yes
Proposed Project	FUT23A	Ethylene	74851	1.48E-05	No
Proposed Project	FUT23A	Formaldehyde	50000	1.18E-05	Yes
Proposed Project	FUT23A	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FUT23A	Glyoxal	107222	1.74E-06	No
Proposed Project	FUT23A	Heptadecane	629787	8.62E-09	No
Proposed Project	FUT23A	Heptene	25339564	4.19E-07	No
Proposed Project	FUT23A	Hexadecane	544763	4.69E-08	No
Proposed Project	FUT23A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FUT23A	Indium	7440746	0.00E+00	No
Proposed Project	FUT23A	Insolchlorine	7782505	7.45E-08	Yes
Proposed Project	FUT23A	Iron	7439896	0.00E+00	No
Proposed Project	FUT23A	Isovaleraldehyde	590863	3.06E-08	No
Proposed Project	FUT23A	Magnesium	7439954	1.20E-07	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FUT23A	Manganese	7439965	1.90E-08	Yes
Proposed Project	FUT23A	Methane	74828	0.00E+00	No
Proposed Project	FUT23A	Methanol	67561	1.73E-06	Yes
Proposed Project	FUT23A	Methylglyoxal	78988	1.44E-06	No
Proposed Project	FUT23A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.66E-07	No
Proposed Project	FUT23A	Naphthalene	91203	5.18E-07	Yes
Proposed Project	FUT23A	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FUT23A	Ndecane	124185	3.06E-07	No
Proposed Project	FUT23A	Ndodecane	112403	4.42E-07	No
Proposed Project	FUT23A	Nheptane	142825	6.13E-08	No
Proposed Project	FUT23A	Nickel	7440020	3.81E-08	Yes
Proposed Project	FUT23A	Nnonane	111842	5.94E-08	No
Proposed Project	FUT23A	Noctane	111659	5.94E-08	No
Proposed Project	FUT23A	Npentane	109660	1.90E-07	No
Proposed Project	FUT23A	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FUT23A	Npropylbenzene	103651	5.08E-08	No
Proposed Project	FUT23A	Ntridecane	629505	5.12E-07	No
Proposed Project	FUT23A	Nundecane	1120214	4.25E-07	No
Proposed Project	FUT23A	oTolualdehyde	529204	2.20E-07	No
Proposed Project	FUT23A	Oxylene	95476	1.59E-07	Yes
Proposed Project	FUT23A	Pentadecane	629629	1.66E-07	No
Proposed Project	FUT23A	Phenol (carbolic acid)	108952	6.95E-07	Yes
Proposed Project	FUT23A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FUT23A	Potassium ion	7440097	9.28E-08	No
Proposed Project	FUT23A	Propane	74986	7.47E-08	No
Proposed Project	FUT23A	Propionaldehyde	123386	6.96E-07	No
Proposed Project	FUT23A	Propylene	115071	4.34E-06	Yes
Proposed Project	FUT23A	pTolualdehyde	104870	4.60E-08	No
Proposed Project	FUT23A	Silicon	7440213	4.15E-07	No
Proposed Project	FUT23A	Silver	7440224	6.99E-08	No
Proposed Project	FUT23A	Styrene	100425	2.96E-07	Yes
Proposed Project	FUT23A	Sulfate	9960	2.39E-05	Yes
Proposed Project	FUT23A	Sulfur	7704349	0.00E+00	No
Proposed Project	FUT23A	Tetradecane	629594	3.98E-07	No
Proposed Project	FUT23A	Thallium	7440280	0.00E+00	No
Proposed Project	FUT23A	Titanium	7440326	5.47E-09	No
Proposed Project	FUT23A	Toluene	108883	6.15E-07	Yes
Proposed Project	FUT23A	Trans2hexene	4050457	2.87E-08	No
Proposed Project	FUT23A	Trans2pentene	646048	3.44E-07	No
Proposed Project	FUT23A	Valeraldehyde	110623	2.35E-07	No
Proposed Project	FUT23A	Xylenes	1330207	2.70E-07	Yes
Proposed Project	FUT23A	Zinc	7440666	1.68E-08	No
Proposed Project	FUT23B	1,2,3trimethylbenzene	526738	3.85E-08	No
Proposed Project	FUT23B	1,2,4Trimethylbenzene	95636	1.27E-07	No
Proposed Project	FUT23B	1,3,5trimethylbenzene	108678	1.96E-08	No
Proposed Project	FUT23B	1,3butadiene	106990	6.13E-07	Yes
Proposed Project	FUT23B	1butene	106989	6.37E-07	No

Appendix D1. TAC Emission Rates By Source Group
Mineta San Jose International Airport
San Jose, California

Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FUT23B	1decene	872059	6.72E-08	No
Proposed Project	FUT23B	1hexene	592416	2.67E-07	No
Proposed Project	FUT23B	1Methyl2Ethylbenzene	611143	2.36E-08	No
Proposed Project	FUT23B	1Methyl3Ethylbenzene	620144	5.60E-08	No
Proposed Project	FUT23B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	2.33E-08	No
Proposed Project	FUT23B	1Methylnaphthalene	90120	8.97E-08	No
Proposed Project	FUT23B	1nonene	124118	8.94E-08	No
Proposed Project	FUT23B	1octene	111660	1.00E-07	No
Proposed Project	FUT23B	1pentene	109671	2.82E-07	No
Proposed Project	FUT23B	2methyl1butene	563462	5.09E-08	No
Proposed Project	FUT23B	2methyl1pentene	763291	1.24E-08	No
Proposed Project	FUT23B	2methyl2butene	513359	6.72E-08	No
Proposed Project	FUT23B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.56E-07	No
Proposed Project	FUT23B	2methylnaphthalene	91576	7.49E-08	No
Proposed Project	FUT23B	2Methylpentane	107835	1.48E-07	No
Proposed Project	FUT23B	3methyl1butene	563451	4.07E-08	No
Proposed Project	FUT23B	4methyl1pentene	691372	2.51E-08	No
Proposed Project	FUT23B	Acetaldehyde	75070	1.55E-06	Yes
Proposed Project	FUT23B	Acetone	67641	1.34E-07	No
Proposed Project	FUT23B	Acetylene	74862	1.43E-06	No
Proposed Project	FUT23B	Acrolein (2propenal)	107028	8.90E-07	Yes
Proposed Project	FUT23B	Ammonium	14798039	4.13E-06	No
Proposed Project	FUT23B	Antimony	7440360	0.00E+00	No
Proposed Project	FUT23B	Benzaldehyde	100527	1.71E-07	No
Proposed Project	FUT23B	Benzene	71432	6.11E-07	Yes
Proposed Project	FUT23B	Bromine	7726956	1.15E-08	No
Proposed Project	FUT23B	Butyraldehyde	123728	4.32E-08	No
Proposed Project	FUT23B	Calcium	7440702	0.00E+00	No
Proposed Project	FUT23B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FUT23B	Chromium	7440473	1.51E-08	No
Proposed Project	FUT23B	Cis2butene	590181	7.63E-08	No
Proposed Project	FUT23B	Cis2pentene	627203	1.00E-07	No
Proposed Project	FUT23B	Copper	7440508	1.25E-07	Yes
Proposed Project	FUT23B	Crotonaldehyde (or 2Butenal)	4170303	3.75E-07	No
Proposed Project	FUT23B	Cumene	98828	1.09E-09	No
Proposed Project	FUT23B	Decanal	112312	2.12E-06	No
Proposed Project	FUT23B	Dimethyl napthalene	28804888	3.27E-08	No
Proposed Project	FUT23B	Dodecenal	112549	1.06E-06	No
Proposed Project	FUT23B	Elemental Carbon	7440440	1.25E-05	No
Proposed Project	FUT23B	Ethane	74840	1.89E-07	No
Proposed Project	FUT23B	Ethylbenzene	100414	6.32E-08	Yes
Proposed Project	FUT23B	Ethylene	74851	5.62E-06	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FUT23B	Formaldehyde	50000	4.47E-06	Yes
Proposed Project	FUT23B	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FUT23B	Glyoxal	107222	6.60E-07	No
Proposed Project	FUT23B	Heptadecane	629787	3.27E-09	No
Proposed Project	FUT23B	Heptene	25339564	1.59E-07	No
Proposed Project	FUT23B	Hexadecane	544763	1.78E-08	No
Proposed Project	FUT23B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FUT23B	Indium	7440746	0.00E+00	No
Proposed Project	FUT23B	Insolchlorine	7782505	4.15E-08	Yes
Proposed Project	FUT23B	Iron	7439896	0.00E+00	No
Proposed Project	FUT23B	Isovaleraldehyde	590863	1.16E-08	No
Proposed Project	FUT23B	Magnesium	7439954	6.66E-08	No
Proposed Project	FUT23B	Manganese	7439965	1.06E-08	Yes
Proposed Project	FUT23B	Methane	74828	0.00E+00	No
Proposed Project	FUT23B	Methanol	67561	6.56E-07	Yes
Proposed Project	FUT23B	Methylglyoxal	78988	5.46E-07	No
Proposed Project	FUT23B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.01E-07	No
Proposed Project	FUT23B	Naphthalene	91203	1.97E-07	Yes
Proposed Project	FUT23B	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FUT23B	Ndecane	124185	1.16E-07	No
Proposed Project	FUT23B	Ndodecane	112403	1.68E-07	No
Proposed Project	FUT23B	Nheptane	142825	2.33E-08	No
Proposed Project	FUT23B	Nickel	7440020	2.12E-08	Yes
Proposed Project	FUT23B	Nnonane	111842	2.25E-08	No
Proposed Project	FUT23B	Noctane	111659	2.25E-08	No
Proposed Project	FUT23B	Npentane	109660	7.19E-08	No
Proposed Project	FUT23B	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FUT23B	Npropylbenzene	103651	1.93E-08	No
Proposed Project	FUT23B	Ntridecane	629505	1.94E-07	No
Proposed Project	FUT23B	Nundecane	1120214	1.61E-07	No
Proposed Project	FUT23B	oTolualdehyde	529204	8.36E-08	No
Proposed Project	FUT23B	Oxylene	95476	6.03E-08	Yes
Proposed Project	FUT23B	Pentadecane	629629	6.29E-08	No
Proposed Project	FUT23B	Phenol (carbolic acid)	108952	2.64E-07	Yes
Proposed Project	FUT23B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FUT23B	Potassium ion	7440097	5.17E-08	No
Proposed Project	FUT23B	Propane	74986	2.83E-08	No
Proposed Project	FUT23B	Propionaldehyde	123386	2.64E-07	No
Proposed Project	FUT23B	Propylene	115071	1.65E-06	Yes
Proposed Project	FUT23B	pTolualdehyde	104870	1.74E-08	No
Proposed Project	FUT23B	Silicon	7440213	2.31E-07	No
Proposed Project	FUT23B	Silver	7440224	3.90E-08	No
Proposed Project	FUT23B	Styrene	100425	1.12E-07	Yes
Proposed Project	FUT23B	Sulfate	9960	1.33E-05	Yes
Proposed Project	FUT23B	Sulfur	7704349	0.00E+00	No
Proposed Project	FUT23B	Tetradecane	629594	1.51E-07	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FUT23B	Thallium	7440280	0.00E+00	No
Proposed Project	FUT23B	Titanium	7440326	3.05E-09	No
Proposed Project	FUT23B	Toluene	108883	2.33E-07	Yes
Proposed Project	FUT23B	Trans2hexene	4050457	1.09E-08	No
Proposed Project	FUT23B	Trans2pentene	646048	1.30E-07	No
Proposed Project	FUT23B	Valeraldehyde	110623	8.90E-08	No
Proposed Project	FUT23B	Xylenes	1330207	1.02E-07	Yes
Proposed Project	FUT23B	Zinc	7440666	9.38E-09	No
Proposed Project	FUT27A	1,2,3trimethylbenzene	526738	1.07E-08	No
Proposed Project	FUT27A	1,2,4Trimethylbenzene	95636	3.52E-08	No
Proposed Project	FUT27A	1,3,5trimethylbenzene	108678	5.43E-09	No
Proposed Project	FUT27A	1,3butadiene	106990	1.70E-07	Yes
Proposed Project	FUT27A	1butene	106989	1.76E-07	No
Proposed Project	FUT27A	1decene	872059	1.86E-08	No
Proposed Project	FUT27A	1hexene	592416	7.40E-08	No
Proposed Project	FUT27A	1Methyl2Ethylbenzene	611143	6.54E-09	No
Proposed Project	FUT27A	1Methyl3Ethylbenzene	620144	1.55E-08	No
Proposed Project	FUT27A	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	6.44E-09	No
Proposed Project	FUT27A	1Methylnaphthalene	90120	2.48E-08	No
Proposed Project	FUT27A	1nonene	124118	2.47E-08	No
Proposed Project	FUT27A	1octene	111660	2.78E-08	No
Proposed Project	FUT27A	1pentene	109671	7.81E-08	No
Proposed Project	FUT27A	2methyl1butene	563462	1.41E-08	No
Proposed Project	FUT27A	2methyl1pentene	763291	3.42E-09	No
Proposed Project	FUT27A	2methyl2butene	513359	1.86E-08	No
Proposed Project	FUT27A	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	4.32E-08	No
Proposed Project	FUT27A	2methylnaphthalene	91576	2.07E-08	No
Proposed Project	FUT27A	2Methylpentane	107835	4.10E-08	No
Proposed Project	FUT27A	3methyl1butene	563451	1.13E-08	No
Proposed Project	FUT27A	4methyl1pentene	691372	6.94E-09	No
Proposed Project	FUT27A	Acetaldehyde	75070	4.30E-07	Yes
Proposed Project	FUT27A	Acetone	67641	3.71E-08	No
Proposed Project	FUT27A	Acetylene	74862	3.96E-07	No
Proposed Project	FUT27A	Acrolein (2propenal)	107028	2.46E-07	Yes
Proposed Project	FUT27A	Ammonium	14798039	7.78E-07	No
Proposed Project	FUT27A	Antimony	7440360	0.00E+00	No
Proposed Project	FUT27A	Benzaldehyde	100527	4.73E-08	No
Proposed Project	FUT27A	Benzene	71432	1.69E-07	Yes
Proposed Project	FUT27A	Bromine	7726956	2.16E-09	No
Proposed Project	FUT27A	Butyraldehyde	123728	1.20E-08	No
Proposed Project	FUT27A	Calcium	7440702	0.00E+00	No
Proposed Project	FUT27A	Chloride ion	16887006	0.00E+00	No
Proposed Project	FUT27A	Chromium	7440473	2.85E-09	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FUT27A	Cis2butene	590181	2.11E-08	No
Proposed Project	FUT27A	Cis2pentene	627203	2.78E-08	No
Proposed Project	FUT27A	Copper	7440508	2.35E-08	Yes
Proposed Project	FUT27A	Crotonaldehyde (or 2Butenal)	4170303	1.04E-07	No
Proposed Project	FUT27A	Cumene	98828	3.02E-10	No
Proposed Project	FUT27A	Decanal	112312	5.88E-07	No
Proposed Project	FUT27A	Dimethyl napthalene	28804888	9.05E-09	No
Proposed Project	FUT27A	Dodecenal	112549	2.94E-07	No
Proposed Project	FUT27A	Elemental Carbon	7440440	2.35E-06	No
Proposed Project	FUT27A	Ethane	74840	5.24E-08	No
Proposed Project	FUT27A	Ethylbenzene	100414	1.75E-08	Yes
Proposed Project	FUT27A	Ethylene	74851	1.56E-06	No
Proposed Project	FUT27A	Formaldehyde	50000	1.24E-06	Yes
Proposed Project	FUT27A	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FUT27A	Glyoxal	107222	1.83E-07	No
Proposed Project	FUT27A	Heptadecane	629787	9.05E-10	No
Proposed Project	FUT27A	Heptene	25339564	4.41E-08	No
Proposed Project	FUT27A	Hexadecane	544763	4.93E-09	No
Proposed Project	FUT27A	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FUT27A	Indium	7440746	0.00E+00	No
Proposed Project	FUT27A	Insolchlorine	7782505	7.83E-09	Yes
Proposed Project	FUT27A	Iron	7439896	0.00E+00	No
Proposed Project	FUT27A	Isovaleraldehyde	590863	3.22E-09	No
Proposed Project	FUT27A	Magnesium	7439954	1.26E-08	No
Proposed Project	FUT27A	Manganese	7439965	1.99E-09	Yes
Proposed Project	FUT27A	Methane	74828	0.00E+00	No
Proposed Project	FUT27A	Methanol	67561	1.82E-07	Yes
Proposed Project	FUT27A	Methylglyoxal	78988	1.51E-07	No
Proposed Project	FUT27A	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.80E-08	No
Proposed Project	FUT27A	Naphthalene	91203	5.44E-08	Yes
Proposed Project	FUT27A	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FUT27A	Ndecane	124185	3.22E-08	No
Proposed Project	FUT27A	Ndodecane	112403	4.65E-08	No
Proposed Project	FUT27A	Nheptane	142825	6.44E-09	No
Proposed Project	FUT27A	Nickel	7440020	4.00E-09	Yes
Proposed Project	FUT27A	Nnonane	111842	6.24E-09	No
Proposed Project	FUT27A	Noctane	111659	6.24E-09	No
Proposed Project	FUT27A	Npentane	109660	1.99E-08	No
Proposed Project	FUT27A	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FUT27A	Npropylbenzene	103651	5.33E-09	No
Proposed Project	FUT27A	Ntridecane	629505	5.38E-08	No
Proposed Project	FUT27A	Nundecane	1120214	4.47E-08	No
Proposed Project	FUT27A	oTolualdehyde	529204	2.31E-08	No
Proposed Project	FUT27A	Oxylene	95476	1.67E-08	Yes
Proposed Project	FUT27A	Pentadecane	629629	1.74E-08	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FUT27A	Phenol (carbolic acid)	108952	7.30E-08	Yes
Proposed Project	FUT27A	Phosphorus	7723140	0.00E+00	No
Proposed Project	FUT27A	Potassium ion	7440097	9.74E-09	No
Proposed Project	FUT27A	Propane	74986	7.85E-09	No
Proposed Project	FUT27A	Propionaldehyde	123386	7.31E-08	No
Proposed Project	FUT27A	Propylene	115071	4.56E-07	Yes
Proposed Project	FUT27A	pTolualdehyde	104870	4.83E-09	No
Proposed Project	FUT27A	Silicon	7440213	4.36E-08	No
Proposed Project	FUT27A	Silver	7440224	7.34E-09	No
Proposed Project	FUT27A	Styrene	100425	3.11E-08	Yes
Proposed Project	FUT27A	Sulfate	9960	2.51E-06	Yes
Proposed Project	FUT27A	Sulfur	7704349	0.00E+00	No
Proposed Project	FUT27A	Tetradecane	629594	4.19E-08	No
Proposed Project	FUT27A	Thallium	7440280	0.00E+00	No
Proposed Project	FUT27A	Titanium	7440326	5.75E-10	No
Proposed Project	FUT27A	Toluene	108883	6.46E-08	Yes
Proposed Project	FUT27A	Trans2hexene	4050457	3.02E-09	No
Proposed Project	FUT27A	Trans2pentene	646048	3.61E-08	No
Proposed Project	FUT27A	Valeraldehyde	110623	2.46E-08	No
Proposed Project	FUT27A	Xylenes	1330207	2.84E-08	Yes
Proposed Project	FUT27A	Zinc	7440666	1.77E-09	No
Proposed Project	FUT27B	1,2,3trimethylbenzene	526738	4.05E-09	No
Proposed Project	FUT27B	1,2,4Trimethylbenzene	95636	1.34E-08	No
Proposed Project	FUT27B	1,3,5trimethylbenzene	108678	2.06E-09	No
Proposed Project	FUT27B	1,3butadiene	106990	6.44E-08	Yes
Proposed Project	FUT27B	1butene	106989	6.69E-08	No
Proposed Project	FUT27B	1decene	872059	7.06E-09	No
Proposed Project	FUT27B	1hexene	592416	2.81E-08	No
Proposed Project	FUT27B	1Methyl2Ethylbenzene	611143	2.48E-09	No
Proposed Project	FUT27B	1Methyl3Ethylbenzene	620144	5.88E-09	No
Proposed Project	FUT27B	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	2.44E-09	No
Proposed Project	FUT27B	1Methylnaphthalene	90120	9.43E-09	No
Proposed Project	FUT27B	1nonene	124118	9.39E-09	No
Proposed Project	FUT27B	1octene	111660	1.05E-08	No
Proposed Project	FUT27B	1pentene	109671	2.96E-08	No
Proposed Project	FUT27B	2methyl1butene	563462	5.34E-09	No
Proposed Project	FUT27B	2methyl1pentene	763291	1.30E-09	No
Proposed Project	FUT27B	2methyl2butene	513359	7.06E-09	No
Proposed Project	FUT27B	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	1.64E-08	No
Proposed Project	FUT27B	2methylnaphthalene	91576	7.86E-09	No
Proposed Project	FUT27B	2Methylpentane	107835	1.56E-08	No
Proposed Project	FUT27B	3methyl1butene	563451	4.27E-09	No
Proposed Project	FUT27B	4methyl1pentene	691372	2.63E-09	No

