

APPENDIX B

Air Quality Technical Report and Health Risk Assessment

**AIR QUALITY TECHNICAL STUDY FOR THE
UNIVERSITY OF CALIFORNIA SAN DIEGO
2018 LONG RANGE DEVELOPMENT PLAN
ENVIRONMENTAL IMPACT REPORT
SAN DIEGO, CALIFORNIA**

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LIST OF ACRONYMS AND ABBREVIATIONS

$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
$^{\circ}\text{F}$	degrees Fahrenheit
AERMOD	American Meteorological Society/EPA Regulatory Model
ARB	Air Resources Board
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
CNG	compressed natural gas
CO	carbon monoxide
CAPCOA	California Air Pollution Control Officers Association
CSV	comma-separated value
diesel PM	diesel particulate matter
EIR	Environmental Impact Report
EMF	Environmental Management Facility
EMFAC	Emission Factor Model
EPA	U.S. Environmental Protection Agency
$\text{g}/\text{s per ft}^2$	grams per second per square footage
GEP	Good Engineering Practice
GPS	global positioning system
GSF	gross square feet
HI	hazard index
HQ	hazard quotient
HRA	health risk assessmentI-5 Interstate 5
I-805	Interstate 805
lbs	pounds
LLG	Linscott, Law, & Greenspan
LOS	level of service
LRDP	Long Range Development Plan
m/s	meters per second
MCCP	Medical Center Central Plant
MEI	maximally exposed individual
MEIR	maximally exposed individual resident
MEIW	maximally exposed individual worker
mg/kg-day	milligrams per kilogram per day

mg/m ³	milligrams per cubic meter
mph	miles per hour
NAAQS	National Ambient Air Quality Standards
NED	National Elevation Dataset
NO	nitric oxide
NO ₂	nitrogen dioxide
NO _x	oxides of nitrogen
OEHHA	Office of Environmental Health Hazard Assessment
PAH	polycyclic aromatic hydrocarbon
PM	particulate matter
PM ₁₀	particulate matter with size equal to or less than 10 micrometers in diameter
PM _{2.5}	particulate matter with size equal to or less than 2.5 micrometers in diameter
ppb	parts per billion
ppm	parts per million
RAQS	Regional Air Quality Strategy
REL	reference exposure level
ROG	reactive organic gases
SANDAG	San Diego Association of Governments
SCAQMD	South Coast Air Quality Management District
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SIO	Scripps Institute of Oceanography
SIP	State Implementation Plan
SO ₂	sulfur dioxide
TAC	toxic air contaminant
TCM	Transportation Control Measure
TDM	transportation demand management
TIS	Transportation Impact Study
UC	University of California
UTM	Universal Transverse Mercator
VMT	vehicle miles traveled
VOC	volatile organic compounds
WRCC	Western Regional Climate Center

SECTION 1

INTRODUCTION

The University of California (UC) requires that each campus in the UC system maintain a Long Range Development Plan (LRDP) to guide capital project development and review processes. The process of periodically updating an LRDP provides The Regents an opportunity to make certain that physical plans remain solidly based on academic, research, and public service program goals. The current LRDP for the UC San Diego campus was adopted in 2004 and the campus is proposing to update the 2004 LRDP, the focus of analysis in this report. As part of the LRDP approval process, the campus must analyze the environmental impacts of implementing the 2018 LRDP in compliance with Section 21080.09 of the California Environmental Quality Act (CEQA). To comply with this requirement, the campus is preparing a Program Environmental Impact Report (EIR) to address the near-term and long-term consequences of implementing the 2018 LRDP through its planning horizon. As part of the LRDP approval process established by The UC Regents, the campus must analyze the environmental impacts of implementing the 2018 LRDP in compliance with Section 21080.09 of the California Environmental Quality Act (CEQA). To comply with this requirement, the campus is preparing a Program Environmental Impact Report (EIR) to address the near-term and long-term consequences of implementing the 2018 LRDP through its planning horizon.

In support of the 2018 LRDP EIR, this air quality technical study examines the degree to which the proposed 2018 LRDP may result in significant adverse changes in air quality. This study includes a description of existing air quality conditions, a summary of applicable regulations, and an analysis of construction and operational air quality impacts with implementation of the 2018 LRDP.

1.1 PROJECT DESCRIPTION

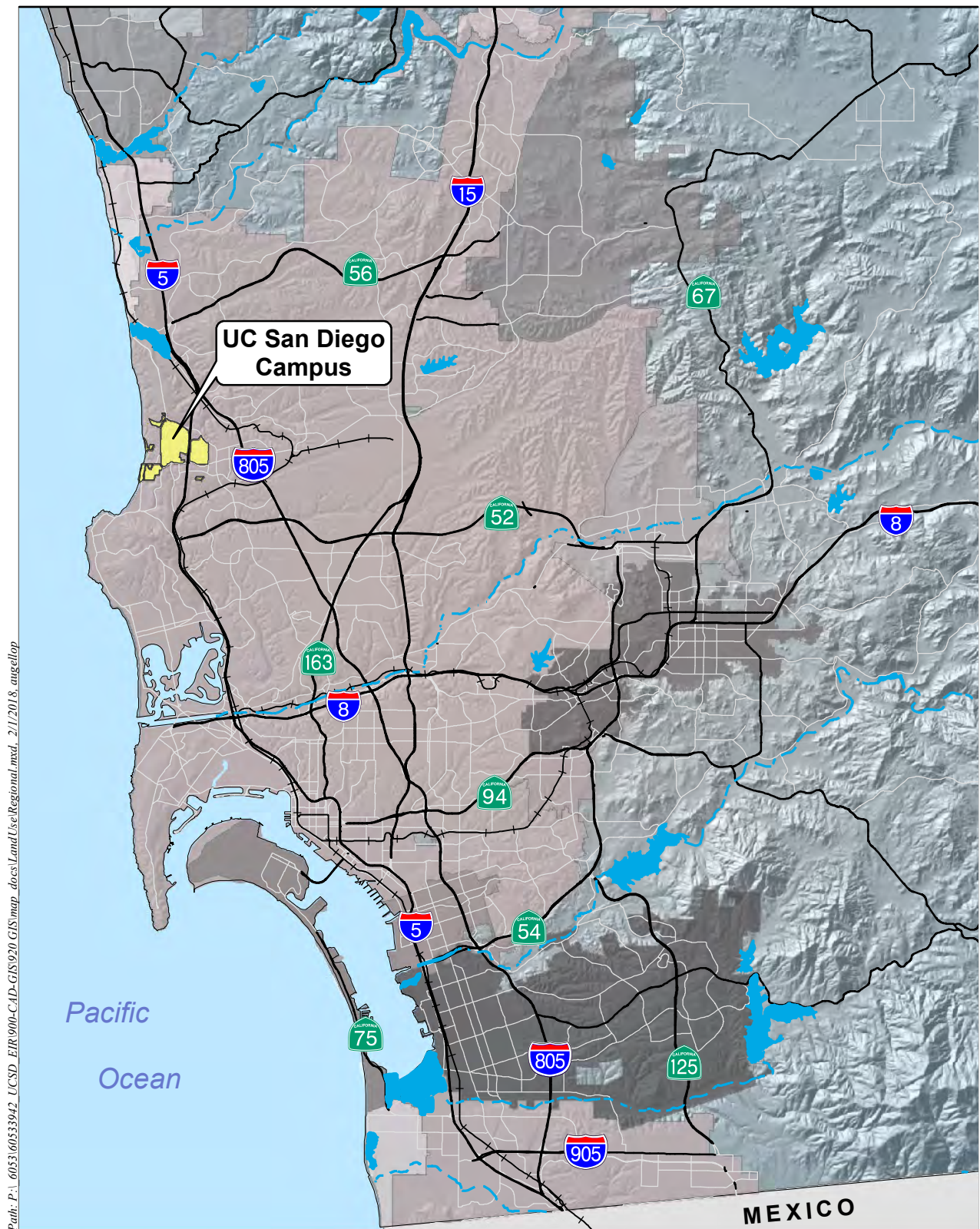
UC San Diego's La Jolla campus encompasses 1,158 acres and is composed of three distinct, but contiguous, geographical entities: the SIO portion of the campus (178.7 acres), the West Campus (634.8 acres), and the East Campus (265.7 acres). Several non-continuous properties are also included in the campus LRDP, including the La Jolla del Sol housing complex (12 acres), surrounding beach properties (25.8 acres), Gliderport (29.5 acres), and the Torrey Pines Center and Torrey Pines Court (11.5 acres).

Currently, 72 percent (or 823.0 acres) of the 1,158-acre campus is developed with over 630 academic structures, on-campus housing, healthcare facilities and support buildings totaling 15.7 million gross square feet (GSF), parking structures, surface parking lots, courtyards and plazas, recreational fields, paved areas, walkways, and roadways. Of the remaining acreage, 28 percent (or 335.3 acres) consists of campus open spaces, which includes a network of habitat areas, restorative open spaces, eucalyptus groves, and urban forest. The on-campus population at UC San Diego consists of students, academic employees, and other staff employees (including general administrative and healthcare staff). Students make up the largest group, followed by staff and faculty. As of the 2015–16 academic year, the total campus headcount was 32,850 students (including undergraduate, graduate, professional, and health sciences students), 1,300 instructional faculty, and 14,700 non-instructional faculty/staff/researchers.

UC San Diego's Strategic Plan provides a visionary basis for the enrollment and development aspirations identified in the 2018 LRDP. The LRDP provides a policy framework to guide the physical development of the campus based on academic, administrative, and support programs through the 2035–36 planning horizon. Minor changes to the land use categories in the 2004 LRDP are proposed to facilitate the projected growth on campus, described below.

Near-term development of the campus would continue under the 2004 LRDP until the 2018 LRDP is approved. This near-term development is projected to add an additional 3.3 million gross square feet (GSF) of development and increase student housing by 5,530 beds over the next several years. This near-term development is added to the baseline existing conditions for the purposes of assessing impacts of implementing the 2018 LRDP.

Under the 2018 LRDP, the campus projects a need to accommodate a total headcount of 42,400 enrolled students, as well as 2,200 faculty and 21,000 staff/researchers, for a total campus population of 65,600. To accommodate these population projections, the campus anticipates approximately 8.9 million GSF of net new development, including approximately 8,900 housing beds for students, faculty and staff. The campus buildings growth under the 2018 LRDP would occur primarily through new construction and targeted redevelopment, including approximately 1 million GSF of building demolitions as some existing structures underutilize the site and/or are obsolete and beyond their useful life. To accommodate projected population growth, overall campus building space would increase over nearly 20 years from 18.9 million GSF to approximately 27.8 million GSF (consisting of existing, near-term and proposed development) and on-campus housing for students, faculty and staff would end up totaling 28,940 beds.



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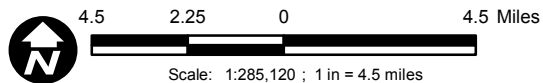


Figure 1
Project Location Map

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SECTION 2

EXISTING CONDITIONS

2.1 CLIMATE, TOPOGRAPHY, AND METEOROLOGY

Air quality is defined by the concentration of pollutants in relation to their impact on human health. Concentrations of air pollutants are determined by the rate and location of pollutant emissions released by pollution sources, and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, and sunlight. Therefore, ambient air quality conditions within the local air basin are influenced by such natural factors as topography, meteorology, and climate, in addition to the amount of air pollutant emissions released by existing air pollutant sources.

Climate, topography, and meteorology influence regional and local ambient air quality. Southern California is characterized as a semiarid climate, although it contains three distinct zones of rainfall that coincide with the coast, mountain, and desert. UC San Diego is located in the City of San Diego in the northern coastal portion of San Diego County, and within the San Diego Air Basin (SDAB). The SDAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountain ranges to the east. The topography in the SDAB region varies greatly, from beaches on the west, to mountains and then desert to the east.

The climate of the SDAB is characterized by warm, dry summers and mild winters. One of the main determinants of its climatology is a semi-permanent high-pressure area in the eastern Pacific Ocean. This high-pressure cell maintains clear skies for much of the year. When the Pacific High moves southward during the winter, this pattern changes, and low-pressure storms are brought into the region, causing widespread precipitation. During fall, the region often experiences dry, warm easterly winds, locally referred to as Santa Ana winds, which raise temperatures and lower humidity, often to less than 20 percent.

The local meteorology of the area is represented by measurements recorded at the Lindbergh International Airport station. The normal annual precipitation, which occurs primarily from October through April, is approximately 10 inches. Normal January temperatures range from an average minimum of 48 degrees Fahrenheit (°F) to an average maximum of 65°F, and August temperatures range from an average minimum

of 66°F to an average maximum of 76°F (WRCC 2016). The predominant wind direction and speed, measured at the Lindbergh International Airport station, is from the west at approximately 6.1 miles per hour (mph) (WRCC 2016).

A dominant characteristic of spring and summer is night and early morning cloudiness, locally known as the marine layer. Low clouds form regularly, frequently extending inland over the coastal foothills and valleys. These clouds usually dissipate during the morning, and afternoons are generally clear.

A common atmospheric condition known as a temperature inversion affects air quality in the SDAB. During an inversion, air temperatures get warmer rather than cooler with increasing height. Inversion layers are important for local air quality, because they inhibit the dispersion of pollutants and result in a temporary degradation of air quality. The pollution potential of an area is largely dependent on a combination of winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low-level inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 mph, the atmospheric pollution potential is greatly reduced.

2.2 CRITERIA POLLUTANTS

Individual air pollutants at certain concentrations may adversely affect human or animal health, reduce visibility, damage property, and reduce the productivity or vigor of crops and natural vegetation. Six air pollutants have been identified by the United States Environmental Protection Agency (EPA) and the California Air Resources Board (ARB) as being of concern both on a nationwide and statewide level: ozone; carbon monoxide (CO); nitrogen dioxide (NO₂); sulfur dioxide (SO₂); lead; and particulate matter (PM), which is subdivided into two classes based on particle size: PM equal to or less than 10 micrometers in diameter (PM₁₀) and PM equal to or less than 2.5 micrometers in diameter (PM_{2.5}). Because the air quality standards for these air pollutants are regulated using human health and environmentally based criteria, they are commonly referred to as “criteria air pollutants.”

Ozone. Ozone is the principal component of smog and is formed in the atmosphere through a series of reactions involving reactive organic gases (ROG) and nitrogen oxides (NO_x) in the presence of sunlight. ROG and NO_x are called precursors of ozone. NO_x includes various combinations of nitrogen and oxygen, including nitric oxide (NO), NO₂, and others. Significant ozone concentrations are usually produced only in the

summer, when atmospheric inversions are greatest and temperatures are high. ROG and NO_x emissions are both considered critical in ozone formation.

Carbon Monoxide. CO is a colorless and odorless gas that, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. Relatively high concentrations are typically found near crowded intersections and along heavily used roadways carrying slow-moving traffic. Even under most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within a relatively short distance (300 to 600 feet) of heavily traveled roadways. Vehicle traffic emissions can cause localized CO impacts, and severe vehicle congestion at major signalized intersections can generate elevated CO levels, called “hot spots,” which can be hazardous to human receptors adjacent to the intersections.

Nitrogen Dioxide. NO₂ is a product of combustion and is generated in vehicles and in stationary sources, such as power plants and boilers. It is also formed when ozone reacts with NO in the atmosphere. As noted above, NO₂ is part of the NO_x family and is a principal contributor to ozone and smog generation.

Sulfur Dioxide. SO₂ is a combustion product, with the primary source being power plants and heavy industries that use coal or oil as fuel. SO₂ is also a product of diesel engine combustion. SO₂ in the atmosphere contributes to the formation of acid rain. SO₂ can irritate lung tissue and increase the risk of acute and chronic respiratory disease.

Lead. Lead is a highly toxic metal that may cause a range of human health effects. Previously, the lead used in gasoline anti-knock additives represented a major source of lead emissions to the atmosphere from mobile and industrial sources. EPA began working to reduce lead emissions soon after its inception, issuing the first reduction standards in 1973. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of EPA’s regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.

Particulate Matter. PM is a complex mixture of extremely small particles that consists of dry solid fragments, solid cores with liquid coatings, and small liquid droplets. PM is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, soot, and soil or dust particles. Natural sources of PM include windblown dust and ocean spray. The size of PM is directly linked to the potential for causing health problems. EPA is concerned about particles that are 10

micrometers in diameter or smaller, because these particles generally pass through the throat and nose and enter the lungs. EPA groups PM into two categories, which are described below.

PM₁₀. PM₁₀ includes both fine and coarse dust particles; the fine particles are PM_{2.5}. Coarse particles, such as those found near roadways and dust-producing industries, are larger than 2.5 micrometers and smaller than 10 micrometers in diameter. Sources of coarse particles include crushing or grinding operations and dust from paved or unpaved roads. Control of PM₁₀ is primarily achieved through the control of dust at construction and industrial sites, the cleaning of paved roads, and the wetting or paving of frequently used unpaved roads.

PM_{2.5}. Fine particles, such as those found in smoke and haze, are PM_{2.5}. Sources of fine particles include all types of combustion activities (motor vehicles, power plants, wood burning, etc.) and certain industrial processes. PM_{2.5} is also formed through reactions of gases, such as SO₂ and NO_x, in the atmosphere. PM_{2.5} is the major cause of reduced visibility (haze) in California.

2.3 HEALTH EFFECTS OF CRITERIA AIR POLLUTANTS¹

Ozone. Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered the most susceptible sub-groups for ozone effects. Short-term exposure (lasting for a few hours) to ozone can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in sports and live in communities with high ozone levels.

Particulate Matter (PM). Once inhaled, these particles can affect the heart and lungs and cause serious health effects. Health studies have shown a significant association between exposure to PM and premature death. Other important effects include aggravation of respiratory and cardiovascular disease, lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems, such as heart attacks and irregular heartbeat (EPA 2016). Individuals particularly sensitive to fine particle exposure include older adults, people with heart and lung disease, and children. A

¹ Health effects of Toxic Air Contaminants (TACs) are discussed in Section 2.7.

consistent correlation between elevated PM₁₀ and PM_{2.5} levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks, and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in life-span, and an increased mortality from lung cancer.

Daily fluctuations in PM_{2.5} concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long-term exposure to PM. The elderly, people with preexisting respiratory or cardiovascular disease, and children appear more susceptible to the effects of high levels of PM₁₀ and PM_{2.5}.

Carbon Monoxide (CO). Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport. Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (oxygen deficiency) as seen at high altitudes.

Nitrogen Dioxide (NO₂). Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children, is associated with long-term exposure to NO₂ at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Airway contraction and increased resistance to air flow are observed after short-term exposure to NO₂ in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups.

Sulfur Dioxide (SO₂). In asthmatics, increased resistance to air flow and a reduction in breathing capacity leading to severe breathing difficulties are observed after acute exposure to SO₂. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO₂. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a

similar association with ambient SO₂ levels. In these studies, efforts to separate the effects of SO₂ from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.

Lead. Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure. Lead poisoning can cause anemia, lethargy, seizures, and death, although it appears that there are no direct effects of lead on the respiratory system.

2.4 AIR QUALITY STANDARDS

Health-based air quality standards have been established for these criteria pollutants by EPA at the national level and by ARB at the state level. These standards were established to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution. California has also established standards for sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. Table 1 presents the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS). The most current monitoring station data and attainment designations for the project study area are shown below.

Table 1
National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^a	National Standards ^b	
		Concentration ^c	Primary ^{c,d}	Secondary ^{c,e}
Ozone ^f	1 hour	0.09 ppm (180 µg/m ³)	–	Same as primary standard
	8 hours	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³)	
Respirable particulate matter (PM ₁₀) ^f	24 hours	50 µg/m ³	150 µg/m ³	Same as primary standard
	Annual arithmetic mean	20 µg/m ³	–	
Fine particulate matter (PM _{2.5}) ^f	24 hours	–	35 µg/m ³	Same as primary standard
	Annual arithmetic mean	12 µg/m ³	12 µg/m ³	
Carbon monoxide (CO)	8 hours	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	None
	1 hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	
	8 hours (Lake Tahoe)	6 ppm (7 mg/m ³)	–	
Nitrogen dioxide (NO ₂) ^g	Annual arithmetic mean	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	Same as primary standard
	1 hour	0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)	None
Sulfur dioxide (SO ₂) ^h	Annual arithmetic mean	–	0.030 ppm (for certain areas) ^h	–
	24 hours	0.04 ppm (105 µg/m ³)	0.14 ppm (for certain areas) ^h	–
	3 hours	–	–	0.5 ppm (1,300 µg/m ³)
	1 hour	0.25 ppm (655 µg/m ³)	75 ppb (196 µg/m ³)	–
Lead ^{i,j}	30-day average	1.5 µg/m ³	–	–
	Calendar quarter	–	1.5 µg/m ³ (for certain areas) ^j	Same as primary standard
	Rolling 3-month average	–	0.15 µg/m ³	
Visibility-reducing particles ^k	8 hours	See footnote j	No national standards	
Sulfates	24 hours	25 µg/m ³		
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m ³)		
Vinyl chloride ^l	24 hours	0.01 ppm (26 µg/m ³)		

Notes: mg/m³ = milligrams per cubic meter; ppb = parts per billion; ppm = parts per million; µg/m³ = micrograms per cubic meter

^a California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM₁₀, PM_{2.5}, and visibility-reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

^b National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM₁₀, the 24-hour is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For PM_{2.5}, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standards.

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

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

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

^f On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

^g To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. California standards are in units of ppm. To directly

compare the national 1-hour standard to the California standards the units can be converted from 100 ppb to 0.100 ppm.

^h On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical of 0.075 ppm.

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

^j The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standards are approved.

^k In 1989, ARB 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 the "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

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

Source: ARB 2016a

2.5 SAN DIEGO AIR BASIN EXISTING AIR QUALITY

Ambient air pollutant concentrations in the SDAB are measured at air quality monitoring stations operated by ARB and the San Diego Air Pollution Control District (SDAPCD). The closest SDAPCD air quality monitoring station to the project site is the Del Mar monitoring station, located at 225 9th Street, Del Mar, California, approximately five miles north of UC San Diego. This station monitors ozone concentrations. Air quality monitoring data of NO₂,

PM₁₀, and PM_{2.5} were obtained from the Kearny Mesa station (the second-closest station) located at 6125A Kearny Villa Road, San Diego, California, approximately six miles southeast of UC San Diego. Air quality monitoring data for CO were obtained from the SDAPCD Annual Air Quality Monitoring Network Plan (SDAPCD 2016a) and represent CO concentrations in San Diego County. Table 2 presents three years of the most recent information available, summarizing the exceedances of standards and the highest recorded pollutant. These concentrations represent the existing, or baseline conditions, for the project area, based on the most recent information that is available. Existing emissions from the UC San Diego campus are presented in Section 4, Analysis of Impacts.

Table 2
Ambient Air Quality Summary

Pollutant Standards	2014	2015	2016
Ozone			
State max 1-hour concentration (ppm)	0.100	0.098	0.079
National maximum 8-hour concentration (ppm)	0.087	0.078	0.071
<u>Number of Days Standard Exceeded</u>			
CAAQS 1-hour (>0.09 ppm)	1	1	0
CAAQS 8- hour (>0.070 ppm)/NAAQS 8-hour (>0.070 ppm)	4/4	2/2	1/1
Carbon Monoxide (CO)^a			
Maximum 8-hour concentration (ppm)	3.0	2.0	1.7
Maximum 1-hour concentration (ppm)	3.8	3.1	2.2
<u>Number of Days Standard Exceeded</u>			
NAAQS 8-hour (>9.0 ppm)	0	0	0
Nitrogen Dioxide (NO₂)			
State maximum 1-hour concentration (ppb)	51	51	53
Annual Average (ppb)	10	9	9
<u>Number of Days Standard Exceeded</u>			
NAAQS 1-hour	0	0	0
CAAQS 1-hour	0	0	0
Particulate Matter (PM₁₀)			
National maximum 24-hour concentration (µg/m ³)	39.0	39.0	36.0
State maximum 24-hour concentration (µg/m ³)	39.0	37.0	35.0
State annual average concentration (µg/m ³)	19.5	16.7	*
<u>Measured Number of Days Standard Exceeded</u>			
NAAQS 24-hour (>150 µg/m ³)	0	0	0
CAAQS 24-hour (>50 µg/m ³)	0	0	0
Particulate Matter (PM_{2.5})			
National maximum 24-hour concentration (µg/m ³)	20.2	25.7	19.4
State maximum 24-hour concentration (µg/m ³)	20.2	25.7	20.3
National annual average concentration (µg/m ³)	8.1	7.2	7.5
State annual average concentration (µg/m ³)	8.2	*	7.7
<u>Measured Number of Days Standard Exceeded</u>			
NAAQS 24-hour (>35 µg/m ³)	0	0	0

Notes: µg/m³ = micrograms per cubic meter; ppb = parts per billion; ppm = parts per million

^a Data obtained from the SDAPCD 2016 Monitoring Network Plan, Table 5.8: CO Concentrations for San Diego.