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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FUT27B	Acetaldehyde	75070	1.63E-07	Yes
Proposed Project	FUT27B	Acetone	67641	1.41E-08	No
Proposed Project	FUT27B	Acetylene	74862	1.50E-07	No
Proposed Project	FUT27B	Acrolein (2propenal)	107028	9.35E-08	Yes
Proposed Project	FUT27B	Ammonium	14798039	4.34E-07	No
Proposed Project	FUT27B	Antimony	7440360	0.00E+00	No
Proposed Project	FUT27B	Benzaldehyde	100527	1.79E-08	No
Proposed Project	FUT27B	Benzene	71432	6.42E-08	Yes
Proposed Project	FUT27B	Bromine	7726956	1.20E-09	No
Proposed Project	FUT27B	Butyraldehyde	123728	4.54E-09	No
Proposed Project	FUT27B	Calcium	7440702	0.00E+00	No
Proposed Project	FUT27B	Chloride ion	16887006	0.00E+00	No
Proposed Project	FUT27B	Chromium	7440473	1.59E-09	No
Proposed Project	FUT27B	Cis2butene	590181	8.02E-09	No
Proposed Project	FUT27B	Cis2pentene	627203	1.05E-08	No
Proposed Project	FUT27B	Copper	7440508	1.31E-08	Yes
Proposed Project	FUT27B	Crotonaldehyde (or 2Butenal)	4170303	3.94E-08	No
Proposed Project	FUT27B	Cumene	98828	1.15E-10	No
Proposed Project	FUT27B	Decanal	112312	2.23E-07	No
Proposed Project	FUT27B	Dimethyl napthalene	28804888	3.44E-09	No
Proposed Project	FUT27B	Dodecenal	112549	1.11E-07	No
Proposed Project	FUT27B	Elemental Carbon	7440440	1.31E-06	No
Proposed Project	FUT27B	Ethane	74840	1.99E-08	No
Proposed Project	FUT27B	Ethylbenzene	100414	6.64E-09	Yes
Proposed Project	FUT27B	Ethylene	74851	5.90E-07	No
Proposed Project	FUT27B	Formaldehyde	50000	4.70E-07	Yes
Proposed Project	FUT27B	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	FUT27B	Glyoxal	107222	6.93E-08	No
Proposed Project	FUT27B	Heptadecane	629787	3.44E-10	No
Proposed Project	FUT27B	Heptene	25339564	1.67E-08	No
Proposed Project	FUT27B	Hexadecane	544763	1.87E-09	No
Proposed Project	FUT27B	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	FUT27B	Indium	7440746	0.00E+00	No
Proposed Project	FUT27B	Insolchlorine	7782505	4.36E-09	Yes
Proposed Project	FUT27B	Iron	7439896	0.00E+00	No
Proposed Project	FUT27B	Isovaleraldehyde	590863	1.22E-09	No
Proposed Project	FUT27B	Magnesium	7439954	7.00E-09	No
Proposed Project	FUT27B	Manganese	7439965	1.11E-09	Yes
Proposed Project	FUT27B	Methane	74828	0.00E+00	No
Proposed Project	FUT27B	Methanol	67561	6.89E-08	Yes
Proposed Project	FUT27B	Methylglyoxal	78988	5.74E-08	No
Proposed Project	FUT27B	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.06E-08	No
Proposed Project	FUT27B	Naphthalene	91203	2.06E-08	Yes
Proposed Project	FUT27B	N-butylbenzene	104518	0.00E+00	No
Proposed Project	FUT27B	Ndecane	124185	1.22E-08	No

Appendix D1. TAC Emission Rates By Source Group
Mineta San Jose International Airport
San Jose, California

Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	FUT27B	Ndodecane	112403	1.76E-08	No
Proposed Project	FUT27B	Nheptane	142825	2.44E-09	No
Proposed Project	FUT27B	Nickel	7440020	2.23E-09	Yes
Proposed Project	FUT27B	Nnonane	111842	2.37E-09	No
Proposed Project	FUT27B	Noctane	111659	2.37E-09	No
Proposed Project	FUT27B	Npentane	109660	7.56E-09	No
Proposed Project	FUT27B	Npentylbenzene	538681	0.00E+00	No
Proposed Project	FUT27B	Npropylbenzene	103651	2.02E-09	No
Proposed Project	FUT27B	Ntridecane	629505	2.04E-08	No
Proposed Project	FUT27B	Nundecane	1120214	1.69E-08	No
Proposed Project	FUT27B	oTolualdehyde	529204	8.78E-09	No
Proposed Project	FUT27B	Oxylene	95476	6.34E-09	Yes
Proposed Project	FUT27B	Pentadecane	629629	6.60E-09	No
Proposed Project	FUT27B	Phenol (carbolic acid)	108952	2.77E-08	Yes
Proposed Project	FUT27B	Phosphorus	7723140	0.00E+00	No
Proposed Project	FUT27B	Potassium ion	7440097	5.43E-09	No
Proposed Project	FUT27B	Propane	74986	2.98E-09	No
Proposed Project	FUT27B	Propionaldehyde	123386	2.77E-08	No
Proposed Project	FUT27B	Propylene	115071	1.73E-07	Yes
Proposed Project	FUT27B	pTolualdehyde	104870	1.83E-09	No
Proposed Project	FUT27B	Silicon	7440213	2.43E-08	No
Proposed Project	FUT27B	Silver	7440224	4.09E-09	No
Proposed Project	FUT27B	Styrene	100425	1.18E-08	Yes
Proposed Project	FUT27B	Sulfate	9960	1.40E-06	Yes
Proposed Project	FUT27B	Sulfur	7704349	0.00E+00	No
Proposed Project	FUT27B	Tetradecane	629594	1.59E-08	No
Proposed Project	FUT27B	Thallium	7440280	0.00E+00	No
Proposed Project	FUT27B	Titanium	7440326	3.20E-10	No
Proposed Project	FUT27B	Toluene	108883	2.45E-08	Yes
Proposed Project	FUT27B	Trans2hexene	4050457	1.15E-09	No
Proposed Project	FUT27B	Trans2pentene	646048	1.37E-08	No
Proposed Project	FUT27B	Valeraldehyde	110623	9.35E-09	No
Proposed Project	FUT27B	Xylenes	1330207	1.08E-08	Yes
Proposed Project	FUT27B	Zinc	7440666	9.85E-10	No
Proposed Project	FUT3	Benzene	71432	0.00E+00	Yes
Proposed Project	FUT3	Ethylbenzene	100414	2.51E-04	Yes
Proposed Project	FUT3	n-Hexane	110543	1.93E-05	Yes
Proposed Project	FUT3	Toluene	108883	2.51E-04	Yes
Proposed Project	FUT3	Xylenes	1330207	5.99E-04	Yes
Proposed Project	GARAMPF	(1Methylpropyl)Benzene	68411449	2.97E-06	No
Proposed Project	GARAMPF	(2Methylpropyl)Benzene	538932	1.98E-06	No
Proposed Project	GARAMPF	1,2,3trimethylbenzene	526738	1.51E-04	No
Proposed Project	GARAMPF	1,2,4Trimethylbenzene	95636	6.26E-04	No
Proposed Project	GARAMPF	1,2Diethylbenzene (Ortho)	135013	1.19E-05	No
Proposed Project	GARAMPF	1,2Propadiene	463490	8.02E-05	No
Proposed Project	GARAMPF	1,3,5trimethylbenzene	108678	1.32E-04	No
Proposed Project	GARAMPF	1,3butadiene	106990	1.83E-03	Yes
Proposed Project	GARAMPF	1butene	106989	1.86E-03	No
Proposed Project	GARAMPF	1decene	872059	1.88E-04	No

Appendix D1. TAC Emission Rates By Source Group
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San Jose, California

Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	GARAMPF	1hexene	592416	7.50E-04	No
Proposed Project	GARAMPF	1Methyl2Ethylbenzene	611143	1.30E-04	No
Proposed Project	GARAMPF	1Methyl3Ethylbenzene	620144	2.98E-04	No
Proposed Project	GARAMPF	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	6.52E-05	No
Proposed Project	GARAMPF	1Methylnaphthalene	90120	2.52E-04	No
Proposed Project	GARAMPF	1nonene	124118	2.51E-04	No
Proposed Project	GARAMPF	1octene	111660	2.81E-04	No
Proposed Project	GARAMPF	1pentene	109671	8.11E-04	No
Proposed Project	GARAMPF	2,2,4Trimethylpentane	540841	6.24E-05	No
Proposed Project	GARAMPF	2,2Dimethylbutane	75832	3.17E-05	No
Proposed Project	GARAMPF	2,3,4Trimethylpentane	565753	3.46E-05	No
Proposed Project	GARAMPF	2,3Dimethyl1Butene	563780	1.88E-05	No
Proposed Project	GARAMPF	2,3Dimethylhexane	584941	1.09E-05	No
Proposed Project	GARAMPF	2,3Dimethylpentane	565593	3.17E-05	No
Proposed Project	GARAMPF	2,4Dimethylhexane	589435	2.47E-05	No
Proposed Project	GARAMPF	2,4Dimethylpentane	108087	2.77E-05	No
Proposed Project	GARAMPF	2methyl1butene	563462	1.43E-04	No
Proposed Project	GARAMPF	2methyl1pentene	763291	3.46E-05	No
Proposed Project	GARAMPF	2methyl2butene	513359	1.88E-04	No
Proposed Project	GARAMPF	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	4.37E-04	No
Proposed Project	GARAMPF	2Methylheptane	592278	3.17E-05	No
Proposed Project	GARAMPF	2Methylhexane	591764	6.93E-05	No
Proposed Project	GARAMPF	2methylnaphthalene	91576	2.10E-04	No
Proposed Project	GARAMPF	2Methylpentane	107835	5.55E-04	No
Proposed Project	GARAMPF	3methyl1butene	563451	1.14E-04	No
Proposed Project	GARAMPF	3Methylhexane	589344	7.42E-05	No
Proposed Project	GARAMPF	3Methylpentane	96140	8.71E-05	No
Proposed Project	GARAMPF	4methyl1pentene	691372	7.03E-05	No
Proposed Project	GARAMPF	Acetaldehyde	75070	4.38E-03	Yes
Proposed Project	GARAMPF	Acetone	67641	4.10E-04	No
Proposed Project	GARAMPF	Acetylene	74862	4.76E-03	No
Proposed Project	GARAMPF	Acrolein (2propenal)	107028	2.50E-03	Yes
Proposed Project	GARAMPF	Ammonium	14798039	5.85E-04	No
Proposed Project	GARAMPF	Antimony	7440360	0.00E+00	No
Proposed Project	GARAMPF	Benzaldehyde	100527	4.88E-04	No
Proposed Project	GARAMPF	Benzene	71432	2.21E-03	Yes
Proposed Project	GARAMPF	BMethylstyrene	637503	1.58E-05	No
Proposed Project	GARAMPF	Bromine	7726956	1.63E-06	No
Proposed Project	GARAMPF	Butyraldehyde	123728	1.22E-04	No
Proposed Project	GARAMPF	Calcium	7440702	0.00E+00	No
Proposed Project	GARAMPF	Chloride ion	16887006	0.00E+00	No
Proposed Project	GARAMPF	Chromium	7440473	2.14E-06	No
Proposed Project	GARAMPF	Cis2butene	590181	2.28E-04	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	GARAMPF	Cis2pentene	627203	3.06E-04	No
Proposed Project	GARAMPF	Copper	7440508	1.77E-05	Yes
Proposed Project	GARAMPF	Crotonaldehyde (or 2Butenal)	4170303	1.05E-03	No
Proposed Project	GARAMPF	Cumene	98828	9.98E-06	No
Proposed Project	GARAMPF	Cyclohexane	110827	3.96E-06	No
Proposed Project	GARAMPF	Cyclohexanone	108941	1.98E-06	No
Proposed Project	GARAMPF	Cyclopentane	287923	1.88E-05	No
Proposed Project	GARAMPF	Decanal	112312	5.95E-03	No
Proposed Project	GARAMPF	Dimethyl napthalene	28804888	9.17E-05	No
Proposed Project	GARAMPF	Dodecenal	112549	2.98E-03	No
Proposed Project	GARAMPF	DPM	9901	2.59E-04	Yes
Proposed Project	GARAMPF	Elemental Carbon	7440440	1.77E-03	No
Proposed Project	GARAMPF	Ethane	74840	6.13E-04	No
Proposed Project	GARAMPF	Ethyl Alcohol	64175	1.98E-06	No
Proposed Project	GARAMPF	Ethylbenzene	100414	3.46E-04	Yes
Proposed Project	GARAMPF	Ethylene	74851	1.65E-02	No
Proposed Project	GARAMPF	Ethylhexane	619998	3.17E-05	No
Proposed Project	GARAMPF	Formaldehyde	50000	1.27E-02	Yes
Proposed Project	GARAMPF	Furfuryl alcohol	98000	2.09E-07	No
Proposed Project	GARAMPF	Glyoxal	107222	1.85E-03	No
Proposed Project	GARAMPF	Heptadecane	629787	9.17E-06	No
Proposed Project	GARAMPF	Heptene	25339564	4.46E-04	No
Proposed Project	GARAMPF	Hexadecane	544763	4.99E-05	No
Proposed Project	GARAMPF	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	2.30E-08	No
Proposed Project	GARAMPF	Indan	496117	2.77E-05	No
Proposed Project	GARAMPF	Indium	7440746	0.00E+00	No
Proposed Project	GARAMPF	Insolchlorine	7782505	5.89E-06	Yes
Proposed Project	GARAMPF	Iron	7439896	0.00E+00	No
Proposed Project	GARAMPF	Isobutane	75285	2.47E-05	No
Proposed Project	GARAMPF	Isobutylene	115117	1.09E-04	No
Proposed Project	GARAMPF	Isomers Of Diethylbenzene	25340174	1.98E-05	No
Proposed Project	GARAMPF	Isopentane	78784	2.38E-04	No
Proposed Project	GARAMPF	Isovaleraldehyde	590863	3.26E-05	No
Proposed Project	GARAMPF	Magnesium	7439954	9.45E-06	No
Proposed Project	GARAMPF	Manganese	7439965	1.50E-06	Yes
Proposed Project	GARAMPF	Methane	74828	6.28E-04	No
Proposed Project	GARAMPF	Methanol	67561	1.85E-03	Yes
Proposed Project	GARAMPF	Methyl Ethyl Ketone {2Butanone}	78933	5.94E-06	Yes
Proposed Project	GARAMPF	Methyl NButyl Ketone	591786	1.98E-05	No
Proposed Project	GARAMPF	Methylcyclohexane	108872	3.76E-05	No
Proposed Project	GARAMPF	Methylcyclopentane	96377	1.08E-04	No
Proposed Project	GARAMPF	Methylglyoxal	78988	1.53E-03	No
Proposed Project	GARAMPF	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	2.83E-04	No
Proposed Project	GARAMPF	MXylene	108383	2.97E-04	Yes

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	GARAMPF	Naphthalene	91203	5.59E-04	Yes
Proposed Project	GARAMPF	NButane	106978	6.04E-05	No
Proposed Project	GARAMPF	N-butylbenzene	104518	3.57E-05	No
Proposed Project	GARAMPF	Ndecane	124185	3.48E-04	No
Proposed Project	GARAMPF	Ndodecane	112403	4.71E-04	No
Proposed Project	GARAMPF	Nheptane	142825	1.17E-04	No
Proposed Project	GARAMPF	n-Hexane	110543	1.10E-04	Yes
Proposed Project	GARAMPF	Nickel	7440020	3.01E-06	Yes
Proposed Project	GARAMPF	Nnonane	111842	1.04E-04	No
Proposed Project	GARAMPF	Noctane	111659	9.48E-05	No
Proposed Project	GARAMPF	Npentane	109660	3.04E-04	No
Proposed Project	GARAMPF	Npentylbenzene	538681	1.96E-08	No
Proposed Project	GARAMPF	Npropylbenzene	103651	8.86E-05	No
Proposed Project	GARAMPF	Ntridecane	629505	5.45E-04	No
Proposed Project	GARAMPF	Nundecane	1120214	4.72E-04	No
Proposed Project	GARAMPF	oTolualdehyde	529204	2.34E-04	No
Proposed Project	GARAMPF	Oxylene	95476	4.07E-04	Yes
Proposed Project	GARAMPF	Pentadecane	629629	1.76E-04	No
Proposed Project	GARAMPF	Phenol (carbolic acid)	108952	7.40E-04	Yes
Proposed Project	GARAMPF	Phosphorus	7723140	0.00E+00	No
Proposed Project	GARAMPF	Potassium ion	7440097	7.33E-06	No
Proposed Project	GARAMPF	Propane	74986	1.48E-04	No
Proposed Project	GARAMPF	Propionaldehyde	123386	7.56E-04	No
Proposed Project	GARAMPF	Propylene	115071	4.95E-03	Yes
Proposed Project	GARAMPF	pTolualdehyde	104870	4.89E-05	No
Proposed Project	GARAMPF	PXylene	106423	1.99E-04	Yes
Proposed Project	GARAMPF	Silicon	7440213	3.28E-05	No
Proposed Project	GARAMPF	Silver	7440224	5.53E-06	No
Proposed Project	GARAMPF	Styrene	100425	3.35E-04	Yes
Proposed Project	GARAMPF	Sulfate	9960	1.89E-03	Yes
Proposed Project	GARAMPF	Sulfur	7704349	0.00E+00	No
Proposed Project	GARAMPF	Tetradecane	629594	4.24E-04	No
Proposed Project	GARAMPF	Thallium	7440280	0.00E+00	No
Proposed Project	GARAMPF	Titanium	7440326	4.32E-07	No
Proposed Project	GARAMPF	Toluene	108883	1.43E-03	Yes
Proposed Project	GARAMPF	Trans2Butene	624646	1.98E-05	No
Proposed Project	GARAMPF	Trans2hexene	4050457	3.06E-05	No
Proposed Project	GARAMPF	Trans2pentene	646048	3.99E-04	No
Proposed Project	GARAMPF	Valeraldehyde	110623	2.50E-04	No
Proposed Project	GARAMPF	Xylenes	1330207	2.87E-04	Yes
Proposed Project	GARAMPF	Zinc	7440666	1.33E-06	No
Proposed Project	GASDSP	Benzene	71432	3.68E-05	Yes
Proposed Project	GASDSP	Naphthalene	91203	8.11E-06	Yes
Proposed Project	GASDSP	n-Hexane	110543	5.90E-05	Yes
Proposed Project	GASDSP	Styrene	100425	2.95E-05	Yes
Proposed Project	GASDSP	Toluene	108883	2.58E-04	Yes
Proposed Project	GASDSP	Xylenes	1330207	1.84E-04	Yes
Proposed Project	SG1	Benzene	71432	0.00E+00	Yes
Proposed Project	SG1	Ethylbenzene	100414	7.75E-06	Yes

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	SG1	n-Hexane	110543	5.96E-07	Yes
Proposed Project	SG1	Toluene	108883	7.75E-06	Yes
Proposed Project	SG1	Xylenes	1330207	1.85E-05	Yes
Proposed Project	SG2	Benzene	71432	0.00E+00	Yes
Proposed Project	SG2	Ethylbenzene	100414	7.75E-06	Yes
Proposed Project	SG2	n-Hexane	110543	5.96E-07	Yes
Proposed Project	SG2	Toluene	108883	7.75E-06	Yes
Proposed Project	SG2	Xylenes	1330207	1.85E-05	Yes
Proposed Project	SG3	Benzene	71432	0.00E+00	Yes
Proposed Project	SG3	Ethylbenzene	100414	7.75E-06	Yes
Proposed Project	SG3	n-Hexane	110543	5.96E-07	Yes
Proposed Project	SG3	Toluene	108883	7.75E-06	Yes
Proposed Project	SG3	Xylenes	1330207	1.85E-05	Yes
Proposed Project	SG4	1,2,4Trimethylbenzene	95636	5.44E-06	No
Proposed Project	SG4	Benzene	71432	3.92E-06	Yes
Proposed Project	SG4	Cumene	98828	1.09E-06	No
Proposed Project	SG4	Cyclohexane	110827	5.22E-07	No
Proposed Project	SG4	Ethylbenzene	100414	3.05E-06	Yes
Proposed Project	SG4	Isooctane	26635643	8.70E-06	No
Proposed Project	SG4	n-Hexane	110543	2.18E-06	Yes
Proposed Project	SG4	Toluene	108883	1.52E-05	Yes
Proposed Project	SG4	Xylenes	1330207	1.52E-05	Yes
Proposed Project	SW1	Benzene	71432	0.00E+00	Yes
Proposed Project	SW1	Ethylbenzene	100414	2.37E-04	Yes
Proposed Project	SW1	n-Hexane	110543	1.83E-05	Yes
Proposed Project	SW1	Toluene	108883	2.37E-04	Yes
Proposed Project	SW1	Xylenes	1330207	5.66E-04	Yes
Proposed Project	SW2	Benzene	71432	0.00E+00	Yes
Proposed Project	SW2	Ethylbenzene	100414	2.37E-04	Yes
Proposed Project	SW2	n-Hexane	110543	1.83E-05	Yes
Proposed Project	SW2	Toluene	108883	2.37E-04	Yes
Proposed Project	SW2	Xylenes	1330207	5.66E-04	Yes
Proposed Project	SW3	Benzene	71432	0.00E+00	Yes
Proposed Project	SW3	Ethylbenzene	100414	2.37E-04	Yes
Proposed Project	SW3	n-Hexane	110543	1.83E-05	Yes
Proposed Project	SW3	Toluene	108883	2.37E-04	Yes
Proposed Project	SW3	Xylenes	1330207	5.66E-04	Yes
Proposed Project	TAXIEF	1,2,3trimethylbenzene	526738	1.32E-03	No
Proposed Project	TAXIEF	1,2,4Trimethylbenzene	95636	4.34E-03	No
Proposed Project	TAXIEF	1,3,5trimethylbenzene	108678	6.70E-04	No
Proposed Project	TAXIEF	1,3butadiene	106990	2.09E-02	Yes
Proposed Project	TAXIEF	1butene	106989	2.18E-02	No
Proposed Project	TAXIEF	1decene	872059	2.30E-03	No
Proposed Project	TAXIEF	1hexene	592416	9.13E-03	No
Proposed Project	TAXIEF	1Methyl2Ethylbenzene	611143	8.06E-04	No
Proposed Project	TAXIEF	1Methyl3Ethylbenzene	620144	1.91E-03	No
Proposed Project	TAXIEF	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	7.94E-04	No

Appendix D1. TAC Emission Rates By Source Group
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Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	TAXIEF	1Methylnaphthalene	90120	3.06E-03	No
Proposed Project	TAXIEF	1nonene	124118	3.05E-03	No
Proposed Project	TAXIEF	1octene	111660	3.42E-03	No
Proposed Project	TAXIEF	1pentene	109671	9.63E-03	No
Proposed Project	TAXIEF	2methyl1butene	563462	1.74E-03	No
Proposed Project	TAXIEF	2methyl1pentene	763291	4.22E-04	No
Proposed Project	TAXIEF	2methyl2butene	513359	2.30E-03	No
Proposed Project	TAXIEF	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	5.32E-03	No
Proposed Project	TAXIEF	2methylnaphthalene	91576	2.56E-03	No
Proposed Project	TAXIEF	2Methylpentane	107835	5.06E-03	No
Proposed Project	TAXIEF	3methyl1butene	563451	1.39E-03	No
Proposed Project	TAXIEF	4methyl1pentene	691372	8.56E-04	No
Proposed Project	TAXIEF	Acetaldehyde	75070	5.30E-02	Yes
Proposed Project	TAXIEF	Acetone	67641	4.58E-03	No
Proposed Project	TAXIEF	Acetylene	74862	4.89E-02	No
Proposed Project	TAXIEF	Acrolein (2propenal)	107028	3.04E-02	Yes
Proposed Project	TAXIEF	Ammonium	14798039	3.68E-03	No
Proposed Project	TAXIEF	Antimony	7440360	0.00E+00	No
Proposed Project	TAXIEF	Benzaldehyde	100527	5.83E-03	No
Proposed Project	TAXIEF	Benzene	71432	2.09E-02	Yes
Proposed Project	TAXIEF	Bromine	7726956	1.02E-05	No
Proposed Project	TAXIEF	Butyraldehyde	123728	1.48E-03	No
Proposed Project	TAXIEF	Calcium	7440702	0.00E+00	No
Proposed Project	TAXIEF	Chloride ion	16887006	0.00E+00	No
Proposed Project	TAXIEF	Chromium	7440473	1.35E-05	No
Proposed Project	TAXIEF	Cis2butene	590181	2.61E-03	No
Proposed Project	TAXIEF	Cis2pentene	627203	3.42E-03	No
Proposed Project	TAXIEF	Copper	7440508	1.11E-04	Yes
Proposed Project	TAXIEF	Crotonaldehyde (or 2Butenal)	4170303	1.28E-02	No
Proposed Project	TAXIEF	Cumene	98828	3.72E-05	No
Proposed Project	TAXIEF	Decanal	112312	7.25E-02	No
Proposed Project	TAXIEF	Dimethyl napthalene	28804888	1.12E-03	No
Proposed Project	TAXIEF	Dodecenal	112549	3.62E-02	No
Proposed Project	TAXIEF	Elemental Carbon	7440440	1.11E-02	No
Proposed Project	TAXIEF	Ethane	74840	6.46E-03	No
Proposed Project	TAXIEF	Ethylbenzene	100414	2.16E-03	Yes
Proposed Project	TAXIEF	Ethylene	74851	1.92E-01	No
Proposed Project	TAXIEF	Formaldehyde	50000	1.53E-01	Yes
Proposed Project	TAXIEF	Furfuryl alcohol	98000	0.00E+00	No
Proposed Project	TAXIEF	Glyoxal	107222	2.25E-02	No
Proposed Project	TAXIEF	Heptadecane	629787	1.12E-04	No
Proposed Project	TAXIEF	Heptene	25339564	5.43E-03	No
Proposed Project	TAXIEF	Hexadecane	544763	6.08E-04	No

Appendix D1. TAC Emission Rates By Source Group
Mineta San Jose International Airport
San Jose, California

Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	TAXIEF	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	0.00E+00	No
Proposed Project	TAXIEF	Indium	7440746	0.00E+00	No
Proposed Project	TAXIEF	Insolchlorine	7782505	3.70E-05	Yes
Proposed Project	TAXIEF	Iron	7439896	0.00E+00	No
Proposed Project	TAXIEF	Isovaleraldehyde	590863	3.97E-04	No
Proposed Project	TAXIEF	Magnesium	7439954	5.94E-05	No
Proposed Project	TAXIEF	Manganese	7439965	9.43E-06	Yes
Proposed Project	TAXIEF	Methane	74828	0.00E+00	No
Proposed Project	TAXIEF	Methanol	67561	2.24E-02	Yes
Proposed Project	TAXIEF	Methylglyoxal	78988	1.86E-02	No
Proposed Project	TAXIEF	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	3.45E-03	No
Proposed Project	TAXIEF	Naphthalene	91203	6.71E-03	Yes
Proposed Project	TAXIEF	N-butylbenzene	104518	0.00E+00	No
Proposed Project	TAXIEF	Ndecane	124185	3.97E-03	No
Proposed Project	TAXIEF	Ndodecane	112403	5.73E-03	No
Proposed Project	TAXIEF	Nheptane	142825	7.94E-04	No
Proposed Project	TAXIEF	Nickel	7440020	1.89E-05	Yes
Proposed Project	TAXIEF	Nnonane	111842	7.69E-04	No
Proposed Project	TAXIEF	Noctane	111659	7.69E-04	No
Proposed Project	TAXIEF	Npentane	109660	2.46E-03	No
Proposed Project	TAXIEF	Npentylbenzene	538681	0.00E+00	No
Proposed Project	TAXIEF	Npropylbenzene	103651	6.58E-04	No
Proposed Project	TAXIEF	Ntridecane	629505	6.64E-03	No
Proposed Project	TAXIEF	Nundecane	1120214	5.51E-03	No
Proposed Project	TAXIEF	oTolualdehyde	529204	2.85E-03	No
Proposed Project	TAXIEF	Oxylene	95476	2.06E-03	Yes
Proposed Project	TAXIEF	Pentadecane	629629	2.15E-03	No
Proposed Project	TAXIEF	Phenol (carbolic acid)	108952	9.01E-03	Yes
Proposed Project	TAXIEF	Phosphorus	7723140	0.00E+00	No
Proposed Project	TAXIEF	Potassium ion	7440097	4.61E-05	No
Proposed Project	TAXIEF	Propane	74986	9.68E-04	No
Proposed Project	TAXIEF	Propionaldehyde	123386	9.02E-03	No
Proposed Project	TAXIEF	Propylene	115071	5.63E-02	Yes
Proposed Project	TAXIEF	pTolualdehyde	104870	5.96E-04	No
Proposed Project	TAXIEF	Silicon	7440213	2.06E-04	No
Proposed Project	TAXIEF	Silver	7440224	3.47E-05	No
Proposed Project	TAXIEF	Styrene	100425	3.83E-03	Yes
Proposed Project	TAXIEF	Sulfate	9960	1.19E-02	Yes
Proposed Project	TAXIEF	Sulfur	7704349	0.00E+00	No
Proposed Project	TAXIEF	Tetradecane	629594	5.16E-03	No
Proposed Project	TAXIEF	Thallium	7440280	0.00E+00	No
Proposed Project	TAXIEF	Titanium	7440326	2.72E-06	No
Proposed Project	TAXIEF	Toluene	108883	7.96E-03	Yes
Proposed Project	TAXIEF	Trans2hexene	4050457	3.72E-04	No
Proposed Project	TAXIEF	Trans2pentene	646048	4.45E-03	No
Proposed Project	TAXIEF	Valeraldehyde	110623	3.04E-03	No

Appendix D1. TAC Emission Rates By Source Group
Mineta San Jose International Airport
San Jose, California

Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	TAXIEF	Xylenes	1330207	3.50E-03	Yes
Proposed Project	TAXIEF	Zinc	7440666	8.37E-06	No
Proposed Project	TAXIWF	1,2,3trimethylbenzene	526738	5.90E-04	No
Proposed Project	TAXIWF	1,2,4Trimethylbenzene	95636	1.95E-03	No
Proposed Project	TAXIWF	1,3,5trimethylbenzene	108678	3.01E-04	No
Proposed Project	TAXIWF	1,3butadiene	106990	9.86E-03	Yes
Proposed Project	TAXIWF	1butene	106989	1.03E-02	No
Proposed Project	TAXIWF	1decene	872059	1.07E-03	No
Proposed Project	TAXIWF	1hexene	592416	4.32E-03	No
Proposed Project	TAXIWF	1Methyl2Ethylbenzene	611143	3.62E-04	No
Proposed Project	TAXIWF	1Methyl3Ethylbenzene	620144	8.57E-04	No
Proposed Project	TAXIWF	1Methyl4ethylbenzene (or 1Ethyl4methylbenzene; 4ethyltoluene)	622968	3.56E-04	No
Proposed Project	TAXIWF	1Methylnaphthalene	90120	1.38E-03	No
Proposed Project	TAXIWF	1nonene	124118	1.44E-03	No
Proposed Project	TAXIWF	1octene	111660	1.61E-03	No
Proposed Project	TAXIWF	1pentene	109671	4.54E-03	No
Proposed Project	TAXIWF	2methyl1butene	563462	7.79E-04	No
Proposed Project	TAXIWF	2methyl1pentene	763291	1.89E-04	No
Proposed Project	TAXIWF	2methyl2butene	513359	1.08E-03	No
Proposed Project	TAXIWF	2methyl2propenal (or Methacrolein; Methacrylaldehyde; Isobutenal; Methacrylic aldehyde)	78853	2.39E-03	No
Proposed Project	TAXIWF	2methylnaphthalene	91576	1.15E-03	No
Proposed Project	TAXIWF	2Methylpentane	107835	2.38E-03	No
Proposed Project	TAXIWF	3methyl1butene	563451	6.24E-04	No
Proposed Project	TAXIWF	4methyl1pentene	691372	3.84E-04	No
Proposed Project	TAXIWF	Acetaldehyde	75070	2.51E-02	Yes

Appendix D1. TAC Emission Rates By Source Group
Mineta San Jose International Airport
San Jose, California

Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	TAXIWF	Acetone	67641	2.93E-03	No
Proposed Project	TAXIWF	Acetylene	74862	2.30E-02	No
Proposed Project	TAXIWF	Acrolein (2propenal)	107028	1.42E-02	Yes
Proposed Project	TAXIWF	Ammonium	14798039	5.19E-04	No
Proposed Project	TAXIWF	Antimony	7440360	0.00E+00	No
Proposed Project	TAXIWF	Benzaldehyde	100527	2.77E-03	No
Proposed Project	TAXIWF	Benzene	71432	9.89E-03	Yes
Proposed Project	TAXIWF	Bromine	7726956	1.44E-06	No
Proposed Project	TAXIWF	Butyraldehyde	123728	1.02E-03	No
Proposed Project	TAXIWF	Calcium	7440702	0.00E+00	No
Proposed Project	TAXIWF	Chloride ion	16887006	0.00E+00	No
Proposed Project	TAXIWF	Chromium	7440473	1.90E-06	No
Proposed Project	TAXIWF	Cis2butene	590181	1.30E-03	No
Proposed Project	TAXIWF	Cis2pentene	627203	1.54E-03	No
Proposed Project	TAXIWF	Copper	7440508	1.57E-05	Yes
Proposed Project	TAXIWF	Crotonaldehyde (or 2Butenal)	4170303	5.75E-03	No
Proposed Project	TAXIWF	Cumene	98828	1.67E-05	No
Proposed Project	TAXIWF	Decanal	112312	3.25E-02	No
Proposed Project	TAXIWF	Dimethyl napthalene	28804888	5.01E-04	No
Proposed Project	TAXIWF	Dodecenal	112549	1.63E-02	No
Proposed Project	TAXIWF	Elemental Carbon	7440440	1.57E-03	No
Proposed Project	TAXIWF	Ethane	74840	3.17E-03	No
Proposed Project	TAXIWF	Ethylbenzene	100414	1.01E-03	Yes
Proposed Project	TAXIWF	Ethylene	74851	9.07E-02	No
Proposed Project	TAXIWF	Formaldehyde	50000	7.27E-02	Yes
Proposed Project	TAXIWF	Furfuryl alcohol	98000	5.38E-04	No
Proposed Project	TAXIWF	Glyoxal	107222	1.09E-02	No
Proposed Project	TAXIWF	Heptadecane	629787	5.31E-05	No
Proposed Project	TAXIWF	Heptene	25339564	2.59E-03	No
Proposed Project	TAXIWF	Hexadecane	544763	3.14E-04	No
Proposed Project	TAXIWF	Hexaldehyde (or hexanal, Hexanaldehyde)	66251	5.94E-05	No
Proposed Project	TAXIWF	Indium	7440746	0.00E+00	No
Proposed Project	TAXIWF	Insolchlorine	7782505	5.22E-06	Yes
Proposed Project	TAXIWF	Iron	7439896	0.00E+00	No
Proposed Project	TAXIWF	Isovaleraldehyde	590863	1.78E-04	No
Proposed Project	TAXIWF	Lead	7439921	3.21E-04	Yes
Proposed Project	TAXIWF	Magnesium	7439954	8.38E-06	No
Proposed Project	TAXIWF	Manganese	7439965	1.33E-06	Yes
Proposed Project	TAXIWF	Methane	74828	3.25E-03	No
Proposed Project	TAXIWF	Methanol	67561	1.00E-02	Yes
Proposed Project	TAXIWF	Methylglyoxal	78988	8.37E-03	No
Proposed Project	TAXIWF	mTolualdehyde (or mMethylbenzaldehyde; 3Methylbenzaldehyde)	620235	1.55E-03	No
Proposed Project	TAXIWF	Naphthalene	91203	3.16E-03	Yes
Proposed Project	TAXIWF	N-butylbenzene	104518	6.54E-05	No
Proposed Project	TAXIWF	Ndecane	124185	1.91E-03	No

Appendix D1. TAC Emission Rates By Source Group
Mineta San Jose International Airport
San Jose, California

Scenario	Source Group	Speciated Toxic Air Contaminant	CAS	Emission Rate (g/s)	Toxicity Factor Available?
Proposed Project	TAXIWF	Ndodecane	112403	2.93E-03	No
Proposed Project	TAXIWF	Nheptane	142825	3.74E-04	No
Proposed Project	TAXIWF	Nickel	7440020	2.67E-06	Yes
Proposed Project	TAXIWF	Nnonane	111842	3.90E-04	No
Proposed Project	TAXIWF	Noctane	111659	3.57E-04	No
Proposed Project	TAXIWF	Npentane	109660	1.16E-03	No
Proposed Project	TAXIWF	Npentylbenzene	538681	5.05E-05	No
Proposed Project	TAXIWF	Npropylbenzene	103651	2.95E-04	No
Proposed Project	TAXIWF	Ntridecane	629505	3.17E-03	No
Proposed Project	TAXIWF	Nundecane	1120214	2.63E-03	No
Proposed Project	TAXIWF	oTolualdehyde	529204	1.28E-03	No
Proposed Project	TAXIWF	Oxylene	95476	9.78E-04	Yes
Proposed Project	TAXIWF	Pentadecane	629629	1.04E-03	No
Proposed Project	TAXIWF	Phenol (carbolic acid)	108952	4.11E-03	Yes
Proposed Project	TAXIWF	Phosphorus	7723140	0.00E+00	No
Proposed Project	TAXIWF	Potassium ion	7440097	6.50E-06	No
Proposed Project	TAXIWF	Propane	74986	4.94E-04	No
Proposed Project	TAXIWF	Propionaldehyde	123386	4.32E-03	No
Proposed Project	TAXIWF	Propylene	115071	2.66E-02	Yes
Proposed Project	TAXIWF	pTolualdehyde	104870	2.67E-04	No
Proposed Project	TAXIWF	Silicon	7440213	2.91E-05	No
Proposed Project	TAXIWF	Silver	7440224	4.90E-06	No
Proposed Project	TAXIWF	Styrene	100425	1.83E-03	Yes
Proposed Project	TAXIWF	Sulfate	9960	1.67E-03	Yes
Proposed Project	TAXIWF	Sulfur	7704349	0.00E+00	No
Proposed Project	TAXIWF	Tetradecane	629594	2.49E-03	No
Proposed Project	TAXIWF	Thallium	7440280	0.00E+00	No
Proposed Project	TAXIWF	Titanium	7440326	3.83E-07	No
Proposed Project	TAXIWF	Toluene	108883	3.72E-03	Yes
Proposed Project	TAXIWF	Trans2hexene	4050457	1.67E-04	No
Proposed Project	TAXIWF	Trans2pentene	646048	2.00E-03	No
Proposed Project	TAXIWF	Valeraldehyde	110623	1.36E-03	No
Proposed Project	TAXIWF	Xylenes	1330207	1.65E-03	Yes
Proposed Project	TAXIWF	Zinc	7440666	1.18E-06	No

APPENDIX D2
$PM_{2.5}$ EMISSION RATES BY SOURCE GROUP

Appendix D2. $PM_{2.5}$ Emission Rates By Source Group
Mineta San Jose International Airport
San Jose, California

Scenario	Source Group	$PM_{2.5}$ Emission Rate (g/s)
Existing/Baseline	TAXIW	7.94E-03
Existing/Baseline	TAXIE	3.31E-02
Existing/Baseline	COMRAMP	7.81E-02
Existing/Baseline	GARAMP	1.02E-02
Existing/Baseline	GASDSP	0
Existing/Baseline	AIRSIDE	8.51E-04
Existing/Baseline	S28	8.00E-04
Existing/Baseline	S29	8.00E-04
Existing/Baseline	S30	5.20E-04
Existing/Baseline	RA	9.60E-03
Existing/Baseline	RB	1.24E-02
Existing/Baseline	CL01B	1.35E-02
Existing/Baseline	CL03B	1.67E-03
Existing/Baseline	CL06B	1.88E-04
Existing/Baseline	CL10B	1.47E-03
Existing/Baseline	CL01A	2.36E-02
Existing/Baseline	CL03A	2.92E-03
Existing/Baseline	CL06A	3.31E-04
Existing/Baseline	CL10A	2.58E-03
Existing/Baseline	CT04B	1.73E-04
Existing/Baseline	CT18B	6.20E-03
Existing/Baseline	CT23B	7.33E-04
Existing/Baseline	CT27B	1.60E-05
Existing/Baseline	CT04A	4.07E-04
Existing/Baseline	CT18A	1.45E-02
Existing/Baseline	CT23A	1.72E-03
Existing/Baseline	CT27A	3.75E-05
Existing/Baseline	BT04B	1.41E-03
Existing/Baseline	BT14B	6.89E-04
Existing/Baseline	BT23B	7.85E-05
Existing/Baseline	BT27B	1.71E-04
Existing/Baseline	BT04A	1.90E-03
Existing/Baseline	BT14A	9.32E-04
Existing/Baseline	BT23A	1.06E-04
Existing/Baseline	BT27A	2.31E-04
Existing/Baseline	UT09B	1.07E-04
Existing/Baseline	UT20B	8.94E-04
Existing/Baseline	UT23B	1.10E-04
Existing/Baseline	UT27B	1.16E-05
Existing/Baseline	UT09A	1.96E-04
Existing/Baseline	UT20A	1.64E-03
Existing/Baseline	UT23A	2.02E-04
Existing/Baseline	UT27A	2.13E-05
Existing/Baseline	GT21B	6.64E-04
Existing/Baseline	GT23B	7.30E-05
Existing/Baseline	GT21A	1.27E-03
Existing/Baseline	GT23A	1.40E-04
Existing/Baseline	MT35B	6.18E-06
Existing/Baseline	MT35A	9.97E-06
Existing/Baseline	SW1	0

Appendix D2. $PM_{2.5}$ Emission Rates By Source Group
Mineta San Jose International Airport
San Jose, California