*Insufficient data to determine the value.

Source: ARB 2016b; SDAPCD 2016a

As shown in Table 2, ambient air concentrations of CO and NO₂ have not exceeded the NAAQS or CAAQS in the past three years. The 8-hour ozone concentration was exceeded in each year. PM₁₀ and PM_{2.5} concentrations did not exceed the NAAQS or the CAAQS between 2014 and 2016.

2.6 SDAB ATTAINMENT STATUS

Both EPA and ARB use ambient air quality monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify the areas with air quality problems and initiate planning efforts for improvement. The three basic designation categories are nonattainment, attainment, and unclassified. An “attainment” designation for an area signifies that pollutant concentrations did not exceed the established standard. In most cases, areas designated or redesignated as attainment must develop and implement maintenance plans, which are designed to ensure continued compliance with the standard.

In contrast to attainment, a “nonattainment” designation indicates that a pollutant concentration has exceeded the established standard. Nonattainment may differ in severity. To identify the severity of the problem and the extent of planning and actions required to meet the standard, nonattainment areas are assigned a classification that is commensurate with the severity of their air quality problem (e.g., moderate, serious, severe, extreme).

Finally, an unclassified designation indicates that insufficient data exist to determine attainment or nonattainment. In addition, the California designations include a subcategory of nonattainment-transitional, which is given to nonattainment areas that are progressing and nearing attainment.

As shown in Table 3, the SDAB currently meets the NAAQS for all criteria air pollutants except ozone, and meets the CAAQS for all criteria air pollutants except ozone, PM₁₀, and PM_{2.5}. The SDAB currently falls under a federal maintenance plan for 8-hour ozone.

Table 3
San Diego Air Basin Attainment Designations

Pollutant	State	Federal
Ozone (1-hour)	Nonattainment	Attainment*
Ozone (8-hour)	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Unclassified/Attainment	Unclassified/Attainment
Sulfur Dioxide	Unclassified/Attainment	Unclassified/Attainment
PM ₁₀	Nonattainment	Unclassified
PM _{2.5}	Nonattainment	Unclassified/Attainment
Sulfates	Attainment	N/A
Hydrogen Sulfide	Unclassified	N/A
Visibility Reducing Particles	Unclassified	N/A
Lead	Attainment	Unclassified/Attainment

Notes:

N/A = not applicable; no standard.

* The federal ozone (1-hour) standard of 12 ppm was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because this benchmark is addressed in State Implementation Plans.

Source: ARB 2017a; SDAPCD 2017.

2.7 TOXIC AIR CONTAMINANTS

In addition to criteria pollutants, both federal and state air quality regulations also focus on toxic air contaminants (TACs). TACs can be separated into carcinogens and noncarcinogens based on the nature of the effects associated with exposure to the pollutant. For regulatory purposes, carcinogens are assumed to have no safe threshold below which health impacts would not occur. Any exposure to a carcinogen poses some risk of contracting cancer. Noncarcinogens differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

TACs may be emitted by stationary, area, or mobile sources. Common stationary sources of TAC emissions include gasoline stations, dry cleaners, and diesel backup generators, which are subject to local air district permit requirements. The other, often more significant, sources of TAC emissions are motor vehicles on freeways, high-volume roadways, or other areas with high numbers of diesel vehicles, such as distribution centers. Off-road mobile sources are also major contributors of TAC emissions and include construction equipment, ships, and trains.

Particulate exhaust emissions from diesel-fueled engines (diesel PM) were identified as a TAC by ARB in 1998. Federal and state efforts to reduce diesel PM emissions have focused on the use of improved fuels, adding particulate filters to engines, and requiring the production of new-technology engines that emit fewer exhaust particulates.

Diesel engines tend to produce a much higher ratio of fine particulates than other types of internal combustion engines. The fine particles that make up diesel PM tend to penetrate deep into the lungs and the rough surfaces of these particles makes it easy for them to bind with other toxins within the exhaust, thus increasing the hazards of particle inhalation. Long-term exposure to diesel PM is known to lead to chronic, serious health problems including cardiovascular disease, cardiopulmonary disease, and lung cancer.

SDAPCD samples for TACs at the El Cajon and Chula Vista monitoring stations. Excluding diesel PM, data from these stations indicate that the background cancer risk in 2014 due to TACs was 345 in one million in Chula Vista and 394 in one million in El Cajon. There is no current methodology for directly measuring diesel PM. However, ARB estimates the excess cancer risk from diesel PM in California in 2012 as 520 in a million (SDAPCD 2018).

The UC San Diego campus conducts routine operations that generate emissions of TACs, including diesel PM. The emissions sources include cogeneration gas turbines; compressed natural gas (CNG) dispensing operations; boilers; standby/emergency generators driven by internal combustion engines; and laboratory chemical usage.

The selection of laboratory and combustion source TACs identified for the proposed 2018 LRDP was based on the health risk assessment (HRA) for the previous 2004 LRDP and HRAs performed at other UC campuses (UC Irvine 2007; UC Santa Barbara 2009; UC San Francisco 2014). As an initial step, UC San Diego's 2018 inventory of TACs was compared against the 48 chemicals identified in the HRA for the 2004 LRDP. Forty-four of the 48 TACs identified in the 2004 HRA continue to be used and were included in the proposed 2018 LRDP. The four TACs omitted were asbestos, inorganic arsenic, polycyclic aromatic hydrocarbons (PAHs), and vinyl chloride as they are no longer used on campus. Further, five of the remaining 44 TACs are no longer in the Office of Environmental Health Hazard Assessment (OEHHA) Table 1 Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values. These five TACs; Ethanol, Ethyl Acetate, Ethyl Ether, Iodine 125, and Tetrahydrofuran were not included in the HRA. The remaining 39 TACS were reviewed and compared to other UC campus HRAs.

After comparing UC San Diego's 2015 chemical inventory list with the 2004 HRA, the 2015 chemical inventory list was cross-referenced to LRDPs of other UC campuses to determine if any additional TACs should be included in the 2018 HRA. This process was conducted to ensure any new chemicals not present in the 2004 inventory were

included in UC San Diego's proposed 2018 LRDP. Upon review, eight additional TACs were added to UC San Diego's 2018 LRDP; seven identified by UC Irvine and one (bromine) identified by UC Santa Barbara. Following this review, a total of 47 (39 + 8) TACs were included in the 2018 HRA. Table 4 lists the 47 TACs analyzed in the 2018 HRA from laboratories (28) and/or combustion (19) sources.

Table 4
List of Toxic Air Contaminants Included in 2018 LRDP HRA

Laboratory TACs	Combustion TACs
Acetonitrile	Acetaldehyde
Acrylamide	Acrolein
Ammonia	Arsenic
Benzene ¹	Beryllium
Bromine and Compounds	1,3-Butadiene
Butyl Alcohol	Cadmium
Carbon Tetrachloride	Chromium (+6)
Chloroform	Copper
Dimethylformamide	p-Dichlorobenzene
1,4-Dioxane	Ethylbenzene
Epichlorohydrin	Lead
Ethylene Dibromide	Manganese
Ethylene Dichloride	Mercury
Ethylene Oxide	Naphthalene
Formaldehyde ¹	Nickel
Hexane ¹	Propylene Oxide
Hydrazine	Selenium
Hydrochloric Acid ¹	Vanadium
Hydrofluoric Acid ¹	Zinc
Isopropanol	
Methyl Alcohol	
Methyl Bromide	
Tetrachloroethylene	
Toluene ¹	
Trichloroethylene	
Triethylamine	
1,1,1-TCA (Trichloroethane)	
Xylene ¹	

¹ These chemicals are also emitted from natural gas combustion sources.

2.8 ODOR

Odors are considered an air quality issue both at the local level (e.g., odor from wastewater treatment) and at the regional level (e.g., smoke from wildfires). Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

The ability to detect odors varies considerably among the population and is subjective. Some individuals have the ability to smell minute quantities of specific substances while 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 (e.g., from a fast-food restaurant or bakery) may be perfectly acceptable to another. Unfamiliar odors may be more easily detected and likely to cause complaints than familiar ones.

Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, the ROG_s that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

Several examples of common land use types that generate substantial odors include wastewater treatment plants, landfills, composting/green waste facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting/coating operations, rendering plants, and food packaging plants. There are no wastewater treatment plants, landfills, composting facilities, refineries, or chemical plants in the vicinity of the UC San Diego campus. The existing UC San Diego campus consists of primarily institutional, residential, and recreational land uses. Some laboratories and the existing crematory may generate odors; however, they are enclosed facilities that are regularly inspected for sanitation and would not be a source of localized odor emissions. Therefore, the existing land uses on the UC San Diego campus are not major odor sources that would cause substantial odors.

2.9 SENSITIVE RECEPTORS

Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects. The City of San Diego CEQA Guidelines defines a sensitive receptor as a person who is more susceptible to health effects due to exposure to an air contaminant relative to the population at large. Sensitive receptors include children, the elderly, people with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Air quality regulators typically define sensitive receptors as schools, hospitals, resident care facilities, day-care centers, or other facilities that may house individuals who are particularly susceptible to health effects that would be adversely impacted by changes in air quality.

Residential areas are also considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to pollutants present; however, they are analyzed separately from the sensitive receptors discussed above. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution even though exposure periods during exercise are generally short. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent as the majority of the workers tend to stay indoors most of the time.

Sensitive receptors on campus include, but are not limited to, residence halls, apartment buildings, hospitals, clinics, and a daycare facility. Sensitive receptors off campus include medical facilities, schools, and single- and multi-family residences in the surrounding neighborhoods. Implementation of the 2018 LRDP also involves the construction and operation of residential units on the project site. Therefore, the existing and future on-campus residents represent the nearest sensitive receptors with the potential to be impacted as a result of the associated construction, operation, and implementation of the 2018 LRDP.

SECTION 3

REGULATORY FRAMEWORK

Air quality in the SDAB is regulated by EPA, ARB, and SDAPCD. Each of these agencies develops rules, regulations, or policies, and/or goals to attain the directives imposed through legislation. Although EPA regulation may not be superseded, both state and local regulations may be more stringent.

3.1 FEDERAL STANDARDS

EPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was enacted in 1970 and amended in 1977 and 1990. The CAA requires EPA to establish the NAAQS and requires each state with regions that have not attained the NAAQS to prepare a State Implementation Plan (SIP), detailing how these standards are to be met in each local area. The SIP is a legal agreement between each state and the federal government to commit resources to improving air quality. It serves as the template for conducting regional and project-level air quality analysis. The SIP is not a single document, but a compilation of new and previously submitted attainment plans, emissions reduction programs, district rules, state regulations, and federal controls.

The CAA Amendments also require that states and local air quality agencies develop a Title V Operating Permit Program, which requires all "major sources" of pollutants to obtain Title V permits. The program is designed to ensure compliance with all applicable requirements of the CAA and to enhance EPA's ability to enforce the CAA. Air pollution sources subject to the program must obtain an operating permit; states must develop and implement the program; and EPA must issue permit program regulations, review each state's proposed program, and oversee the state's efforts to implement any approved program.

Before 1994, there were no standards to limit the amount of emissions from off-road equipment. In 1994, EPA established emission standards for hydrocarbons, NO_x, CO, and PM to regulate new pieces of off-road equipment. These emission standards came to be known as Tier 1. Since that time, increasingly more stringent Tier 2, Tier 3, and Tier 4 (interim and final) standards were adopted by EPA, as well as by ARB. Tier 1 emission standards became effective in 1996. The more stringent Tier 2 and Tier 3 emission standards became effective between 2001 and 2008, with the effective date dependent on engine horsepower. Tier 4 interim standards became effective between

2008 and 2012, and Tier 4 final standards became effective in 2014 and 2015. Each adopted emission standard was phased in over time. New engines built in and after 2015 across all horsepower sizes must meet Tier 4 final emission standards. In other words, new manufactured engines cannot exceed the emissions established for Tier 4 final emissions standards.

3.2 STATE STANDARDS

ARB is the lead agency responsible for developing the SIP in California. Local air districts and other agencies prepare air quality attainment plans or air quality management plans, and submit them to ARB for review, approval, and incorporation into the applicable SIP.

ARB is also responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA was adopted in 1988 and requires ARB to establish CAAQS. In most cases, CAAQS are more stringent than NAAQS. Other ARB responsibilities include, but are not limited to, overseeing local air district compliance with state and federal laws; approving local air quality plans; submitting SIPs to EPA; monitoring air quality; determining and updating area designations and maps; and setting emission standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels. ARB maintains air quality monitoring stations throughout the state in conjunction with local air districts. Data collected at these stations are used by ARB to classify air basins as being in attainment or nonattainment with respect to each pollutant and to monitor progress in attaining air quality standards.