Scenario	Source Group	$PM_{2.5}$ Emission Rate (g/s)
Existing/Baseline	SW2	0
Existing/Baseline	SW3	0
Existing/Baseline	SG1	0
Existing/Baseline	SG2	0
Existing/Baseline	SG3	0
Existing/Baseline	SG4	0
Existing/Baseline	AT1	0
Existing/Baseline	AT2	0
Existing/Baseline	AT3	0
Existing/Baseline	AT4	0
Existing/Baseline	AT5	0
Existing/Baseline	AV1	0
Proposed Project	TAXIWF	7.72E-03
Proposed Project	TAXIEF	5.33E-02
Proposed Project	COMRAMPF	1.08E-01
Proposed Project	GARAMPF	1.05E-02
Proposed Project	GASDSP	0
Proposed Project	AIRSIDE	5.40E-04
Proposed Project	S28	1.22E-03
Proposed Project	S29	1.22E-03
Proposed Project	S30	7.90E-04
Proposed Project	FRA	1.33E-02
Proposed Project	FRB	1.68E-02
Proposed Project	FCL01B	2.12E-02
Proposed Project	FCL03B	1.66E-03
Proposed Project	FCL06B	1.72E-04
Proposed Project	FCL10B	2.27E-03
Proposed Project	FCL01A	5.48E-02
Proposed Project	FCL03A	4.28E-03
Proposed Project	FCL06A	4.43E-04
Proposed Project	FCL10A	5.85E-03
Proposed Project	FCT04B	5.85E-04
Proposed Project	FCT18B	9.41E-03
Proposed Project	FCT23B	1.07E-03
Proposed Project	FCT27B	3.88E-05
Proposed Project	FCT04A	1.53E-03
Proposed Project	FCT18A	2.46E-02
Proposed Project	FCT23A	2.80E-03
Proposed Project	FCT27A	1.01E-04
Proposed Project	FBT04B	1.69E-03
Proposed Project	FBT14B	8.14E-04
Proposed Project	FBT23B	9.86E-05
Proposed Project	FBT27B	2.04E-04
Proposed Project	FBT04A	2.05E-03
Proposed Project	FBT14A	9.90E-04
Proposed Project	FBT23A	1.20E-04
Proposed Project	FBT27A	2.48E-04
Proposed Project	FUT09B	5.87E-05
Proposed Project	FUT20B	4.80E-04
Proposed Project	FUT23B	5.97E-05

Appendix D2. $PM_{2.5}$ Emission Rates By Source Group
Mineta San Jose International Airport
San Jose, California

Scenario	Source Group	$PM_{2.5}$ Emission Rate (g/s)
Proposed Project	FUT27B	6.28E-06
Proposed Project	FUT09A	1.05E-04
Proposed Project	FUT20A	8.62E-04
Proposed Project	FUT23A	1.07E-04
Proposed Project	FUT27A	1.13E-05
Proposed Project	FGT21B	2.17E-04
Proposed Project	FGT23B	2.26E-05
Proposed Project	FGT21A	4.42E-04
Proposed Project	FGT23A	4.60E-05
Proposed Project	FMT35B	1.36E-05
Proposed Project	FMT35A	2.15E-05
Proposed Project	SW1	0
Proposed Project	SW2	0
Proposed Project	SW3	0
Proposed Project	SG1	0
Proposed Project	SG2	0
Proposed Project	SG3	0
Proposed Project	SG4	0
Proposed Project	AT1	0
Proposed Project	AT2	0
Proposed Project	AT3	0
Proposed Project	AT4	0
Proposed Project	AT5	0
Proposed Project	AV1	0
Proposed Project	FUT1	0
Proposed Project	FUT2	0
Proposed Project	FUT3	0

APPENDIX E
EDR REPORT

San Jose Airport
1701 Airport Blvd
San Jose, CA 95110

Inquiry Number: 5534554.1s
January 15, 2019

EDR Offsite Receptor Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available records was conducted by Environmental Data Resources, Inc. (EDR). The EDR Offsite Receptor Report provides information which may be used to comply with the Clean Air Act Risk Management Program 112-R. *"The rule requires that you estimate in the RMP residential populations within the circle defined by the endpoint for your worst-case and alternative release scenarios (i.e., the center of the circle is the point of release and the radius is the distance to the endpoint). In addition, you must report in the RMP whether certain types of public receptors and environmental receptors are within the circles."*

The address of the subject property, for which the search was intended, is:

SAN JOSE AIRPORT
1701 AIRPORT BLVD
SAN JOSE, CA 95110

Distance Searched: 1.000 miles from subject property

RECEPTOR SUMMARY
An X indicates the presence of the receptor within the search radius.

Residential Population
Estimated population within search radius: 7189 persons.

Other Public Receptors

Type	Within Search Radius	Sites Total
Day Care Centers:	X	7
Medical Centers:		
Nursing Homes:		
Schools:	X	1
Hospitals:	X	11
Colleges:		
Arena:		
Prison:		

Environmental Receptors

Type	Within Search Radius	Sites Total
Federal Land:		

CENSUS MAP - 5534554.1s

0 1/4 1/2 1 Miles

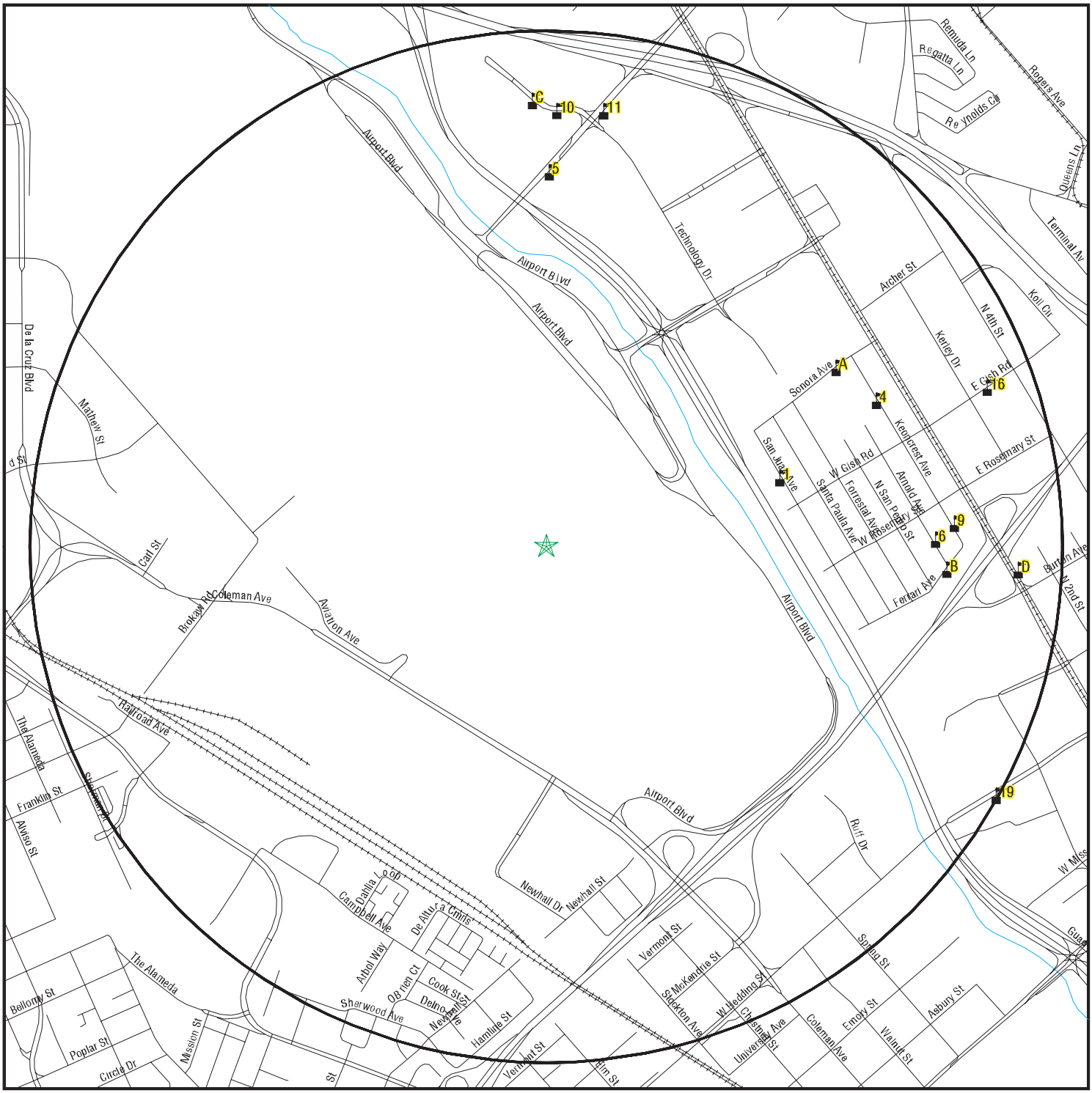
- Target Property
- Roads
- Waterways
- Census Tracts

TARGET PROPERTY:	San Jose Airport	CUSTOMER:	Ramboll
ADDRESS:	1701 Airport Blvd	CONTACT:	Libby Koolik
CITY/STATE/ZIP:	San Jose CA 95110	INQUIRY #:	5534554.1s
LAT/LONG:	37.3584 / 121.9230	DATE:	January 15, 2019 8:54 am

CENSUS FINDINGS

Map ID	Tract Number	Total Population	Population in Radius	Total Area(sq.mi.)	Area in Radius(sq.mi.)
T1	5050.06	3898	7.1	5.37	0.01
T2	5052.02	5867	431.8	3.55	0.26
T3	5051.00	3027	2469.1	2.70	2.20
T4	5002.00	5822	1122.0	0.66	0.13
T5	5056.00	3880	94.2	0.37	0.01
T6	5052.03	4809	2302.5	0.57	0.27
T7	5003.00	3140	606.3	1.13	0.22
T8	5004.00	2369	155.6	0.39	0.03

RECEPTOR MAP - 5534554.1s



TARGET PROPERTY:	San Jose Airport	CUSTOMER:	Ramboll
ADDRESS:	1701 Airport Blvd	CONTACT:	Libby Koolik
CITY/STATE/ZIP:	San Jose CA 95110	INQUIRY #:	5534554.1s
LAT/LONG:	37.3584 / 121.9230	DATE:	January 15, 2019 8:55 am

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site	EDR ID Database

1 SRDCCA200705660
ENE EDR ID: SRDCCA200705660 Daycare
1/4-1/2 mi Facility number: 434401626
2489 Facility name: "VYAS, ASHA "
Higher Facility eval. code: 0513
Facility office number: 07
Facility county number: 43
Facility type code: 810
Facility status code: 03
Address: 1469 SAN JUAN AVENUE
City: SAN JOSE
State: CA
Zip: 95110
Alt. address: 1469 SAN JUAN AVENUE
City: SAN JOSE
State: CA
Zip: 95110
Facility investor: "VYAS, ASHA "
Licensee type: A
License effective date: 960205
License expiration date: Not Reported
License issue date: 960205
Program type: "MAX. CAP: 6 - NO MORE THAN 3 INFANTS OR 4 INFANTS ONLY.
CAP 8 - NO MORE THAN 2 INFANTS, 1 CHILD IN KINDERGARTEN OR ELEMENTARY SCHOOL AND 1 CHILD AT LEAST AGE 6. "
Original app. received date: 950629
Facility closed date: Not Reported
Mailing address: 1469 SAN JUAN AVENUE
Mailing city: SAN JOSE
Mailing state: CA
Mailing zip: 95110
Contact person: "VYAS, ASHA "
Facility capacity: 8
Type of clients served: 960
Facility phone: 4084417727

A2 SRDCCA200742797
ENE EDR ID: SRDCCA200742797 Daycare
1/2-1 mi Facility number: 430709503
3477 Facility name: BACHRODT SCHOOL-AGE CHILD DEVELOPMENT CENTER
Higher Facility eval. code: 0513
Facility office number: 07
Facility county number: 43
Facility type code: 840
Facility status code: 03
Address: 102 SONORA AVENUE
City: SAN JOSE
State: CA
Zip: 95110
Alt. address: 851 E. HAMILTON AVE STE 200
City: CAMPBELL
State: CA
Zip: 95008
Facility investor: CONTINUING DEVELOPMENT INCORPORATED
Licensee type: C

License effective date: 930425
License expiration date: Not Reported
License issue date: Not Reported
Program type: LICENSED TO SERVE AGES 4 YEARS 9 MONTHS TO THIRTEEN YEARS.
PORTABLES F-2 & F-3.
AMBULATORY ONLY.
Original app. received date: 860303
Facility closed date: Not Reported
Mailing address: 851 E. HAMILTON AVE STE 200
Mailing city: CAMPBELL
Mailing state: CA
Mailing zip: 95008
Contact person: SANDRA HAINES
Facility capacity: 70
Type of clients served: 950
Facility phone: 4084537533

A3 SRPU20071009009
ENE Ncessch: 063459005700 Public Schools
1/2-1 mi Schname05: WALTER L. BACHRODT ELEMENTARY
3477 Mstreet05: 102 SONORA AVE.
Higher Mcity05: SAN JOSE
Mstate05: CA
Mzip05: 95110
Mzip405: 1457
Member05: 466
Phone05: (408) 535-6211
Locale05: 1
Type05: 1
Level05: 1
Gslo05: KG
Gshi05: 05
Edr id: SRPU20071009009

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4 SRDCCA200752938
ENE EDR ID: SRDCCA200752938 Daycare
1/2-1 mi Facility number: 434406720
3689 Facility name: BACHRODT CHILD DEVELOPMENT CENTER
Higher Facility eval. code: 0513
Facility office number: 07
Facility county number: 43
Facility type code: 850
Facility status code: 03
Address: 1471 KEONCREST AVENUE
City: SAN JOSE
State: CA
Zip: 95110
Alt. address: 1471 KEONCREST AVENUE
City: SAN JOSE
State: CA
Zip: 95110
Facility investor: CONTINUING DEVELOPMENT INC.
Licensee type: C
License effective date: 31015

License expiration date: Not Reported
License issue date: 031015
Program type: "LICENSED TO SERVE AGES 2.9 YEARS TO 6 YEARS. AMBULATORY ONLY. ROOMS G1, G2, G3, & G4.
"
Original app. received date: 030703
Facility closed date: Not Reported
Mailing address: 851 E. HAMILTON AVE. STE 200
Mailing city: CAMPBELL
Mailing state: CA
Mailing zip: 95008
Contact person: "ROBERTS, ERICA "
Facility capacity: 72
Type of clients served: 950
Facility phone: 4084530511

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5 SRHO20070011987
North AHA Hospitals
1/2-1 mi
3818
Lower

Hospital type: 01
Num of times COO: 00
Owner date: Not Reported
City: SAN JOSE
Has plan of corr: Not Reported
Compliance status: A
SSA county code: 510
Cross ref number: 056659
FMS survey date: Not Reported
Current survey date: 19960425
Medicare/Medicaid: 1
Facility name: BAY CARE INC
Intermediary/Carrier: 52280
Medicaid number: Not Reported
Partcipation date: 19960425
Prior COO date: Not Reported
Prior carrier: Not Reported
Provider ID: 056779
Record Status: A
Region code: 09
Is Partial Record: Not Reported
state abbrev: CA
ssa state: 05
state region cd: SJ
street address: 226 AIRPORT PARKWAY SUITE 170
Phone num: 4084521388
Termination reason: 01
Term Date: 19980331
Purpose of action: 1
Provider control: 06
Zip: 95110
Fips state: 06
Fips cnty: 081
SSA MSA: 526
SSA MSA size code: B
Date accredited: Not Reported
Accred expire date: Not Reported
Accred Org: Not Reported

Num beds:	0000	
Num cert beds:	0000	
Source:	US_HOSPITAL_POSOTHER	
Edr id:	SRHO20070011987	

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6 SRDCCA200717929
East EDR ID: SRDCCA200717929 Daycare
1/2-1 mi Facility number: 434405702
3980 Facility name: "MATHENA, SUSANA "
Higher Facility eval. code: 0513
Facility office number: 07
Facility county number: 43
Facility type code: 810
Facility status code: 03
Address: 1246 ARNOLD AVENUE
City: SAN JOSE
State: CA
Zip: 95110
Alt. address: 1246 ARNOLD AVENUE
City: SAN JOSE
State: CA
Zip: 95110
Facility investor: "MATHENA, SUSANA "
Licensee type: A
License effective date: 21210
License expiration date: Not Reported
License issue date: 021210
Program type: "MAXIMUM CAPACITY: 12 CHILDREN, WITH NO MORE THAN 4 INFANTS, OR CAPACITY 14 CHILDREN WHEN 2 CHILDREN ARE AT LEAST 6 YEARS OF AGE WITH A MAXIMUM OF 3 INFANTS; PROPERTY OWNER/LANDLORD CONSENT IS REQUIRED "
Original app. received date: 020703
Facility closed date: Not Reported
Mailing address: 1246 ARNOLD AVENUE
Mailing city: SAN JOSE
Mailing state: CA
Mailing zip: 95110
Contact person: SUSANA MATHENA
Facility capacity: 14
Type of clients served: 960
Facility phone: 4084533959