The CCAA requires that each area exceeding the CAAQS for ozone, CO, SO₂, and NO₂ develop a plan aimed at achieving those standards. California Health and Safety Code Section 40914 requires air districts to design a plan that achieves an annual reduction in district-wide emissions of five percent or more, averaged every consecutive three-year period. To satisfy this requirement, the local air districts have to develop and implement air pollution reduction measures, which are described in their air quality attainment plans, and outline strategies for achieving the CAAQS for any criteria pollutants for which the region is classified as nonattainment.

ARB has established emission standards for vehicles sold in California and for various types of equipment. California gasoline specifications are governed by both state and federal agencies. During the past decade, federal and state agencies have imposed numerous requirements on the production and sale of gasoline in California. ARB has

also adopted control measures for diesel PM and more stringent emissions standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators).

TACs in California are regulated primarily through the Tanner Air Toxics Act (Chapter 1047, Statutes of 1983) and the Air Toxics Hot Spots Information and Assessment Act (Chapter 1252, Statutes of 1987). Assembly Bill 1807 sets forth a formal procedure for ARB to designate substances as TACs. Research, public participation, and scientific peer review must occur before ARB can designate a substance as a TAC. The Air Toxics Hot Spots Information and Assessment Act requires that TAC emissions from stationary sources be quantified and compiled into an inventory according to criteria and guidelines developed by ARB, and if directed to do so by the local air district, an HRA must be prepared to determine the potential health impacts of such emissions.

The ARB adopted a Diesel Risk Reduction Plan, which recommends control measures to achieve a diesel PM reduction of 85 percent by 2020 from year 2000 levels. Recent regulations and programs include the low-sulfur diesel fuel requirement and more stringent emission standards for heavy-duty diesel trucks and off-road in-use diesel equipment. As emissions are reduced, it is expected that the risks associated with exposure to the emissions will also be reduced.

The ARB has also developed the *Air Quality and Land Use Handbook: A Community Health Perspective* to provide guidance on land use compatibility with sources of TACs (ARB 2005). These sources include freeways and high-traffic roads, commercial distribution centers, rail yards, refineries, dry cleaners, gasoline stations, and industrial facilities. The handbook is not a law or adopted policy, but offers advisory recommendations for the siting of sensitive receptors near uses associated with TACs. The handbook indicates that land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues. The recommendations relevant to the project include to avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day. In response to new research demonstrating benefits of compact, infill development along transportation corridors, ARB released a technical supplement, *Technical Advisory: Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways* (Technical Advisory), to the 2005 *Air Quality and Land Use Handbook* (ARB 2017b). This Technical Advisory was developed to identify strategies that can be implemented to reduce exposure at specific developments or as recommendations for policy and planning documents. It is important to note that it is not intended as guidance for a specific project and does not discuss the

feasibility of mitigation measures for the purposes of compliance with CEQA. The benefits of compact, infill development along transportation corridors include encouragement for physical activity by facilitating active transportation, such as biking and walking; density of development that helps support transit operations; and reduction in greenhouse gas emissions associated with the car trips that are shortened or replaced by other modes of transportation (greenhouse gas emissions are discussed in Appendix F, Greenhouse Gas Analysis and Reduction Strategy). Some of the strategies identified in the Technical Advisory include implementation of speed reduction mechanisms, including roundabouts, traffic signal management, speed limit reductions, design that promotes air flow and pollutant dispersion along street corridors, solid barriers, vegetation for pollutant dispersion, and indoor high efficiency filtration (ARB 2017b). Currently, no guidance or air quality standard exists for ultra-fine particles.

3.3 REGIONAL STANDARDS

In San Diego County, SDAPCD is the agency responsible for the administration of federal and state air quality laws, regulations, and policies. State and local government projects, as well as projects proposed by the private sector, are subject to requirements of the local air district, if the sources are regulated by SDAPCD. SDAPCD regulates most air pollutant sources, except for motor vehicles, marine vessels, aircraft, and agricultural equipment, which are regulated by ARB or EPA. Included in SDAPCD's tasks are monitoring of air pollution, preparation of the SIP for the SDAB, and promulgation of rules and regulations.

The SIP includes strategies and tactics to be used to attain the federal ozone standard in the county. The SIP elements are taken from the Regional Air Quality Strategy (RAQS), which SDAPCD prepares. The 1991/1992 RAQS was adopted on March 27, 1992, and includes Transportation Control Measures (TCMs) for the air quality plan prepared by the San Diego Association of Governments (SANDAG). The required triennial updates of the RAQS and corresponding TCMs were adopted in 1995, 1998, 2001, 2004, 2009, and 2016. The 2016 RAQS Revision, which identifies emission control measures to provide expeditious progress toward attaining the state ozone standard, was adopted by SDAPCD in December 2016 (SDAPCD 2016b). The rules and regulations include procedures and requirements to control the emission of pollutants and to prevent adverse impacts.

SDAPCD rules relevant to the proposed 2018 LRDP include:

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- Regulation IV: Prohibitions; Rule 50: Visible Emissions. Prohibits the generation of particulate matter emissions that exceed the visible emissions threshold.
 - Regulation IV: Prohibitions; Rule 51: Nuisance. Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property.
 - Regulation IV: Prohibitions; Rule 55: Fugitive Dust. Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site.
 - Regulation IV: Prohibitions; Rule 67.0: Architectural Coatings. Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce volatile organic compound (VOC) emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.
 - Rule 361.145: Requires notification and work practice standards for asbestos removal and demolition, as specified under Rule 40, Code of Federal Regulations 61, Subpart M.

The proposed 2018 LRDP is required to comply with these rules, and conformance would be incorporated into project specifications and procedures.

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SECTION 4 ANALYSIS OF IMPACTS

4.1 STANDARDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, implementation of the 2018 LRDP may have a significant impact to air quality if implementation of the 2018 LRDP would:

- conflict with or obstruct implementation of the applicable air quality plan,
- violate any air quality standard or contribute substantially to an existing or projected air quality violation,
- result in cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard,
- expose sensitive receptors to substantial pollutant concentrations resulting in a CO hotspot,
- expose sensitive receptors to toxic air contaminant emissions, or
- create objectionable odors affecting a substantial number of people.

As stated in Appendix G of the CEQA Guidelines, the significance criteria established by the applicable air quality management board or air pollution control district may be relied on to make the impact determinations for specific program elements. SDAPCD has not developed quantitative significance standards for CEQA projects. However, the City of San Diego has established recommended screening level standards of significance for regional pollutant emissions. Therefore, the City of San Diego screening standards of significance for regional pollutant emissions were used to analyze the impacts of the proposed 2018 LRDP. The screening level standards are shown in Table 5.

If the emissions generated as a result of implementation of the 2018 LRDP are found to be below the screening level standards, it can be concluded that the proposed 2018 LRDP would not violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Table 5
Regional Pollutant Emission Screening Level Standards of Significance

	VOC ¹	NO _x	CO	SO _x	PM ₁₀	PM _{2.5} ²
Pounds per hour	—	25	100	25	—	—
Pounds per day	137	250	550	250	100	55
Tons per year ³	15	40	100	40	15	10

Notes:

¹ VOC standards based on levels per South Coast Air Quality Management District (SCAQMD) and the Monterey Bay Air Pollution Control District (MBAPCD), which have similar federal and state attainment status as San Diego.

² Standard for PM_{2.5} from SCAQMD

VOC = volatile organic compounds; NO_x = oxides of nitrogen; SO_x = sulfur oxides, CO = carbon monoxide; PM₁₀ = particulate matter less than 10 micrometers in diameter; PM_{2.5} = particulate matter less than 2.5 micrometers in diameter.

³ Standards for stationary sources.

- = No standard proposed

Source: City of San Diego 2016

The standards of significance in relation to health risk is based on guidance provided by SDAPCD. Table 6 summarizes the standards for health risk.

Table 6
Health Risk Standards of Significance

	Standard
Cancer risk	10 in a million excess cancer risk.
Non-cancer acute hazard index	Hazard Index greater than (>) 1.0
Non-cancer chronic hazard index	Hazard Index greater than (>) 1.0

Source: Air Toxics "Hot Spots" Program Report for San Diego County, Table 4 (SDAPCD 2015).

4.2 METHODOLOGY

Construction

Construction-related activities are temporary, short-term sources of emissions. Sources of construction-related air emissions include construction equipment exhaust; construction-related trips by workers, delivery and hauling truck trips; and fugitive dust from grading activities. The quantity of air pollutants generated by the construction of projects within the proposed 2018 LRDP would vary depending upon the number of projects occurring simultaneously and the size of each individual project. Since the proposed 2018 LRDP is a land use plan that guides physical development of the campus through 2035, specific construction details such as the exact number and timing of all development projects are unknown. The intensity of construction activity associated with the proposed 2018 LRDP could be the same during each year. It is more likely, however, that some period of construction (and associated emissions) would be more intense than other periods due to population and housing demands.

While neither SDAPCD nor the City of San Diego provides additional guidance on construction assumptions for plan-level analyses, some air districts such as the Sacramento Metropolitan Air Quality Management District (SMAQMD) suggest that lead agencies conservatively assume that construction-generated emissions associated with the build-out of a plan should be evaluated assuming 25 percent of the total land uses would be constructed in a single year (SMAQMD 2016). This conservative assumption was used to evaluate the potential construction-related air quality impacts from projects that could occur under the proposed 2018 LRDP.

The proposed 2018 LRDP analysis includes two construction scenarios: projects that include development through 2025 (2025 Scenario), and projects that include development between 2025 and 2035 (2035 Scenario). To illustrate the range of potential construction-related air quality impacts from projects that could occur using SMAQMD guidance, the analysis evaluated these two conservative construction scenarios:

1. 2025 Scenario: 25 percent of land uses constructed by 2025 assumed to be constructed in 2018.² After 2018, it was assumed 12.5 percent of land uses constructed in each year after, i.e., 2019 through 2024.
2. 2035 Scenario: 25 percent of land uses constructed by 2035 assumed to be constructed in 2025.² After 2025, it was assumed 7.5 percent of land uses constructed in each year after, i.e., 2026 through 2035.

Given that exhaust emissions from the construction equipment fleet are expected to decrease over time as stricter standards take effect, 25 percent of the construction emissions were conservatively modeled to occur in 2018 for the 2025 Scenario and in 2025 for the 2035 Scenario. Additional details are available in Appendix A. As construction occurs in later years, advancements in engine technology, retrofits, and turnover in the equipment fleet are anticipated to result in lower levels of emissions.

The analysis assumed that standard dust and emission control during grading operations would be implemented to reduce potential nuisance impacts and to ensure compliance with SDAPCD Rule 50 (Visible Emissions), Rule 51 (Nuisance), and Rule

² Because emission factors for on- and off-road equipment are expected to decrease over time as stricter standards go into effect and technological improvements occur, assuming a construction start date of 2018 is a conservative assumption. Similarly, 2025 is modeled as the construction start date for the 2035 Scenario.

55 (Fugitive Dust Control). The analysis also assumed architectural coatings would comply with SDAPCD Rule 67.0.1 (Architectural Coatings).

Criteria air pollutant emissions were estimated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. CalEEMod is a tool used to estimate air emissions resulting from land development projects based on California specific emission factors. CalEEMod includes default estimates on the required construction equipment, phases, and activities when project-specific information is unavailable. The default estimates are based on surveys of typical construction projects that provide a basis for scaling equipment needs and schedule with a project size. Emission estimates in CalEEMod are based on the duration of construction phases; construction equipment type, quantity, and usage; grading area; season; and ambient temperature, among other parameters.

Operation

After construction, day-to-day activities associated with operation of the proposed 2018 LRDP would generate emissions from a variety of sources. Operational emissions may be both direct and indirect emissions, and would be generated by area, mobile, and stationary sources associated with implementation of the 2018 LRDP. Operational emissions were estimated for the Adjusted Existing, 2025 and 2035 Scenarios. The Adjusted Existing refers to the ongoing emissions occurring under existing conditions and includes the near-term projects that have been approved under the 2004 LRDP. UC San Diego's 2004 LRDP air quality analysis was reviewed to determine what operational sources, including source parameters and emission factors, were consistent with existing conditions. These source parameters and emission factors were carried forward as applicable to the proposed 2018 LRDP air quality analysis and HRA. Additional details are provided in the paragraphs that follow.