B7 SRDCCA200708103
East EDR ID: SRDCCA200708103 Daycare
1/2-1 mi Facility number: 434402029
4071 Facility name: "CHAVEZ, CAROL "
Higher Facility eval. code: 0513
Facility office number: 07
Facility county number: 43
Facility type code: 810
Facility status code: 03
Address: 130 FERRARI AVE.
City: SAN JOSE
State: CA
Zip: 95110

Alt. address:	130 FERRARI AVE.
City:	SAN JOSE
State:	CA
Zip:	95110
Facility investor:	"CHAVEZ, CAROL "
Licensee type:	A
License effective date:	960510
License expiration date:	Not Reported
License issue date:	960510
Program type:	"MAX. CAP: 6 - NO MORE THAN 3 INFANTS OR 4 INFANTS ONLY. CAP. 8 - NO MORE THAN 2 INFANTS,1 CHILD IN KINDERGARTEN OR ELEMENTARY SCHOOL AND 1 CHILD AT LEAST AGE 6. "
Original app. received date:	960415
Facility closed date:	Not Reported
Mailing address:	130 FRRARI AVE.
Mailing city:	SAN JOSE
Mailing state:	CA
Mailing zip:	95110
Contact person:	"CHAVEZ, CAROL "
Facility capacity:	8
Type of clients served:	960
Facility phone:	4084531749

B8 SRDCCA200704757
East
1/2-1 mi
4136
Higher

EDR ID:	SRDCCA200704757
Facility number:	430756749
Facility name:	"JACOME, BARBARA "
Facility eval. code:	0513
Facility office number:	07
Facility county number:	43
Facility type code:	810
Facility status code:	03
Address:	110 FERRARI AVENUE
City:	SAN JOSE
State:	CA
Zip:	95110
Alt. address:	110 FERRARI AVENUE
City:	SAN JOSE
State:	CA
Zip:	95110
Facility investor:	"JACOME, BARBARA "
Licensee type:	A
License effective date:	940820
License expiration date:	Not Reported
License issue date:	910820
Program type:	MAXIMUM CAPACITY : 12 CHILDREN WITH NO MORE THAN 4 INFANTS OR CAPACITYOF 14 CHILDREN WHEN 2 ARE AT LEAST 6 YEARS OF AGE WITH A MAXIMUM OF 3 INFANTS; PROPERTY OWNER/LANDLORD CONSENT IS REQUIRED
Original app. received date:	910605
Facility closed date:	Not Reported
Mailing address:	110 FERRARI AVENUE
Mailing city:	SAN JOSE
Mailing state:	CA
Mailing zip:	95110
Contact person:	"JACOME, BARBARA "

Facility capacity: 14
Type of clients served: 960
Facility phone: 4084530840

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9 SRDCCA200702203
East EDR ID: SRDCCA200702203 Daycare
1/2-1 mi Facility number: 430754513
4181 Facility name: "TINOCO, MARIA & VICTOR "
Higher Facility eval. code: 0513
Facility office number: 07
Facility county number: 43
Facility type code: 810
Facility status code: 03
Address: 1252 KEONCREST AVENUE
City: SAN JOSE
State: CA
Zip: 95110
Alt. address: 1252 KEONCREST AVENUE
City: SAN JOSE
State: CA
Zip: 95110
Facility investor: "TINOCO, MARIA & VICTOR "
Licensee type: A
License effective date: 940216
License expiration date: Not Reported
License issue date: 880216
Program type: "MAXIMUM CAPACITY: 06 CHILDREN INCLUDING LICENSEE'S CHILDREN UNDER 10 YEARS OF AGE WHO RESIDE IN THE HOME, WITH NO MORE THAN 3 INFANTS OR 4 INFANTS ONLY. (INFANT MEANS A CHILD UNDER 2 YEARS OLD).
"
Original app. received date: 900701
Facility closed date: Not Reported
Mailing address: 1252 KEONCREST AVENUE
Mailing city: SAN JOSE
Mailing state: CA
Mailing zip: 95110
Contact person: "TINOCO, MARIA "
Facility capacity: 6
Type of clients served: 960
Facility phone: 4084538553

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10 SRHO20070145763
North Hospital type: 01 AHA Hospitals
1/2-1 mi Num of times COO: 00
4444 Owner date: Not Reported
Lower City: SAN JOSE
Has plan of corr: Not Reported
Compliance status: Not Reported
SSA county code: 530
Cross ref number: Not Reported
FMS survey date: Not Reported
Current survey date: Not Reported
Medicare/Medicaid: Not Reported
Facility name: INTEGRA HOSPICE AND HOME HEALTH

Intermediary/Carrier:	Not Reported
Medicaid number:	Not Reported
Partcipation date:	19950412
Prior COO date:	Not Reported
Prior carrier:	Not Reported
Provider ID:	05D0899911
Record Status:	A
Region code:	09
Is Partial Record:	Y
state abbrev:	CA
ssa state:	05
state region cd:	LAB
street address:	2001 GATEWAY PLACE SUITE 150
Phone num:	4084670777
Termination reason:	08
Term Date:	19970411
Purpose of action:	Not Reported
Provider control:	04
Zip:	95110
Fips state:	06
Fips cnty:	085
SSA MSA:	529
SSA MSA size code:	B
Date accredited:	Not Reported
Accred expire date:	Not Reported
Accred Org:	Not Reported
Num beds:	0000
Num cert beds:	0000
Source:	US_HOSPITAL_POSCLIA
Edr id:	SRHO20070145763

11
North
1/2-1 mi
4481
Higher

SRHO20070144242
AHA Hospitals

Hospital type:	01
Num of times COO:	00
Owner date:	Not Reported
City:	SAN JOSE
Has plan of corr:	Not Reported
Compliance status:	Not Reported
SSA county code:	530
Cross ref number:	Not Reported
FMS survey date:	Not Reported
Current survey date:	Not Reported
Medicare/Medicaid:	Not Reported
Facility name:	HHC HEALTH GROUP INC
Intermediary/Carrier:	Not Reported
Medicaid number:	Not Reported
Partcipation date:	19950308
Prior COO date:	Not Reported
Prior carrier:	Not Reported
Provider ID:	05D0898681
Record Status:	A
Region code:	09
Is Partial Record:	Not Reported
state abbrev:	CA
ssa state:	05

state region cd:	LAB
street address:	50 AIRPORT PARKWAY #109
Phone num:	4153646333
Termination reason:	08
Term Date:	19950310
Purpose of action:	Not Reported
Provider control:	04
Zip:	95110
Fips state:	06
Fips cnty:	085
SSA MSA:	529
SSA MSA size code:	B
Date accredited:	Not Reported
Accred expire date:	Not Reported
Accred Org:	Not Reported
Num beds:	0000
Num cert beds:	0000
Source:	US_HOSPITAL_POSCLIA
Edr id:	SRHO20070144242

C12 SRHO20070141522
North AHA Hospitals
1/2-1 mi
4548
Lower

Hospital type:	01
Num of times COO:	00
Owner date:	Not Reported
City:	SAN JOSE
Has plan of corr:	Not Reported
Compliance status:	Not Reported
SSA county code:	530
Cross ref number:	Not Reported
FMS survey date:	Not Reported
Current survey date:	Not Reported
Medicare/Medicaid:	Not Reported
Facility name:	COLUMBIA HOMECARE AND HOSPICE
Intermediary/Carrier:	Not Reported
Medicaid number:	Not Reported
Partcipation date:	19930201
Prior COO date:	Not Reported
Prior carrier:	Not Reported
Provider ID:	05D0716616
Record Status:	A
Region code:	09
Is Partial Record:	Not Reported
state abbrev:	CA
ssa state:	05
state region cd:	LAB
street address:	2025 GATEWAY PLACE 260
Phone num:	4084521224
Termination reason:	16
Term Date:	19980831
Purpose of action:	Not Reported
Provider control:	04
Zip:	95110
Fips state:	06
Fips cnty:	085
SSA MSA:	529

SSA MSA size code:	B
Date accredited:	Not Reported
Accred expire date:	Not Reported
Accred Org:	Not Reported
Num beds:	0000
Num cert beds:	0000
Source:	US_HOSPITAL_POSCLIA
Edr id:	SRHO20070141522

C13 SRHO20070148493
North AHA Hospitals
1/2-1 mi
4548
Lower

Hospital type:	01
Num of times COO:	00
Owner date:	Not Reported
City:	SAN JOSE
Has plan of corr:	Not Reported
Compliance status:	Not Reported
SSA county code:	530
Cross ref number:	Not Reported
FMS survey date:	Not Reported
Current survey date:	Not Reported
Medicare/Medicaid:	Not Reported
Facility name:	MEDSHARES HOME CARE OF SOUTH BAY INC
Intermediary/Carrier:	Not Reported
Medicaid number:	Not Reported
Partcipation date:	19970520
Prior COO date:	Not Reported
Prior carrier:	Not Reported
Provider ID:	05D0928494
Record Status:	A
Region code:	09
Is Partial Record:	Y
state abbrev:	CA
ssa state:	05
state region cd:	LAB
street address:	2025 GATEWAY PLACE SUITE 260
Phone num:	4084521224
Termination reason:	08
Term Date:	20010519
Purpose of action:	Not Reported
Provider control:	04
Zip:	95110
Fips state:	06
Fips cnty:	085
SSA MSA:	529
SSA MSA size code:	B
Date accredited:	Not Reported
Accred expire date:	Not Reported
Accred Org:	Not Reported
Num beds:	0000
Num cert beds:	0000
Source:	US_HOSPITAL_POSCLIA
Edr id:	SRHO20070148493

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
C14			SRHO20070108372
North	Hospital type:	01	AHA Hospitals
1/2-1 mi	Num of times COO:	00	
4548	Owner date:	Not Reported	
Lower	City:	SAN JOSE	
	Has plan of corr:	1	
	Compliance status:	A	
	SSA county code:	530	
	Cross ref number:	Not Reported	
	FMS survey date:	Not Reported	
	Current survey date:	19950718	
	Medicare/Medicaid:	1	
	Facility name:	VNA CONTINUING CARE, INC	
	Intermediary/Carrier:	00040	
	Medicaid number:	Not Reported	
	Partcipation date:	19921014	
	Prior COO date:	Not Reported	
	Prior carrier:	Not Reported	
	Provider ID:	557229	
	Record Status:	A	
	Region code:	09	
	Is Partial Record:	Not Reported	
	state abbrev:	CA	
	ssa state:	05	
	state region cd:	SJ	
	street address:	2025 GATEWAY PLACE, SUITE 234	
	Phone num:	4084521323	
	Termination reason:	01	
	Term Date:	19960105	
	Purpose of action:	2	
	Provider control:	02	
	Zip:	95110	
	Fips state:	06	
	Fips cnty:	085	
	SSA MSA:	529	
	SSA MSA size code:	B	
	Date accredited:	Not Reported	
	Accred expire date:	Not Reported	
	Accred Org:	0	
	Num beds:	0000	
	Num cert beds:	0000	
	Source:	US_HOSPITAL_POSOTHER	
	Edr id:	SRHO20070108372	

C15			SRHO20070009349
North	Hospital type:	01	AHA Hospitals
1/2-1 mi	Num of times COO:	01	
4548	Owner date:	19960105	
Lower	City:	SAN JOSE	
	Has plan of corr:	1	
	Compliance status:	A	
	SSA county code:	530	
	Cross ref number:	Not Reported	
	FMS survey date:	Not Reported	
	Current survey date:	19890906	

Medicare/Medicaid:	1
Facility name:	COLUMBIA HOMECARE AND HOSPICE
Intermediary/Carrier:	00040
Medicaid number:	Not Reported
Partcipation date:	19840925
Prior COO date:	Not Reported
Prior carrier:	Not Reported
Provider ID:	051510
Record Status:	A
Region code:	09
Is Partial Record:	Not Reported
state abbrev:	CA
ssa state:	05
state region cd:	SJ
street address:	2025 GATEWAY PLACE, SUITE #270
Phone num:	4084521224
Termination reason:	01
Term Date:	20000115
Purpose of action:	2
Provider control:	03
Zip:	95110
Fips state:	06
Fips cnty:	085
SSA MSA:	529
SSA MSA size code:	B
Date accredited:	Not Reported
Accred expire date:	Not Reported
Accred Org:	Not Reported
Num beds:	0000
Num cert beds:	0000
Source:	US_HOSPITAL_POSOTHER
Edr id:	SRHO20070009349

16
ENE
1/2-1 mi
4793
Higher

SRHO20070148494
AHA Hospitals

Hospital type:	01
Num of times COO:	00
Owner date:	Not Reported
City:	SAN JOSE
Has plan of corr:	Not Reported
Compliance status:	Not Reported
SSA county code:	530
Cross ref number:	Not Reported
FMS survey date:	Not Reported
Current survey date:	Not Reported
Medicare/Medicaid:	Not Reported
Facility name:	MEDSHARES HOME CARE
Intermediary/Carrier:	Not Reported
Medicaid number:	Not Reported
Partcipation date:	19970520
Prior COO date:	Not Reported
Prior carrier:	Not Reported
Provider ID:	05D0928498
Record Status:	A
Region code:	09
Is Partial Record:	Y

state abbrev:	CA
ssa state:	05
state region cd:	LAB
street address:	106 EAST GISH RD
Phone num:	4088486825
Termination reason:	01
Term Date:	20021229
Purpose of action:	Not Reported
Provider control:	04
Zip:	95112
Fips state:	06
Fips cnty:	085
SSA MSA:	529
SSA MSA size code:	B
Date accredited:	Not Reported
Accred expire date:	Not Reported
Accred Org:	Not Reported
Num beds:	0000
Num cert beds:	0000
Source:	US_HOSPITAL_POSCLIA
Edr id:	SRHO20070148494

D17 SRHO20070010523
East AHA Hospitals
1/2-1 mi
4834
Higher

Hospital type:	01
Num of times COO:	00
Owner date:	Not Reported
City:	SAN JOSE
Has plan of corr:	1
Compliance status:	A
SSA county code:	530
Cross ref number:	Not Reported
FMS survey date:	Not Reported
Current survey date:	20050110
Medicare/Medicaid:	1
Facility name:	INTERIM HEALTHCARE INC
Intermediary/Carrier:	00454
Medicaid number:	HHA07258F
Partcipation date:	19800407
Prior COO date:	Not Reported
Prior carrier:	00380
Provider ID:	057258
Record Status:	A
Region code:	09
Is Partial Record:	Not Reported
state abbrev:	CA
ssa state:	05
state region cd:	SJ
street address:	1150 NORTH FIRST STREET, SUITE 195
Phone num:	4082925680
Termination reason:	00
Term Date:	Not Reported
Purpose of action:	2
Provider control:	04
Zip:	95112
Fips state:	06

Fips cnty:	085
SSA MSA:	529
SSA MSA size code:	B
Date accredited:	Not Reported
Accred expire date:	Not Reported
Accred Org:	0
Num beds:	0000
Num cert beds:	0000
Source:	US_HOSPITAL_POSOTHER
Edr id:	SRHO20070010523

D18 SRHO20070144647
East AHA Hospitals
1/2-1 mi
4834
Higher

Hospital type:	01
Num of times COO:	00
Owner date:	Not Reported
City:	SAN JOSE
Has plan of corr:	Not Reported
Compliance status:	Not Reported
SSA county code:	530
Cross ref number:	Not Reported
FMS survey date:	Not Reported
Current survey date:	Not Reported
Medicare/Medicaid:	Not Reported
Facility name:	INTERIM HEALTH CARE
Intermediary/Carrier:	Not Reported
Medicaid number:	Not Reported
Partcipation date:	19950125
Prior COO date:	Not Reported
Prior carrier:	Not Reported
Provider ID:	05D0896991
Record Status:	A
Region code:	09
Is Partial Record:	Y
state abbrev:	CA
ssa state:	05
state region cd:	M2
street address:	1150 NORTH 1ST STREET #195
Phone num:	4082925680
Termination reason:	00
Term Date:	20080205
Purpose of action:	Not Reported
Provider control:	04
Zip:	95112
Fips state:	06
Fips cnty:	085
SSA MSA:	529
SSA MSA size code:	B
Date accredited:	Not Reported
Accred expire date:	Not Reported
Accred Org:	Not Reported
Num beds:	0000
Num cert beds:	0000
Source:	US_HOSPITAL_POSCLIA
Edr id:	SRHO20070144647

MAP FINDINGS

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site		EDR ID / Database
19			SRHO20070142215
ESE	Hospital type:	01	AHA Hospitals
1/2-1 mi	Num of times COO:	00	
5270	Owner date:	Not Reported	
Higher	City:	SAN JOSE	
	Has plan of corr:	Not Reported	
	Compliance status:	Not Reported	
	SSA county code:	530	
	Cross ref number:	Not Reported	
	FMS survey date:	Not Reported	
	Current survey date:	Not Reported	
	Medicare/Medicaid:	Not Reported	
	Facility name:	SANTA CLARA COUNTY VALLEY MEDICAL CTR	
	Intermediary/Carrier:	Not Reported	
	Medicaid number:	Not Reported	
	Partcipation date:	19930205	
	Prior COO date:	Not Reported	
	Prior carrier:	Not Reported	
	Provider ID:	05D0860732	
	Record Status:	A	
	Region code:	09	
	Is Partial Record:	Y	
	state abbrev:	CA	
	ssa state:	05	
	state region cd:	M2	
	street address:	150 WEST HEDDING STREET	
	Phone num:	4088856557	
	Termination reason:	00	
	Term Date:	20080831	
	Purpose of action:	Not Reported	
	Provider control:	06	
	Zip:	95110	
	Fips state:	06	
	Fips cnty:	085	
	SSA MSA:	529	
	SSA MSA size code:	B	
	Date accredited:	Not Reported	
	Accred expire date:	Not Reported	
	Accred Org:	Not Reported	
	Num beds:	0000	
	Num cert beds:	0000	
	Source:	US_HOSPITAL_POSCLIA	
	Edr id:	SRHO20070142215	

RECORDS SEARCHED/DATA CURRENCY TRACKING

Census

Source: U.S. Census Bureau
Telephone: 301-763-4636
2010 U.S. Census data was used to estimate residential population following these EPA guidelines:
"Census data are presented by Census tract. If your circle covers only a portion of the tract, you should develop an estimate for that portion...Determine the population density per square mile (total population of the Census tract divided by the number of square miles in the tract) and apply that density figure to the number of square miles within your circle."