Area Sources

Area-source emissions would be associated with activities such as the use of consumer products, parking lot degreasers, fertilizers/pesticides, and cleaning supplies. CalEEMod estimates consumer products usage based on a statewide inventory of VOC emissions and statewide building area. To obtain an applicable consumer production emission factor for the San Diego area, the CalEEMod default emission factor for general consumer products was adjusted to reflect San Diego County-specific emissions. The San Diego County-specific consumer product emission factor was estimated to be 0.0000165 pound/square-foot/day,

based on San Diego County daily emissions of consumer products and county-wide building square footage data. Additional details are available in Appendix A. Landscaping and maintenance equipment would also generate area-source emissions and are based on land use and building square footage along with ARB's Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment (CalEEMod 2016). Natural gas combustion for space and water heating is also a direct area source of emissions.

Mobile Sources

Increased volumes of vehicles associated with the proposed 2018 LRDP would contribute to regional incremental emissions of NO_x, VOC, CO, SO_x, PM₁₀, and PM_{2.5}. This analysis does not directly evaluate lead because little to no quantifiable and foreseeable emissions of lead would be generated by the project. Lead emissions have significantly decreased due to the near elimination of leaded fuel use.

Mobile-source emissions would include commute trips by students, faculty, and employees, as well as vehicle trips within the campus from UC San Diego's vehicle fleet. Average trip generation estimates for build-out of the proposed 2018 LRDP under 2025 and 2035 conditions were obtained from the Transportation Impact Study (TIS) developed by Linscott, Law, & Greenspan (LLG 2018). The TIS evaluated the proposed daily trips from students, staff, and faculty to the campus. The TIS also accounts for UC San Diego's extensive transportation demand management (TDM) system, which includes but is not limited to vanpools, carpools, bus sticker program, City shuttle service, on-campus to off-campus shuttles, parking policies, and an expanded trolley line. The average daily vehicle trips for the existing and near term baseline were estimated to be approximately 94,168. The average daily vehicle trips to be generated in 2025 and 2035 with implementation of the 2018 LRDP are projected to increase by 9,778 and 23,041 trips per day, respectively.

The average trip length was based on project-specific data provided in the TIS. Average trips lengths and vehicle miles traveled (VMT) were estimated using the regional SANDAG traffic forecast model (Series 13). Series 13 is an activity-based model, which was developed using travel behavior and survey information from various sources, such as the San Diego Household Travel Behavior Surveys, data from the Community Survey, U.S. Census Bureau, and current traffic and transit observations. In addition to the regional model, average trips lengths were adjusted using campus global positioning system (GPS) navigation and zip code data for the different population types, including residents, employees, and students, and information from the Campus

Transportation Surveys to develop an average trip type for the proposed 2018 LRDP. The GPS navigation data represent an independent data source apart from the regional SANDAG forecast model. This data source is commonly referred to as “Big Data” analytics. Based on the SANDAG Series 13 model and the “Big Data” analysis, the average trip length under existing conditions was estimated to be 8.76 miles. The average trip length in 2025 and 2035 was estimated to be 8.27 and 8.39 miles, respectively.

Mobile-source emissions were estimated using vehicle emission factors and fleet mix derived from ARB’s 2014 Emission Factor Model (EMFAC) and included in CalEEMod. Emission factors for mobile source emissions would decrease in future years based on the implementation of emission standards and fleet turnover.

Stationary Sources

Increases in air pollutant emissions associated with the proposed 2018 LRDP would be expected from the following stationary sources:

- Future operations of the Biomedical Sciences Buildings (BSB) crematory
- Future (additional) diesel emergency generators
- Future (additional) research laboratory operations
- Future operations of the Environmental Management Facility (hazardous materials bulking)

Air pollutant emissions associated with the proposed 2018 LRDP are not expected to increase from the following stationary sources:

- Operations of the central utilities cogeneration turbines
- Operations of the central utilities boilers
- Operations of the medical center and Moores Cancer Center boilers
- Operations of the Moores Cancer Center thermal fluid heaters
- Existing diesel emergency generators at buildings that will continue to operate
- Existing research laboratories at buildings that will continue to operate

Criteria air pollutants generated from these sources include NO_x, CO, VOC, SO_x, PM₁₀, and PM_{2.5}. In general, the air pollutant emissions were estimated using the latest source testing data, operational activity data, and emission factors developed by EPA, ARB, and SDAPCD.

Activity data, such as fuel consumption rates and operating time, were used to estimate emissions from fuel combustion sources, including turbines, boilers, crematory incinerator, existing diesel emergency generators, and small combustion sources. The available source testing data and the EPA AP-42 and/or SDAPCD emission factors were used for these fuel combustion sources. The exhaust emission standard developed by ARB for new stationary diesel-fueled engines was used to estimate future emissions from diesel generators (ARB 2011).

VOC emissions from research laboratories were estimated based on a review of available UC San Diego chemical data and wet laboratory inventory information, as well as the previous health risk assessment for the 2004 LRDP. VOC emissions associated with hazardous waste bulking operations were estimated based on chemical volumes and volatilization loss factors. Detailed emission calculation methodologies for research laboratories and hazardous waste bulking operations are provided in Appendix A. Emissions from the CNG dispensing station are not included in the HRA as none of the chemicals include exposure pathways.

Local CO Impacts

Although the SDAB is currently an attainment/maintenance area for CO, exhaust emissions can potentially cause a direct, localized “hotspot” impact at or near proposed development. Because increased CO concentrations are usually associated with roadways that are congested with heavy traffic volumes, many agencies have established preliminary screening criteria to determine with fair certainty, that if not violated, project-generated, long-term operational local mobile-source emissions of CO would not result in, or substantially contribute to, emissions concentrations that exceed the 1-hour ambient air quality standard of 20 parts per million (ppm) or the 8-hour standard of 9.0 ppm.

The City of San Diego has developed screening standards to analyze the potential impacts to the localized effect of CO. A project resulting in longer queues at traffic signals could cause a potential localized significant air quality impact if a proposed development causes a four- or six-lane road to deteriorate to level of service (LOS) E or worse. This screening analysis uses the LOS and traffic volumes provided in the TIS developed for the proposed 2018 LRDP (LLG 2018).

Health Risk Assessment

The evaluation of health risks from the impact of TAC emissions, represented by PM_{2.5} emissions in the analysis, was performed for (1) construction activities and their effects on nearby receptors (including staff and residents), and (2) the exposure to TACs for residential receptors from on-campus stationary sources, such as emergency generators, boilers, turbines, and the crematory.

As some construction and operational sources will emit at the same time, the estimated excess lifetime cancer risks were estimated for all emissions using unmitigated and mitigated construction emissions. As stated in Section 4.2, 25 percent of the planned development was assumed to be constructed in the first year of each projected growth scenario (2025 and 2035) to represent a worst-case scenario. The remaining development and, thereby, the rest of the emissions were evenly divided over the intervening years.

SDAPCD issued supplemental HRA guidance in June 2015. The HRA was performed in accordance with the methodologies presented in *Supplemental Guidelines for Submission of Air Toxics “Hot Spots” Program Health Risk Assessments (HRAs)* (SDAPCD 2015), *Health Risk Assessments for Proposed Land Use Projects* (CAPCOA 2009), and *Hot Spots Guidance Manual* (OEHHA 2015).

Excess lifetime cancer risks were estimated for the maximally exposed individual at a UC San Diego worker receptor (MEIW) and for the maximally exposed individual at a residential receptor (MEIR) at both on-campus and off-campus locations due to the proposed 2018 LRDP, which includes the newly constructed residences across the campus as part of the construction to be completed by 2025 and construction to occur during 2026 through 2035.

Human doses were calculated for the modeled environmental exposures over specified time periods via multiple environmental pathways. These environmental pathways included direct inhalation, soil ingestion, dermal (skin) absorption based on a warm climate, consumption of home grown produce, and mother’s milk.

For each TAC, the hazard quotient (HQ) was calculated by dividing the predicted exposure from the model by the reference exposure level (REL) for the substance. The HQs were then summed to calculate the hazard index (HI). Because substances may affect different target organ systems, such as the pulmonary or gastrointestinal systems,

the HIs were calculated separately for each target organ system, and the highest HI was used to characterize the potential health risks.

The cancer potency factors and RELs used are consistent with the current values published by ARB (2018). The RELs are intended to represent exposure levels below which adverse health effects do not occur.

The HRA was conducted for multiple exposure durations for different types of sensitive receptors:

- **Off-Campus Residents.** Exposed for 24 hours/day, 365 days/year, for 30 years beginning at the third trimester before birth during the period of 2018 (start of construction for near-term projects) through year 2047.
- **On-Campus Residents (Students).** Exposed for 24 hours/day, 365 days/year for four years beginning at age 18 during two scenarios:
 - o A: The period of 2018 (start of construction for the 2025 Scenario) through year 2021.
 - o B: The period of 2025 (start of construction for 2035 Scenario) through year 2028.
- **On-Campus University Staff (Workers).** Exposed 8 hours/day, 250 days/year for 25 years during the period of 2018 through year 2042.
- **Sensitive Groups (Off-Campus and On-Campus Daycare/School Child, Hospitals and Senior Care Facilities).** The daycare and UC San Diego Healthcare La Jolla are exposed for 10 hours/day, 250 days/year for 12 years beginning at age 0 during the period of 2018 through 2029. The schools are exposed for 10 hours/day, 250 days/year for 12 years beginning at age 4 during the period of 2018 through 2029. The other hospitals and senior care facilities are exposed for 10 hours/day, 250 days/year for 12 years beginning at age 18 during the period of 2018 through 2029.

As most workers would be present during the same hours as construction and laboratory use, a worker adjustment factor of 4.2 ($[24 \text{ hours} / 8 \text{ hours}] * [7 \text{ days} / 5 \text{ days}]$) was used to adjust the annual concentrations. Similarly, the daycare/school child would also be exposed during these construction and laboratory hours. Therefore, an adjustment factor of 3.36 ($[24 \text{ hours} / 10 \text{ hours}] * [7 \text{ days} / 5 \text{ days}]$) was applied to adjust the annual concentrations.

The maximum long-term inhalation cancer risk was estimated by multiplying the maximum dose (milligrams per kilogram per day) at the receptor of maximum exposure by the individual cancer potency factor of each carcinogen of concern. Individual risks by each pollutant were summed to determine the total risk at each receptor. Non-cancer health risks for chronic exposure (a one-year average exposure and acute exposure (1-hour average) were calculated using the HI approach for the receptors and toxic substances emitted. Additional details on the HRA methodology are provided in Appendix B.

Dispersion Modeling

Atmospheric modeling was performed to analyze health risk associated with the generation of PM_{2.5} during construction activities. Air dispersion modeling requires consideration and selection of the following parameters, which are described briefly below:

- Selection of the dispersion model
- Selection of appropriate dispersion coefficients based on land use
- Preparation of meteorological data
- Evaluation of potential terrain considerations
- Selection of receptor locations
- Identification of the source-specific release parameters, operational schedule, and averaging time periods

Model Selection. EPA's American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) model (Version 18081 released in April 2018) was used to model diesel PM emissions during construction, from highway emissions, and from emergency generators. AERMOD was applied with the regulatory default options and the rural modeling option (dispersion coefficients). For this analysis, the construction sources are represented by area sources at the location of construction and demolition. The dispersion modeling to assess the exposure of receptors to the highway emissions is represented by a line source or series of volume sources. The stationary sources discussed below are represented by point sources. The resulting plot files for each source were imported to the HARP2 Air Dispersion and Risk Tool (Version 17320).

Stationary Source Data. Existing and future combustion and laboratory sources were modeled as point sources (stacks). There were 150 stacks (82 for combustion and 68 for laboratories) modeled to account for existing sources. Fifty-two laboratory and

combustion TACs were identified from UC San Diego's 2015 inventory. Potential new combustion source emissions (boilers and crematory) under the future LRDP scenario were modeled from the existing stacks. Potential new laboratory emissions under the future LRDP scenario were also modeled from the existing emission release points as building footprint and heights have yet to be finalized. A total of 36 additional emergency generator sources were included to support future development. The following sections describe the methodologies used in developing the source parameters for combustion sources and laboratory sources.

Combustion Sources. Cogeneration turbines, boilers, thermal fluid heaters, and the crematory and emergency diesel generators are included in the HRA. There are two cogeneration turbines in operation at the Central Utilities Plant along with three boilers (2, 3 and 4). All of the turbines, Central Utility Plant boilers, and crematory stack parameters in this HRA are consistent with their operating permits and stack test data for the cogeneration turbines. Five additional boilers are located within the La Jolla Medical Center; three reside in the Medical Center Central Plant (MCCP) and two are located at the Moores Cancer Center. Two thermal fluid heaters are also located at the Moores Cancer Center. Stack parameters for the La Jolla Medical Center combustion sources were obtained from the specific source operating permits. Table 7 summarizes the stack parameters for each of these sources included in the modeling.