FED_LAND: Federal Lands

Source: USGS
Telephone: 888-275-8747
Federal lands data. Includes data from several Federal land management agencies, including Fish and Wildlife Service, Bureau of Land Management, National Park Service, and Forest Service. Includes National Parks, Forests, Monuments; . Wildlife Sanctuaries, Preserves, Refuges; Federal Wilderness Areas.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Colleges - Integrated Postsecondary Education Data

Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on integrated postsecondary education in the United States.

Arenas

Source: Dunhill International
EDR indicates the location of buildings and facilities - arenas - where individuals who are public receptors are likely to be located.

Prisons: Bureau of Prisons Facilities

Source: Federal Bureau of Prisons
Telephone: 202-307-3198
List of facilities operated by the Federal Bureau of Prisons.

Daycare Centers: Licensed Facilities

Source: Department of Social Services
Telephone: 916-657-4041

STREET AND ADDRESS INFORMATION

1701 Airport Blvd
1701 Airport Blvd
San Jose, CA 95110

Inquiry Number: 5544095.1s
January 25, 2019

EDR Offsite Receptor Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available records was conducted by Environmental Data Resources, Inc. (EDR). The EDR Offsite Receptor Report provides information which may be used to comply with the Clean Air Act Risk Management Program 112-R. *"The rule requires that you estimate in the RMP residential populations within the circle defined by the endpoint for your worst-case and alternative release scenarios (i.e., the center of the circle is the point of release and the radius is the distance to the endpoint). In addition, you must report in the RMP whether certain types of public receptors and environmental receptors are within the circles."*

The address of the subject property, for which the search was intended, is:

1701 AIRPORT BLVD
1701 AIRPORT BLVD
SAN JOSE, CA 95110

Distance Searched: 1.000 miles from subject property

RECEPTOR SUMMARY
An X indicates the presence of the receptor within the search radius.

Residential Population
Estimated population within search radius: 4622 persons.

Other Public Receptors

Type	Within Search Radius	Sites Total
Day Care Centers:	☐	
Medical Centers:	☐	
Nursing Homes:	☐	
Schools:	☐	
Hospitals:	☒	15
Colleges:	☐	
Arena:	☐	
Prison:	☐	

Environmental Receptors

Type	Within Search Radius	Sites Total
Federal Land:	☐	

CENSUS MAP - 5544095.1s

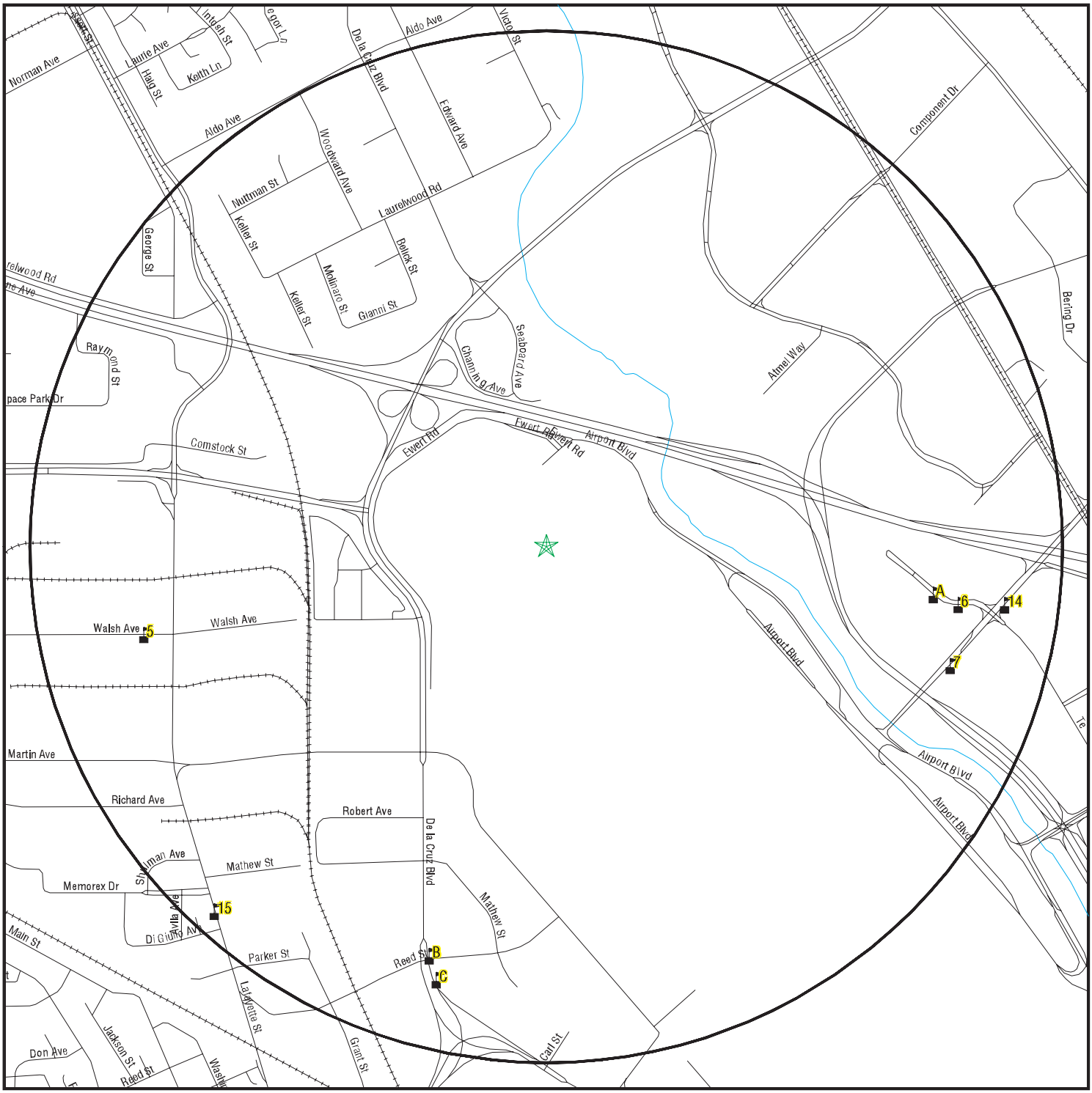
Target Property
Roads
Waterways
Census Tracts

TARGET PROPERTY:	1701 Airport Blvd	CUSTOMER:	Ramboll
ADDRESS:	1701 Airport Blvd	CONTACT:	Libby Koolik
CITY/STATE/ZIP:	San Jose CA 95110	INQUIRY #:	5544095.1s
LAT/LONG:	37.3723 / 121.9371	DATE:	January 25, 2019 9:23 am

CENSUS FINDINGS

Map ID	Tract Number	Total Population	Population in Radius	Total Area(sq.mi.)	Area in Radius(sq.mi.)
T1	5050.06	3898	518.2	5.37	0.71
T2	5050.07	4083	1371.5	1.18	0.40
T3	5052.02	5867	1464.9	3.55	0.89
T4	5051.00	3027	1267.1	2.70	1.13

RECEPTOR MAP - 5544095.1s



0 1/4 1/2 1 Miles

- Target Property
- Roads
- Waterways
- Environmental or Public Receptor
- Federal Lands Linear Features
- Federal Lands Area

TARGET PROPERTY:	1701 Airport Blvd	CUSTOMER:	Ramboll
ADDRESS:	1701 Airport Blvd	CONTACT:	Libby Koolik
CITY/STATE/ZIP:	San Jose CA 95110	INQUIRY #:	5544095.1s
LAT/LONG:	37.3723 / 121.9371	DATE:	January 25, 2019 9:24 am

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site		EDR ID Database
A1 East 1/2-1 mi 3992 Higher			SRHO20070141522 AHA Hospitals
	Hospital type:	01	
	Num of times COO:	00	
	Owner date:	Not Reported	
	City:	SAN JOSE	
	Has plan of corr:	Not Reported	
	Compliance status:	Not Reported	
	SSA county code:	530	
	Cross ref number:	Not Reported	
	FMS survey date:	Not Reported	
	Current survey date:	Not Reported	
	Medicare/Medicaid:	Not Reported	
	Facility name:	COLUMBIA HOMECARE AND HOSPICE	
	Intermediary/Carrier:	Not Reported	
	Medicaid number:	Not Reported	
	Partcipation date:	19930201	
	Prior COO date:	Not Reported	
	Prior carrier:	Not Reported	
	Provider ID:	05D0716616	
	Record Status:	A	
	Region code:	09	
	Is Partial Record:	Not Reported	
	state abbrev:	CA	
	ssa state:	05	
	state region cd:	LAB	
	street address:	2025 GATEWAY PLACE 260	
	Phone num:	4084521224	
	Termination reason:	16	
	Term Date:	19980831	
	Purpose of action:	Not Reported	
	Provider control:	04	
	Zip:	95110	
	Fips state:	06	
	Fips cnty:	085	
	SSA MSA:	529	
	SSA MSA size code:	B	
	Date accredited:	Not Reported	
	Accred expire date:	Not Reported	
	Accred Org:	Not Reported	
	Num beds:	0000	
	Num cert beds:	0000	
	Source:	US_HOSPITAL_POSCLIA	
	Edr id:	SRHO20070141522	
A2 East 1/2-1 mi 3992 Higher			SRHO20070009349 AHA Hospitals
	Hospital type:	01	
	Num of times COO:	01	
	Owner date:	19960105	
	City:	SAN JOSE	
	Has plan of corr:	1	
	Compliance status:	A	
	SSA county code:	530	
	Cross ref number:	Not Reported	
	FMS survey date:	Not Reported	
	Current survey date:	19890906	

Medicare/Medicaid:	1
Facility name:	COLUMBIA HOMECARE AND HOSPICE
Intermediary/Carrier:	00040
Medicaid number:	Not Reported
Partcipation date:	19840925
Prior COO date:	Not Reported
Prior carrier:	Not Reported
Provider ID:	051510
Record Status:	A
Region code:	09
Is Partial Record:	Not Reported
state abbrev:	CA
ssa state:	05
state region cd:	SJ
street address:	2025 GATEWAY PLACE, SUITE #270
Phone num:	4084521224
Termination reason:	01
Term Date:	20000115
Purpose of action:	2
Provider control:	03
Zip:	95110
Fips state:	06
Fips cnty:	085
SSA MSA:	529
SSA MSA size code:	B
Date accredited:	Not Reported
Accred expire date:	Not Reported
Accred Org:	Not Reported
Num beds:	0000
Num cert beds:	0000
Source:	US_HOSPITAL_POSOTHER
Edr id:	SRHO20070009349

A3 — SRHO20070108372
East — AHA Hospitals
1/2-1 mi
3992
Higher

Hospital type:	01
Num of times COO:	00
Owner date:	Not Reported
City:	SAN JOSE
Has plan of corr:	1
Compliance status:	A
SSA county code:	530
Cross ref number:	Not Reported
FMS survey date:	Not Reported
Current survey date:	19950718
Medicare/Medicaid:	1
Facility name:	VNA CONTINUING CARE, INC
Intermediary/Carrier:	00040
Medicaid number:	Not Reported
Partcipation date:	19921014
Prior COO date:	Not Reported
Prior carrier:	Not Reported
Provider ID:	557229
Record Status:	A
Region code:	09
Is Partial Record:	Not Reported

state abbrev:	CA
ssa state:	05
state region cd:	SJ
street address:	2025 GATEWAY PLACE, SUITE 234
Phone num:	4084521323
Termination reason:	01
Term Date:	19960105
Purpose of action:	2
Provider control:	02
Zip:	95110
Fips state:	06
Fips cnty:	085
SSA MSA:	529
SSA MSA size code:	B
Date accredited:	Not Reported
Accred expire date:	Not Reported
Accred Org:	0
Num beds:	0000
Num cert beds:	0000
Source:	US_HOSPITAL_POSOTHER
Edr id:	SRHO20070108372

A4 SRHO20070148493
East AHA Hospitals
1/2-1 mi
3992
Higher

Hospital type:	01
Num of times COO:	00
Owner date:	Not Reported
City:	SAN JOSE
Has plan of corr:	Not Reported
Compliance status:	Not Reported
SSA county code:	530
Cross ref number:	Not Reported
FMS survey date:	Not Reported
Current survey date:	Not Reported
Medicare/Medicaid:	Not Reported
Facility name:	MEDSHARES HOME CARE OF SOUTH BAY INC
Intermediary/Carrier:	Not Reported
Medicaid number:	Not Reported
Partcipation date:	19970520
Prior COO date:	Not Reported
Prior carrier:	Not Reported
Provider ID:	05D0928494
Record Status:	A
Region code:	09
Is Partial Record:	Y
state abbrev:	CA
ssa state:	05
state region cd:	LAB
street address:	2025 GATEWAY PLACE SUITE 260
Phone num:	4084521224
Termination reason:	08
Term Date:	20010519
Purpose of action:	Not Reported
Provider control:	04
Zip:	95110
Fips state:	06

Fips cnty:	085	
SSA MSA:	529	
SSA MSA size code:	B	
Date accredited:	Not Reported	
Accred expire date:	Not Reported	
Accred Org:	Not Reported	
Num beds:	0000	
Num cert beds:	0000	
Source:	US_HOSPITAL_POSCLIA	
Edr id:	SRHO20070148493	

5 SRHO20070154208
WSW AHA Hospitals
1/2-1 mi
4216
Higher

Hospital type:	01
Num of times COO:	00
Owner date:	Not Reported
City:	SANTA CLARA
Has plan of corr:	Not Reported
Compliance status:	Not Reported
SSA county code:	530
Cross ref number:	Not Reported
FMS survey date:	Not Reported
Current survey date:	Not Reported
Medicare/Medicaid:	Not Reported
Facility name:	US HEALTHWORKS SANTA CLARA 324
Intermediary/Carrier:	Not Reported
Medicaid number:	Not Reported
Partcipation date:	20020214
Prior COO date:	Not Reported
Prior carrier:	Not Reported
Provider ID:	05D0996335
Record Status:	A
Region code:	09
Is Partial Record:	Y
state abbrev:	CA
ssa state:	05
state region cd:	LAB
street address:	988 WALSH AVENUE
Phone num:	4089886868
Termination reason:	00
Term Date:	20080213
Purpose of action:	Not Reported
Provider control:	02
Zip:	95050
Fips state:	06
Fips cnty:	085
SSA MSA:	529
SSA MSA size code:	B
Date accredited:	Not Reported
Accred expire date:	Not Reported
Accred Org:	Not Reported
Num beds:	0000
Num cert beds:	0000
Source:	US_HOSPITAL_POSCLIA
Edr id:	SRHO20070154208

MAP FINDINGS

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site		EDR ID / Database
6			SRHO20070145763
East	Hospital type:	01	AHA Hospitals
1/2-1 mi	Num of times COO:	00	
4254	Owner date:	Not Reported	
Higher	City:	SAN JOSE	
	Has plan of corr:	Not Reported	
	Compliance status:	Not Reported	
	SSA county code:	530	
	Cross ref number:	Not Reported	
	FMS survey date:	Not Reported	
	Current survey date:	Not Reported	
	Medicare/Medicaid:	Not Reported	
	Facility name:	INTEGRA HOSPICE AND HOME HEALTH	
	Intermediary/Carrier:	Not Reported	
	Medicaid number:	Not Reported	
	Partcipation date:	19950412	
	Prior COO date:	Not Reported	
	Prior carrier:	Not Reported	
	Provider ID:	05D0899911	
	Record Status:	A	
	Region code:	09	
	Is Partial Record:	Y	
	state abbrev:	CA	
	ssa state:	05	
	state region cd:	LAB	
	street address:	2001 GATEWAY PLACE SUITE 150	
	Phone num:	4084670777	
	Termination reason:	08	
	Term Date:	19970411	
	Purpose of action:	Not Reported	
	Provider control:	04	
	Zip:	95110	
	Fips state:	06	
	Fips cnty:	085	
	SSA MSA:	529	
	SSA MSA size code:	B	
	Date accredited:	Not Reported	
	Accred expire date:	Not Reported	
	Accred Org:	Not Reported	
	Num beds:	0000	
	Num cert beds:	0000	
	Source:	US_HOSPITAL_POSCLIA	
	Edr id:	SRHO20070145763	

7			SRHO20070011987
ESE	Hospital type:	01	AHA Hospitals
1/2-1 mi	Num of times COO:	00	
4315	Owner date:	Not Reported	
Higher	City:	SAN JOSE	
	Has plan of corr:	Not Reported	
	Compliance status:	A	
	SSA county code:	510	
	Cross ref number:	056659	
	FMS survey date:	Not Reported	
	Current survey date:	19960425	

Medicare/Medicaid:	1
Facility name:	BAY CARE INC
Intermediary/Carrier:	52280
Medicaid number:	Not Reported
Partcipation date:	19960425
Prior COO date:	Not Reported
Prior carrier:	Not Reported
Provider ID:	056779
Record Status:	A
Region code:	09
Is Partial Record:	Not Reported
state abbrev:	CA
ssa state:	05
state region cd:	SJ
street address:	226 AIRPORT PARKWAY SUITE 170
Phone num:	4084521388
Termination reason:	01
Term Date:	19980331
Purpose of action:	1
Provider control:	06
Zip:	95110
Fips state:	06
Fips cnty:	081
SSA MSA:	526
SSA MSA size code:	B
Date accredited:	Not Reported
Accred expire date:	Not Reported
Accred Org:	Not Reported
Num beds:	0000
Num cert beds:	0000
Source:	US_HOSPITAL_POSOTHER
Edr id:	SRHO20070011987

B8 SRHO20070139863
SSW AHA Hospitals
1/2-1 mi
4368
Higher

Hospital type:	01
Num of times COO:	00
Owner date:	Not Reported
City:	SANTA CLARA
Has plan of corr:	Not Reported
Compliance status:	Not Reported
SSA county code:	530
Cross ref number:	Not Reported
FMS survey date:	Not Reported
Current survey date:	Not Reported
Medicare/Medicaid:	Not Reported
Facility name:	HEARTLAND HOME HEALTH CARE & HOSPICE
Intermediary/Carrier:	Not Reported
Medicaid number:	Not Reported
Partcipation date:	19940609
Prior COO date:	Not Reported
Prior carrier:	Not Reported
Provider ID:	05D0711296
Record Status:	A
Region code:	09
Is Partial Record:	Y

state abbrev:	CA
ssa state:	05
state region cd:	LAB
street address:	2005 DE LA CRUZ BOULEVARD #271
Phone num:	4089861801
Termination reason:	00
Term Date:	20080831
Purpose of action:	Not Reported
Provider control:	04
Zip:	95050
Fips state:	06
Fips cnty:	085
SSA MSA:	529
SSA MSA size code:	B
Date accredited:	Not Reported
Accred expire date:	Not Reported
Accred Org:	Not Reported
Num beds:	0000
Num cert beds:	0000
Source:	US_HOSPITAL_POSCLIA
Edr id:	SRHO20070139863

B9 SRHO20070010522
SSW AHA Hospitals
1/2-1 mi
4368
Higher

Hospital type:	01
Num of times COO:	00
Owner date:	Not Reported
City:	SANTA CLARA
Has plan of corr:	1
Compliance status:	A
SSA county code:	530
Cross ref number:	Not Reported
FMS survey date:	Not Reported
Current survey date:	19850731
Medicare/Medicaid:	1
Facility name:	HILLVIEW HOME HEALTH AGENCY INC
Intermediary/Carrier:	00040
Medicaid number:	Not Reported
Partcipation date:	19770824
Prior COO date:	Not Reported
Prior carrier:	00041
Provider ID:	057193
Record Status:	A
Region code:	09
Is Partial Record:	Not Reported
state abbrev:	CA
ssa state:	05
state region cd:	SJ
street address:	2005 DE LA CRUZ BLVD SUITE 121
Phone num:	4089861801
Termination reason:	01
Term Date:	19861201
Purpose of action:	2
Provider control:	04
Zip:	95050
Fips state:	06

Fips cnty:	085
SSA MSA:	529
SSA MSA size code:	B
Date accredited:	Not Reported
Accred expire date:	Not Reported
Accred Org:	0
Num beds:	0000
Num cert beds:	0000
Source:	US_HOSPITAL_POSOTHER
Edr id:	SRHO20070010522

B10 SRHO20070010431
SSW AHA Hospitals
1/2-1 mi
4368
Higher

Hospital type:	01
Num of times COO:	00
Owner date:	Not Reported
City:	SANTA CLARA
Has plan of corr:	Not Reported
Compliance status:	A
SSA county code:	530
Cross ref number:	Not Reported
FMS survey date:	Not Reported
Current survey date:	19981215
Medicare/Medicaid:	2
Facility name:	HEARTLAND HOME HEALTH CARE AND HOSPICE
Intermediary/Carrier:	00380
Medicaid number:	HHA07775G
Partcipation date:	19870609
Prior COO date:	Not Reported
Prior carrier:	00450
Provider ID:	057775
Record Status:	A
Region code:	09
Is Partial Record:	Not Reported
state abbrev:	CA
ssa state:	05
state region cd:	SF
street address:	2005 DE LA CRUZ BLVD STE 271
Phone num:	4089861801
Termination reason:	01
Term Date:	20060528
Purpose of action:	2
Provider control:	04
Zip:	95050
Fips state:	06
Fips cnty:	085
SSA MSA:	529
SSA MSA size code:	B
Date accredited:	Not Reported
Accred expire date:	Not Reported
Accred Org:	0
Num beds:	0000
Num cert beds:	0000
Source:	US_HOSPITAL_POSOTHER
Edr id:	SRHO20070010431

MAP FINDINGS

Map ID / Direction / Distance / Distance (ft.) / Elevation	Site		EDR ID / Database
B11			SRHO20070008195
SSW	Hospital type:	01	AHA Hospitals
1/2-1 mi	Num of times COO:	00	
4368	Owner date:	Not Reported	
Higher	City:	SANTA CLARA	
	Has plan of corr:	1	
	Compliance status:	A	
	SSA county code:	530	
	Cross ref number:	Not Reported	
	FMS survey date:	Not Reported	
	Current survey date:	19980623	
	Medicare/Medicaid:	1	
	Facility name:	HEARTLAND HOME HEALTH CARE AND HOSPICE	
	Intermediary/Carrier:	00380	
	Medicaid number:	Not Reported	
	Partcipation date:	19960513	
	Prior COO date:	Not Reported	
	Prior carrier:	Not Reported	
	Provider ID:	051690	
	Record Status:	A	
	Region code:	09	
	Is Partial Record:	Not Reported	
	state abbrev:	CA	
	ssa state:	05	
	state region cd:	SJ	
	street address:	2005 DE LA CRUZ BOULEVARD, SUITE 271	
	Phone num:	4084507850	
	Termination reason:	00	
	Term Date:	Not Reported	
	Purpose of action:	2	
	Provider control:	06	
	Zip:	95050	
	Fips state:	06	
	Fips cnty:	085	
	SSA MSA:	529	
	SSA MSA size code:	B	
	Date accredited:	Not Reported	
	Accred expire date:	Not Reported	
	Accred Org:	1	
	Num beds:	0000	
	Num cert beds:	0000	
	Source:	US_HOSPITAL_POSOTHER	
	Edr id:	SRHO20070008195	

C12			SRHO20070146036
SSW	Hospital type:	01	AHA Hospitals
1/2-1 mi	Num of times COO:	00	
4589	Owner date:	Not Reported	
Higher	City:	SANTA CLARA	
	Has plan of corr:	Not Reported	
	Compliance status:	Not Reported	
	SSA county code:	530	
	Cross ref number:	Not Reported	
	FMS survey date:	Not Reported	
	Current survey date:	Not Reported	

Medicare/Medicaid:	Not Reported
Facility name:	HYGEIA, INC
Intermediary/Carrier:	Not Reported
Medicaid number:	Not Reported
Partcipation date:	19950427
Prior COO date:	Not Reported
Prior carrier:	Not Reported
Provider ID:	05D0900479
Record Status:	A
Region code:	09
Is Partial Record:	Y
state abbrev:	CA
ssa state:	05
state region cd:	LAB
street address:	1825 DELA CRUZ BLVD, #100
Phone num:	4089823700
Termination reason:	12
Term Date:	19971209
Purpose of action:	Not Reported
Provider control:	04
Zip:	95050
Fips state:	06
Fips cnty:	085
SSA MSA:	529
SSA MSA size code:	B
Date accredited:	Not Reported
Accred expire date:	Not Reported
Accred Org:	Not Reported
Num beds:	0000
Num cert beds:	0000
Source:	US_HOSPITAL_POSCLIA
Edr id:	SRHO20070146036

C13
SSW
1/2-1 mi
4589
Higher

SRHO20070107732
AHA Hospitals

Hospital type:	01
Num of times COO:	01
Owner date:	19970507
City:	SANTA CLARA
Has plan of corr:	1
Compliance status:	A
SSA county code:	530
Cross ref number:	Not Reported
FMS survey date:	Not Reported
Current survey date:	19961010
Medicare/Medicaid:	1
Facility name:	HYGEIA, INC
Intermediary/Carrier:	00140
Medicaid number:	Not Reported
Partcipation date:	19921222
Prior COO date:	Not Reported
Prior carrier:	00040
Provider ID:	557250
Record Status:	A
Region code:	09
Is Partial Record:	Not Reported

state abbrev:	CA
ssa state:	05
state region cd:	SJ
street address:	1825 DE LA CRUZ BOULEVARD, SUITE 100
Phone num:	4089823700
Termination reason:	01
Term Date:	19971207
Purpose of action:	2
Provider control:	04
Zip:	95050
Fips state:	06
Fips cnty:	085
SSA MSA:	529
SSA MSA size code:	B
Date accredited:	Not Reported
Accred expire date:	Not Reported
Accred Org:	0
Num beds:	0000
Num cert beds:	0000
Source:	US_HOSPITAL_POSOTHER
Edr id:	SRHO20070107732

14
East
1/2-1 mi
4731
Higher

SRHO20070144242
AHA Hospitals

Hospital type:	01
Num of times COO:	00
Owner date:	Not Reported
City:	SAN JOSE
Has plan of corr:	Not Reported
Compliance status:	Not Reported
SSA county code:	530
Cross ref number:	Not Reported
FMS survey date:	Not Reported
Current survey date:	Not Reported
Medicare/Medicaid:	Not Reported
Facility name:	HHC HEALTH GROUP INC
Intermediary/Carrier:	Not Reported
Medicaid number:	Not Reported
Partcipation date:	19950308
Prior COO date:	Not Reported
Prior carrier:	Not Reported
Provider ID:	05D0898681
Record Status:	A
Region code:	09
Is Partial Record:	Not Reported
state abbrev:	CA
ssa state:	05
state region cd:	LAB
street address:	50 AIRPORT PARKWAY #109
Phone num:	4153646333
Termination reason:	08
Term Date:	19950310
Purpose of action:	Not Reported
Provider control:	04
Zip:	95110
Fips state:	06

Fips cnty:	085	
SSA MSA:	529	
SSA MSA size code:	B	
Date accredited:	Not Reported	
Accred expire date:	Not Reported	
Accred Org:	Not Reported	
Num beds:	0000	
Num cert beds:	0000	
Source:	US_HOSPITAL_POSCLIA	
Edr id:	SRHO20070144242	

15 SRHO20070164230
SW AHA Hospitals
1/2-1 mi
5058
Higher

Hospital type:	01
Num of times COO:	00
Owner date:	Not Reported
City:	SANTA CLARA
Has plan of corr:	Not Reported
Compliance status:	Not Reported
SSA county code:	530
Cross ref number:	Not Reported
FMS survey date:	Not Reported
Current survey date:	Not Reported
Medicare/Medicaid:	Not Reported
Facility name:	BAY AREA SURGICAL GROUP, INC
Intermediary/Carrier:	Not Reported
Medicaid number:	Not Reported
Partcipation date:	20060622
Prior COO date:	Not Reported
Prior carrier:	Not Reported
Provider ID:	05D1055651
Record Status:	A
Region code:	09
Is Partial Record:	Y
state abbrev:	CA
ssa state:	05
state region cd:	M2
street address:	2222 LAFAYETTE STREET, SUITE 101
Phone num:	4089880105
Termination reason:	00
Term Date:	20080621
Purpose of action:	Not Reported
Provider control:	04
Zip:	95050
Fips state:	06
Fips cnty:	085
SSA MSA:	529
SSA MSA size code:	B
Date accredited:	Not Reported
Accred expire date:	Not Reported
Accred Org:	Not Reported
Num beds:	0000
Num cert beds:	0000
Source:	US_HOSPITAL_POSCLIA
Edr id:	SRHO20070164230

RECORDS SEARCHED/DATA CURRENCY TRACKING

Census

Source: U.S. Census Bureau
Telephone: 301-763-4636
2010 U.S. Census data was used to estimate residential population following these EPA guidelines:
"Census data are presented by Census tract. If your circle covers only a portion of the tract, you should develop an estimate for that portion...Determine the population density per square mile (total population of the Census tract divided by the number of square miles in the tract) and apply that density figure to the number of square miles within your circle."

FED_LAND: Federal Lands

Source: USGS
Telephone: 888-275-8747
Federal lands data. Includes data from several Federal land management agencies, including Fish and Wildlife Service, Bureau of Land Management, National Park Service, and Forest Service. Includes National Parks, Forests, Monuments; . Wildlife Sanctuaries, Preserves, Refuges; Federal Wilderness Areas.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Colleges - Integrated Postsecondary Education Data

Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on integrated postsecondary education in the United States.

Arenas

Source: Dunhill International
EDR indicates the location of buildings and facilities - arenas - where individuals who are public receptors are likely to be located.

Prisons: Bureau of Prisons Facilities

Source: Federal Bureau of Prisons
Telephone: 202-307-3198
List of facilities operated by the Federal Bureau of Prisons.

Daycare Centers: Licensed Facilities

Source: Department of Social Services
Telephone: 916-657-4041

STREET AND ADDRESS INFORMATION