There are 61 permitted emergency generators currently in use across the UC San Diego campus with internal combustion engines fired on diesel fuel. All 61 emergency generators were included in the analysis since potential health risks from diesel PM could pose a potential health risk to on- and off-campus receptors due to implementation of the 2018 LRDP. All of the existing emergency generators were modeled at their actual locations on the UC San Diego campus. Figure 2 provides a map of the UC San Diego campus with the locations of all existing combustion sources denoted by blue circles.

Table 7
Modeling Parameters for Existing Combustion Sources

Model ID	Source Description	Stack Height (m)	Diameter (m)	Velocity (m/s)	Temperature (K)	Easting (m)	Northing (m)	Base Elevation (m)
Major Combustion Sources								
CREM1	Crematory ^A	27.74	0.55	6.39	612.05	477929.73	3637533.80	110.00
CUTIL2	Central Utility Boiler #2 ^A	15.54	1.04	8.74	462.05	477651.25	3637344.51	119.00
CUTIL3	Central Utility Boiler #3 ^A	15.54	1.04	10.46	453.72	477654.44	3637363.67	119.00
CUTIL4	Central Utility Boiler #4 ^A	15.54	1.22	12.44	480.94	477648.37	3637363.67	119.00
COG_1	Central Utilities COGEN Turbine 1 ^A	11.89	1.83	25.04	294.27	477620.32	3637416.00	118.70
COG_2	Central Utilities COGEN Turbine 2 ^A	11.89	1.83	25.04	294.27	477620.59	3637410.19	118.80
MCCP1	Medical Center Central Plant Boiler #1 ^{B,C}	3.048	0.61	14.60	427.59	478856.85	3637601.01	93.00
MCCP2	Medical Center Central Plant Boiler #2 ^{B,C}	3.048	0.61	14.60	427.59	478860.25	3637603.20	93.00
MCCP3	Medical Center Central Plant Boiler #3 ^{B,C}	3.048	0.61	14.60	427.59	478864.63	3637605.14	93.00
MCC_B1	Moore's Cancer Center Boiler #1 ^{B,C}	15.24	0.56	7.28	427.59	479132.37	3637795.53	100.00
MCC_B2	Moore's Cancer Center Boiler #2 ^{B,C}	15.24	0.56	7.28	427.59	479132.22	3637793.89	100.00
MCC_TFH1	Moore's Cancer Center Thermal Heater #1 ^C	15.24	0.56	13.58	630.37	479134.46	3637795.83	100.00
MCC_TFH2	Moore's Cancer Center Thermal Heater #2 ^C	15.24	0.56	13.58	630.37	479134.31	3637794.04	100.00
Existing Emergency Generators^C								
EMGEN1	Gilman Parking	2.74	0.08	35.01	727.59	478172.62	3637737.49	107.00
EMGEN2	Pharmaceutical Sciences	4.88	0.20	41.62	758.15	477917.26	3637329.64	107.00
EMGEN3	Rita Atkinson (HSGH #1)	2.99	0.18	10.78	727.59	478038.15	3637146.84	98.00
EMGEN5A	Center for Molecular Medicine #1	3.66	0.20	69.25	810.94	477679.41	3637598.37	117.00
EMGEN5B	Center for Molecular Medicine #2	3.66	0.20	69.25	810.94	477679.19	3637595.47	117.00
EMGEN6	Molecular Biology Building	3.35	0.20	1.00	810.94	477689.00	3637540.47	114.00
EMGEN8	Drama Theater/Rehearsal Studio	2.59	0.05	56.25	810.94	477474.44	3637125.59	128.00
EMGEN9	Keeling Apartments (Revelle)	4.57	0.30	9.13	783.15	477322.34	3637310.93	125.00
EMGEN10	Natural Sciences	4.57	0.30	62.67	810.94	477246.48	3637438.31	125.00
EMGEN11	Pacific Hall	3.96	0.29	47.99	810.94	477306.10	3637586.84	124.00
EMGEN12	Chemistry Research Building (SSRB)	13.11	0.13	68.50	810.94	477531.44	3638199.44	127.00
EMGEN13	North Campus Housing #1 (Village West)	3.00	0.20	11.21	791.48	477319.79	3638994.34	120.00
EMGEN14	ERC Pump Station Upgrade	2.69	0.10	11.72	853.15	477219.42	3638751.56	112.00
EMGEN15	ERC Café Ventanas	2.68	0.10	11.79	810.94	477299.38	3638709.09	119.00

Model ID	Source Description	Stack Height (m)	Diameter (m)	Velocity (m/s)	Temperature (K)	Easting (m)	Northing (m)	Base Elevation (m)
EMGEN16	North Campus Housing #2 (Village East)	3.10	0.30	19.92	790.37	477449.69	3638949.60	130.00
EMGEN17	TPC/S Node J	1.86	0.11	29.37	833.15	477287.41	3639108.58	120.00
EMGEN18	Hopkins Garage	4.88	0.41	13.85	810.94	477585.44	3638465.44	122.00
EMGEN19	Central University Library	4.88	0.29	32.27	810.94	477813.82	3638154.41	109.00
EMGEN20	ENG Building 1	2.44	0.20	1.00	810.94	477982.19	3638193.04	107.00
EMGEN21	Powell Focht Bioengineering	3.96	0.20	64.00	810.94	478042.64	3638243.91	105.00
EMGEN22	Cal IT-2	2.79	0.23	18.57	787.59	478010.07	3638249.52	107.00
EMGEN23	Warren Apts (College Apts)	9.14	0.10	45.36	810.94	478172.53	3638423.10	102.00
EMGEN24	EBU-3B	2.74	0.13	16.92	842.04	478122.28	3638259.95	107.00
EMGEN25	ENG Building 2	3.96	1.97	0.74	810.94	478215.12	3638106.36	102.00
EMGEN26	CMRR Node "B"	1.37	0.10	13.42	844.26	477994.67	3638050.25	110.00
EMGEN27	Price Center Expansion (SERF)	3.25	0.20	29.86	718.15	477976.98	3638007.73	110.00
EMGEN28	Structural and Materials Engineering	4.67	0.30	11.24	736.48	478144.51	3638001.39	108.00
EMGEN29	CSC Building Comp - D	1.83	0.08	52.82	810.94	478569.01	3638312.53	100.00
EMGEN30	Environmental Management Facility	3.96	0.20	34.74	810.94	478588.58	3638449.13	99.00
EMGEN31	Biofield Lab	1.83	0.08	52.82	810.94	478489.14	3638572.07	91.00
EMGEN34	East Campus Parking Structure	3.05	1.18	74.83	783.15	478941.60	3637964.72	103.00
EMGEN35	North Campus Parking	2.44	0.08	53.93	810.94	477215.23	3638486.38	114.00
EMGEN36	NOAA	16.00	0.20	0.74	810.94	476398.92	3636993.82	60.00
EMGEN37	T43 (MPL Shop) - Benthic Lab	6.10	1.19	1.00	810.94	476297.50	3636509.18	9.00
EMGEN38	Vaughn Hall (Endurance Hall)	3.05	0.20	46.95	810.94	476370.47	3636355.22	20.00
EMGEN39	Campus Security	3.05	0.15	12.94	764.26	478557.40	3638267.91	101.00
EMGEN40	Stein Clinical Sciences Building	12.50	0.15	80.95	810.94	478134.90	3637530.12	109.00
EMGEN41	RADY School of Management	2.59	0.13	9.59	769.82	477467.96	3638789.25	131.00
EMGEN42	Recreational Intermural Athletic Ctr (RIMAC)	3.71	0.30	50.15	810.94	477554.49	3638557.09	130.00
EMGEN43	New Birch (Birch Aquarium at Scripps)	3.05	1.38	1.27	810.94	476566.13	3636489.89	73.00
EMGEN44	Central Utilities Plant #1	12.80	2.13	1.53	810.94	477636.13	3637376.29	118.00
EMGEN45	Central Utilities Plant #2	12.80	2.13	1.53	810.94	477640.04	3637376.15	118.00
EMGEN46	Central Utilities Plant #3	12.80	2.13	1.53	810.94	477647.33	3637376.02	118.00
EMGEN48	Campus Ambulatory Care	2.74	0.10	25.33	810.94	478146.88	3637478.24	110.00
EMGEN50	Medical Central Campus Plant #1	7.93	0.51	50.59	548.15	478867.30	3637621.18	93.00
EMGEN51	Medical Central Campus Plant #2	7.93	0.51	50.59	548.15	478870.21	3637622.88	93.00

Model ID	Source Description	Stack Height (m)	Diameter (m)	Velocity (m/s)	Temperature (K)	Easting (m)	Northing (m)	Base Elevation (m)
EMGEN52	Medical Central Campus Plant #3	7.93	0.51	50.59	548.15	478873.86	3637624.82	93.00
EMGEN53	Medical Central Campus Plant #4	7.93	0.51	50.59	548.15	478877.26	3637627.01	93.00
EMGEN54	OPP	3.38	0.20	32.96	756.48	479006.78	3637739.28	100.00
EMGEN55	MRI	4.09	0.05	69.86	685.93	478738.14	3637806.78	104.00
EMGEN56 ^E	E-SHOP APCD-1596	2.44	0.10	14.49	810.94	478571.35	3638298.75	101.00
EMGEN57	E-SHOP APCD-1597	2.44	0.10	14.49	782.04	478571.35	3638298.75	101.00
EMGEN58	E-SHOP APCD-1598	2.44	0.10	14.49	782.04	478571.35	3638298.75	101.00
EMGEN59	E-SHOP APCD-1599	2.44	0.10	14.49	782.04	478571.35	3638298.75	101.00
EMGEN60 ^E	E-SHOP APCD-1600	2.44	0.10	14.49	782.04	478571.35	3638298.75	101.00
EMGEN61	Scholander Hall	2.44	0.10	16.39	810.94	476271.12	3636457.60	13.00
EMGEN62	Whisper Watt 69kv Yard	2.44	0.10	18.93	782.04	479156.08	3638330.52	107.00
ECCUP1	East Campus Central Utilities Plant #1	3.66	0.30	52.03	810.94	479251.34	3638024.13	110.00
ECCUP2	East Campus Central Utilities Plant #2	3.66	0.30	52.03	810.94	479254.81	3638024.13	110.00
ECCUP3	East Campus Central Utilities Plant #3	8.46	0.45	11.45	892.04	479258.14	3638023.86	110.00
ECCUP4	East Campus Central Utilities Plant #4	8.46	0.45	11.45	892.04	479261.20	3638023.73	110.00
NG_EGEN1	Hubbs Hall ^D	18.29	0.08	95.21	922.04	476309.29	3636639.44	20.00
NG_EGEN2	Chancellors Complex	1.83	0.08	102.35	929.26	477805.49	3637893.92	117.00
NG_EGEN3	303 Surgery ^D	1.22	0.08	95.21	922.04	477952.81	3637776.73	111.00
NG_EGEN4	MESOM	1.98	0.08	95.21	922.04	476447.43	3636903.44	61.00

^A Stack parameters based on 2004 UC San Diego LRDP.

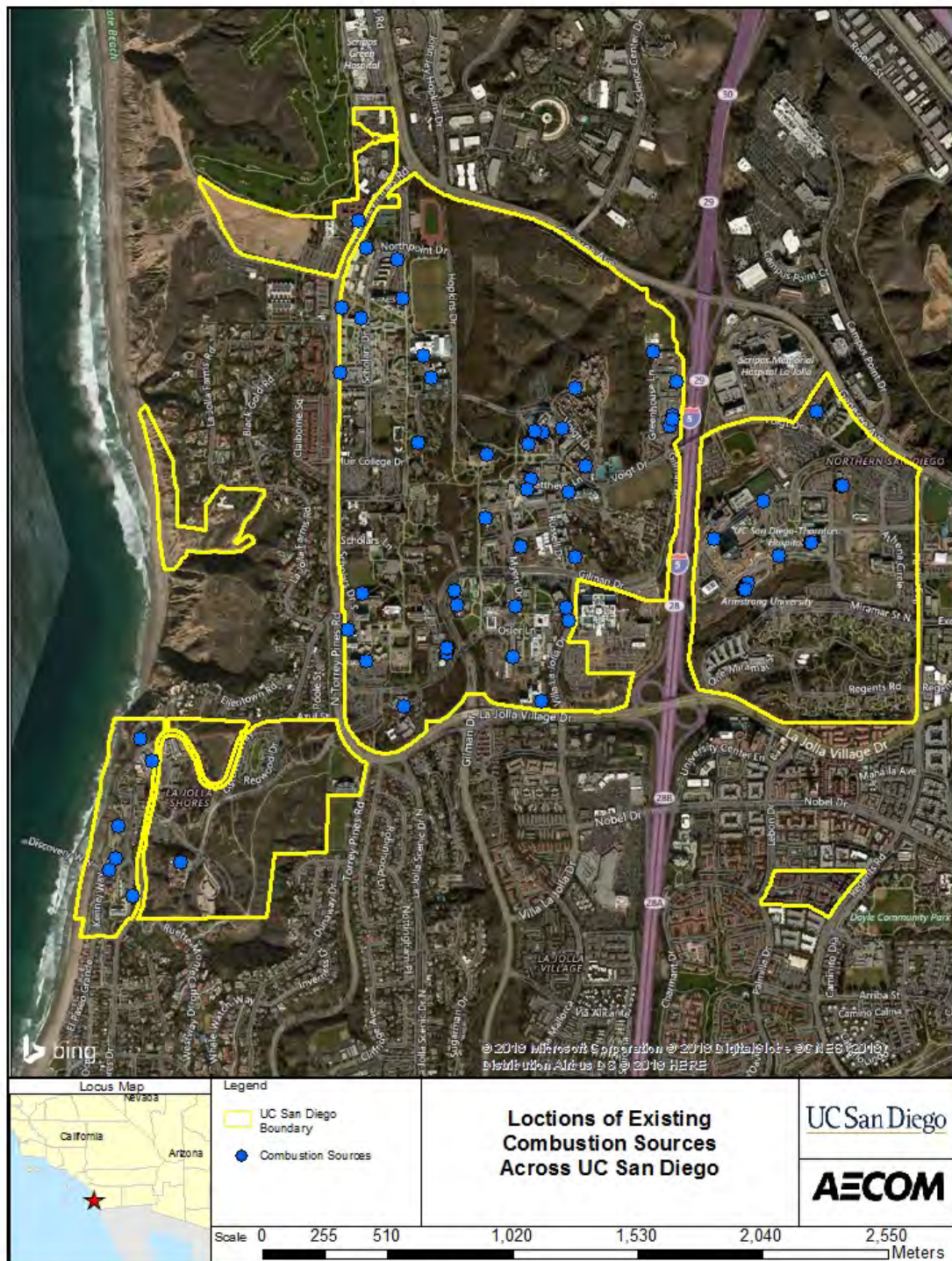
^B Gas exhaust velocity estimated using EPA Method-19 F-Factors based on boiler size and type.

^C Stack parameters obtained from operating permits.

^D Stack parameters obtained from operating permits. Gas exhaust velocity used lowest velocity of all natural gas emergency generators to be conservative.

^E Portable generators were modeled at their maintenance and testing location. These generators were dispatched to other campus locations in 2015 and used to support an outage. This activity was atypical as generators would normally only run for a few hours per year for maintenance testing.

Figure 2
Locations of Existing Combustion Sources



Stack parameters for these generators were obtained from their operating permits. All of the stack orientations were vertical with the exception of the generator located at the ENG Building 1, which is a horizontal release. Table 7 lists the stack parameters for each of the existing generators, which were obtained from their corresponding operating permits.

Baseline emissions for the proposed 2018 LRDP are based on 2015–2016 data and adjustments were made to include the near-term projects that are in planning design and/or construction under the 2004 LRDP (herein referred to as the Adjusted Existing). It was assumed that emergency generators are only used for non-housing, on-campus facilities. As of 2016, there is approximately 10.5 million non-housing GSF on the UC San Diego campus, with an estimated 0.6 million non-housing GSF to be built in the near term under the 2004 LRDP. As such, the number of existing generators was adjusted to include the additional emergency generators that would be added for the near-term projects approved under the 2004 LRDP. The near-term increase in emergency generators was based on the percent increase of existing non-housing square footage versus the remaining 2004 LRDP non-housing building square footage. Using this methodology, the 106 percent increase in non-housing GSF would require that four emergency generators (one in East Campus and three in West Campus) be added to the existing conditions to form the Adjusted Existing.

Under the proposed 2018 LRDP, the number, location, and size of future diesel-fired emergency generators was estimated in a similar manner to the Adjusted Existing calculation. The estimated campus-wide future emergency generator capacity was calculated assuming half of the increase over the Adjusted Existing based on a comparison of existing (including near-term 2004 LRDP development) versus proposed building square footage (i.e., an increase of 150 percent of non-housing GSF). This rationale is based upon the fact that emergency generators are used for non-student housing on campus and approximately half of the proposed future development is slated for on-campus housing under the proposed 2018 LRDP. This calculation yielded seven future generators at East Campus, 25 on West Campus, and four at SIO, for a total of 36 new diesel-fired emergency generators associated with the proposed 2018 LRDP. All future generators are assumed to meet EPA Tier 4 engine standards or Tier 3 engine standards with Diesel Particulate Filters.

The locations of the future generators were placed adjacent to sites of proposed future non-student housing sites. A map showing the location of the future generators associated with near-term development under the 2004 LRDP and the proposed 2018 LRDP is provided in Figure 3. Stack parameters for the future generators were assigned based upon taking the average value for stack height, diameter, gas exit velocity, and

Figure 3
Locations of Future Emergency Generators



temperature from the existing generators for each campus. For example, the future East Campus generator stack parameters would be the average from all of the East Campus existing generators. Table 8 summarizes this analysis.

There was only one instance where an existing emergency generator was co-located with a building that may be demolished and rebuilt as part of the proposed 2018 LRDP. The affected generator is located at the T43 (MLP Shop) Benthic Lab (Model ID – EMGEN37). This emergency generator was assumed to be relocated next to the potential future building with no changes in the existing stack parameters.

Combustion Emissions

Existing turbines and boiler emissions were calculated based on the amount of natural gas used in the year 2015 and emission factors from EPA's AP-42 Section 3.1. (See Table 3.1-3 for the turbines and Section 1.4, Tables 1.4-3 and 1.4-4 for the boilers, respectively.)

Similar to other sources, existing (2015) emissions were adjusted to include the projected usage needed to accommodate the near-term projects in planning, design, and construction under the 2004 LRDP. Therefore, the Adjusted Existing incorporates an emissions increase to include the near-term 2004 LRDP development based on a comparison of existing (2015) building square footage and the additional GSF increase associated with near-term development under the 2004 LRDP. The existing GSF is 15.2 million with an additional 3.3 million currently in planning, design, or construction in the near term under the 2004 LRDP. Thus, the Adjusted Existing includes a 122 percent increase in existing emissions associated with natural gas usage at the Central Utilities boilers.

Future emissions for all the turbines and boilers on-campus are anticipated to remain constant and were modeled with no additional increases under the proposed 2018 LRDP. No additional growth is planned for the UC San Diego Healthcare La Jolla Medical Center under the proposed 2018 LRDP; therefore, it was assumed that emissions would not increase from the Medical Center boilers and thermal heaters.

The existing crematory emissions were calculated based on the number of charges³ in the year 2015 and emission factors provided by SDAPCD. As no crematory emissions are associated with the near-term development under the 2004 LRDP, no adjustment in

³ Charges refer to the remains.

Table 8
Modeling Parameters for Future (Additional) Generator Sources

Model ID	Campus	Stack Height (m)	Diameter (m)	Velocity (m/s)	Temperature (K)	Easting (m)	Northing (m)	Base Elevation (m)
Future Emergency Generators¹								
F_GEN50	East	5.46	0.54	40.358	837.82	479218.7	3637995.97	104
F_GEN51	East	5.46	0.54	40.358	837.82	479456.84	3637937.84	104
F_GEN52	East	5.46	0.54	40.358	837.82	479305.91	3637741.06	104
F_GEN53	East	5.46	0.54	40.358	837.82	479507.16	3637612.49	104
F_GEN54	East	5.46	0.54	40.358	837.82	478801.68	3637629.26	104
F_GEN55	SIO	1.66	0.54	40.358	837.82	479328.72	3637834.23	104
F_GEN56	SIO	1.66	0.54	40.358	837.82	479259.71	3637627.21	101
F_GEN57	SIO	5	0.74	1.000	810.94	476250.71	3636320.26	10
F_GEN58	SIO	5	0.74	1.000	810.94	476296.68	3636192.22	16
F_GEN59	WEST	5	0.74	1.000	810.94	476625.71	3636812.58	86
F_GEN60	WEST	5	0.74	1.000	810.94	476300.96	3636430.12	13
F_GEN61	WEST	4.63	0.38	30.219	799.74	477128.78	3639005.14	113
F_GEN62	WEST	4.63	0.38	30.219	799.74	477862.5	3637411.81	120
F_GEN63	WEST	4.63	0.38	30.219	799.74	477453.31	3639118.46	121
F_GEN64	WEST	4.63	0.38	30.219	799.74	477481.8	3639188.19	127
F_GEN65	WEST	4.63	0.38	30.219	799.74	477453.35	3637620.46	124
F_GEN66	WEST	4.63	0.38	30.219	799.74	477808.69	3637409.91	126
F_GEN67	WEST	4.63	0.38	30.219	799.74	477294.57	3637083.98	124
F_GEN68	WEST	4.63	0.38	30.219	799.74	477510.56	3637074.05	127
F_GEN69	WEST	4.63	0.38	30.219	799.74	477572.33	3637353.62	120
F_GEN70	WEST	4.63	0.38	30.219	799.74	477847.93	3637286.07	120
F_GEN71	WEST	4.63	0.38	30.219	799.74	478076.19	3637587.77	105
F_GEN72	WEST	4.63	0.38	30.219	799.74	477838.5	3637705.87	112
F_GEN73	WEST	4.63	0.38	30.219	799.74	477786.9	3637903.37	113
F_GEN74	WEST	4.63	0.38	30.219	799.74	477955.61	3638233.35	108

Model ID	Campus	Stack Height (m)	Diameter (m)	Velocity (m/s)	Temperature (K)	Easting (m)	Northing (m)	Base Elevation (m)
F_GEN75	WEST	4.63	0.38	30.219	799.74	478006.72	3638379.73	106
F_GEN76	WEST	4.63	0.38	30.219	799.74	478283.61	3637681.06	101
F_GEN77	WEST	4.63	0.38	30.219	799.74	478073.33	3637695.01	105
F_GEN78	WEST	4.63	0.38	30.219	799.74	477964.08	3637809.31	112
F_GEN79	WEST	4.63	0.38	30.219	799.74	477577.82	3637354.16	120
F_GEN80	WEST	4.63	0.38	30.219	799.74	477408.74	3637029.47	129
F_GEN81	WEST	4.63	0.38	30.219	799.74	478284.99	3637968.94	107
F_GEN82	WEST	4.63	0.38	30.219	799.74	478006.95	3637932.11	108
F_GEN83	WEST	4.63	0.38	30.219	799.74	477465.44	3637446.43	126
F_GEN84	WEST	4.63	0.38	30.219	799.74	477384.43	3637654.6	122
F_GEN85	WEST	4.63	0.38	30.219	799.74	477350.58	3637778.76	124

¹ Future (additional) generators assumed to operate 26 hours annually.

the baseline emissions was made. Future emissions for the crematory under the proposed 2018 LRDP assume a 180 percent increase based on anticipated burn rates. Given that there are two operational periods (2025 Scenario and 2035 Scenario), half of the total emissions increase is applied to the 2025–2034 period and half to the 2035 period. The emission factors and emission calculations are presented in Appendix A.

Laboratory Sources and the Environmental Management Facility (EMF). Reviews of the 2015 chemicals inventory identified 68 individual buildings that exhaust one or more of the TACs, as discussed in Section 2.7, and are subject to HRA modeling. The release of TACs occurs through vents located on the rooftops of each building. The modeling used point sources (stacks) to characterize the release of these rooftop vents and positioning them in the center of the building unless satellite/aerial photos from Google Earth software definitively showed a cluster of vents only on one side of the roof. If the latter was true, then the location of the modeled stack was placed at the center of the cluster of vents.

Stack parameters (release height, diameter, velocity, and gas temperature) for 27 of the 68 laboratory buildings were obtained from the 2004 HRA. A review was conducted to make sure none of the existing building heights exceeded the stack heights provided in the 2004 HRA. There were only five instances where the stack heights modeled in the 2004 HRA were shorter than the existing building heights. For these five cases (i.e., Cellular and Molecular Medicine East, Center for Memory and Recording Research, Mayer and Pacific Halls, and Social Science Research Building) the release height of the stack was updated, using the methodology described below for laboratory buildings that were not included in the 2004 HRA.

For the remaining 41 buildings, (i.e., either new since the 2004 HRA or now containing TACs) stack parameters were assigned based on the available 2004 HRA data. The median stack diameter (0.37 meters) and exhaust velocity (8.05 meters per second [m/s]) from the 2004 stack parameters were used for these additional 41 laboratory releases. The 2018 HRA uses ambient temperature for the building ventilation (294.26 Kelvin) for all laboratory releases in the modeling. The stack release height assigned to all laboratory rooftop vents was two meters above rooftop height. This value was based on photos taken of UC San Diego rooftop ventilation systems that are approximately two meters in height. The two-meter above rooftop height was also applied to the five laboratory buildings identified from the 2004 HRA to have release heights shorter than the existing building. Table 9 summarizes the 68 buildings and their corresponding rooftop vent parameters.

Table 9
Modeling Parameters for Laboratories

Model ID	Source Description	Stack Height (m)	Diameter (m)	Velocity (m/s)	Temperature (K)	Easting (m)	Northing (m)	Base Elevation (m)
VENT1	Sanford Consortium for Regenerative Medicine	26.00	0.37	8.05	294.26	477178.79	3639070.33	114.00
VENT2	Social Sciences Building	22.00	0.37	8.05	294.26	477539.97	3638405.28	133.00
VENT3	Social Science Research Building (Chemistry Research)	16.00	0.44	15.43	294.26	477541.87	3638084.00	127.00
VENT4	Cognitive Science Building	10.00	0.37	8.05	294.26	477593.16	3638066.68	127.00
VENT5	Applied Physics and Mathematics	31.00	0.37	8.05	294.26	477455.98	3637934.57	126.00
VENT6	Mandler Hall	16.00	0.37	8.05	294.26	477348.69	3637928.52	125.00
VENT7	McGill Hall	23.00	0.37	8.05	294.26	477362.63	3637899.16	126.00
VENT8	Biology Building - Muir	27.43	0.37	9.17	294.26	477459.44	3637825.92	126.00
VENT9	Natatorium	9.00	0.37	8.05	294.26	477378.21	3637695.76	121.00
VENT10	Pacific Hall	34.00	0.20	18.19	294.26	477357.94	3637552.15	124.00
VENT11	Natural Sciences Building	32.92	0.61	6.40	294.26	477292.99	3637479.76	125.00
VENT12	Urey Hall	39.32	0.38	15.11	294.26	477420.96	3637510.67	123.00
VENT13	Bonner Hall	17.37	0.30	17.72	294.26	477517.23	3637584.20	124.00
VENT14	Mayer Hall	21.00	0.56	8.95	294.26	477535.94	3637490.62	122.00
VENT15	York Hall	16.00	0.23	10.29	294.26	477526.73	3637404.94	122.00
VENT16	Central Utilities Plant	14.00	0.37	8.05	294.26	477616.00	3637392.80	119.00
VENT17	Joan & Irwin Jacobs Center for La Jolla Playhouse	13.00	0.37	8.05	294.26	477508.48	3637052.02	125.00
VENT18	Mandell Weiss Theatre Shop	14.00	0.37	8.05	294.26	477457.08	3636997.12	125.00
VENT19	George Palade Laboratories for Cellular & Molecular (West)	15.24	0.20	5.02	294.26	477704.44	3637605.59	118.00
VENT20	Cellular and Molecular Medicine East	23.00	0.25	3.84	294.26	477775.31	3637609.15	114.00
VENT21	Leichtag Family Foundation Biomedical Research Building	27.00	0.37	8.05	294.26	477873.26	3637634.08	114.00
VENT22	Biomedical Sciences Building	27.74	0.81	2.17	294.26	477917.77	3637579.24	110.00

Model ID	Source Description	Stack Height (m)	Diameter (m)	Velocity (m/s)	Temperature (K)	Easting (m)	Northing (m)	Base Elevation (m)
VENT23	W. M. Keck Building	8.00	0.37	8.05	294.26	477900.92	3637463.08	108.00
VENT24	Skaggs Pharmaceutical Sciences Building	24.00	0.37	8.05	294.26	477954.70	3637358.09	108.00
VENT25	Biomedical Research Facility II	37.00	0.37	8.05	294.26	478022.37	3637350.12	107.00
VENT26	Medical Education and Telemedicine Center	18.00	0.37	8.05	294.26	478046.75	3637472.77	108.00
VENT27	School of Medicine Building 4 (IMG Clinic)	9.14	0.30	5.11	294.26	478131.24	3637453.91	108.00
VENT28	Stein Clinical Research Building	20.73	0.46	1.80	294.26	478119.21	3637527.19	108.00
VENT29	303 University Center	7.00	0.37	8.05	294.26	477944.32	3637758.41	110.00
VENT30	Student Health and Wellness Center	9.00	0.37	8.05	294.26	477735.07	3637957.45	119.00
VENT31	Science and Engineering Research Facility	23.16	0.56	19.24	294.26	478046.87	3637968.05	108.00
VENT32	Powell Structural Components/Composites Lab	15.00	0.37	8.05	294.26	478012.75	3637986.86	109.00
VENT33	High Bay Physics Laboratory	15.00	0.37	8.05	294.26	478086.47	3637975.92	106.00
VENT34	Visual Arts Facility - Building 1	12.00	0.37	8.05	294.26	478093.69	3637950.77	107.00
VENT35	Structural and Materials Engineering Building	23.00	0.37	8.05	294.26	478175.94	3637984.67	105.00
VENT36	Center for Memory and Recording Research	15.00	0.91	6.10	294.26	477990.82	3638063.18	111.00
VENT37	Powell Structural Systems Laboratory	20.00	0.37	8.05	294.26	478026.08	3638079.57	111.00
VENT38	Engineering Building Unit I	31.09	0.63	3.68	294.26	477993.67	3638177.53	110.00
VENT39	Powell-Focht Bioengineering Hall	21.95	0.36	4.51	294.26	478073.46	3638194.27	108.00
VENT40	Atkinson Hall	47.00	0.37	8.05	294.26	478027.60	3638263.71	107.00
VENT41	Engineering Building Unit II	19.20	0.30	11.64	294.26	478210.26	3638135.76	107.00
VENT42	Campus Services Complex - Shops	10.00	0.37	8.05	294.26	478538.70	3638327.50	100.00
VENT43	Campus Services Complex - Fleet Services Building	10.00	0.37	8.05	294.26	478577.74	3638407.35	99.00
VENT44	Environmental Management Facility	8.00	0.37	8.05	294.26	478541.20	3638469.04	98.00
VENT45	Biology Field Station - Storage and Restroom	8.00	0.37	8.05	294.26	478498.98	3638593.74	90.00
VENT46	Preuss School - Building C	11.00	0.37	8.05	294.26	479252.13	3638272.34	108.00

Model ID	Source Description	Stack Height (m)	Diameter (m)	Velocity (m/s)	Temperature (K)	Easting (m)	Northing (m)	Base Elevation (m)
VENT47	Altman Clinical Translational Research Institute	26.00	0.37	8.05	294.26	478765.67	3637906.10	106.00
VENT48	Shiley Eye Center	16.15	0.56	21.17	294.26	479143.55	3637941.73	104.00
VENT49	Hamilton Glaucoma and Jacobs Retina Center	13.00	0.37	8.05	294.26	479165.35	3637902.06	104.00
VENT50	Moore's Cancer Center	37.00	0.37	8.05	294.26	479197.76	3637769.72	101.00
VENT51	MESOM	13.00	0.37	8.05	294.26	476445.25	3636890.05	56.00
VENT52	Keck Oceanographic and Atmospheric Research - 1	12.00	0.37	8.05	294.26	476547.96	3636869.45	67.00
VENT53	Keck Oceanographic and Atmospheric Research - 3	8.00	0.37	8.05	294.26	476539.73	3636821.57	67.00
VENT54	Fred N. Spiess Hall	15.00	0.37	8.05	294.26	476545.39	3636791.97	66.00
VENT55	Nierenberg Hall	17.68	0.37	11.43	294.26	476510.74	3636755.27	61.00
VENT56	IGPP 4000 - Revelle Laboratory	10.00	0.37	8.05	294.26	476406.69	3636735.85	47.00
VENT57	IGPP - Munk Laboratory	12.00	0.37	8.05	294.26	476336.66	3636717.03	31.00
VENT58	Hubbs Hall	21.18	0.53	3.05	294.26	476292.89	3636620.52	9.00
VENT59	Deep Sea Drilling West	6.00	0.37	8.05	294.26	476447.06	3636626.12	48.00
VENT60	Birch Aquarium at Scripps	11.00	0.37	8.05	294.26	476533.72	3636464.36	70.00
VENT61	Scholander Hall	12.80	0.48	12.26	294.26	476263.75	3636452.61	13.00
VENT62	Kaplan Lab	9.00	0.37	8.05	294.26	476271.37	3636410.94	10.00
VENT63	Ritter Hall	13.11	0.30	8.67	294.26	476260.21	3636383.03	10.00
VENT64	Sverdrup Hall	15.54	0.27	7.32	294.26	476309.70	3636292.25	14.00
VENT65	Center for Neural Circuits and Behavior (Molecular Genetics)	15.85	0.56	18.97	294.26	477711.16	3637535.22	114.00
VENT66	Vaughan Hall, T. Wayland	15.85	1.07	8.05	294.26	476339.54	3636379.48	21.00
VENT67	Medical Teaching Facility	16.76	1.07	6.38	294.26	477981.61	3637557.90	110.00
VENT68	Marine Sciences Development Center - Building C	6.00	0.37	8.05	294.26	476303.67	3636524.79	10.00

Laboratory Emissions

Table 10 presents the emission factors used in this HRA for the laboratory TACs, expressed as grams per second emissions per square footage of wet laboratory space (g/s per ft²). The emission factors were taken directly from the 2004 HRA or obtained from more recent HRAs at other UC campuses.

Maximum emission factors are identified in Table 10. An average ratio of 5.18 was applied to the annual laboratory emission factors to estimate maximum hourly factors.

The emission factors used are broken down by three Lab Types:

- Lab Type I = Chemistry and Chemical Engineering
- Lab Type II = General Biological Sciences
- Lab Type III = Physical Sciences/Other (Engineering, Geology, Physics, etc.)

The emission factors presented in Table 10 are multiplied by estimates of laboratory square footage in order to arrive at laboratory chemical emission rates. Future laboratory square footage under the proposed 2018 LRDP assumes an increase based on a comparison of existing and future laboratory square footage proposed under the 2018 LRDP. The future net increase in laboratory space is approximately 3.4 million GSF. This would yield a 150 percent increase in laboratory emissions. Half of the total emissions increase is applied to the 2025 Scenario and half to the 2035 Scenario. The emission factors and calculations are presented in Appendix A.

Table 11 summarizes the laboratory space used for the emission factor calculation. The annual average laboratory emission factors were based on estimated annual evaporative losses of each chemical per building divided by wet laboratory floor space per building. For buildings with laboratories for which wet laboratory floor space was unavailable, the total laboratory space was used.

Table 10
Laboratory Emission Factors

Chemical	Annual Emissions (g/s per ft ²)	Annual Emissions (g/s per ft ²)	Annual Emissions (g/s per ft ²)	Max Hourly Emissions (g/s per ft ²)	Max Hourly Emissions (g/s per ft ²)	Max Hourly Emissions (g/s per ft ²)
	Lab Type I	Lab Type II	Lab Type III	Lab Type I	Lab Type II	Lab Type III
Acetonitrile	1.265E-08	5.359E-09	4.673E-10	6.553E-08	2.776E-08	2.420E-09
Acrylamide	1.516E-11	6.171E-11	0.000E+00	7.854E-11	3.197E-10	0.000E+00
Ammonia ¹	1.155E-07	7.687E-07	4.387E-08	5.982E-07	3.982E-06	2.272E-07
Benzene	2.250E-09	1.051E-10	7.319E-11	1.165E-08	5.443E-10	3.791E-10
Bromine and compounds	2.142E-10	8.506E-12	3.629E-11	1.110E-09	4.406E-11	1.880E-10
t-Butyl alcohol	1.089E-10	4.575E-08	1.218E-10	5.640E-10	2.370E-07	6.307E-10
Carbon tetrachloride	2.005E-10	6.178E-10	4.811E-10	1.039E-09	3.200E-09	2.492E-09
Chloroform	2.730E-08	8.272E-09	9.796E-10	1.414E-07	4.285E-08	5.074E-09
Dimethylformamide	5.496E-10	3.110E-10	3.315E-12	2.847E-09	1.611E-09	1.717E-11
1,4-Dioxane	2.614E-09	1.966E-10	2.276E-11	1.354E-08	1.018E-09	1.179E-10
Epichlorohydrin	2.460E-11	3.217E-13	0.000E+00	1.274E-10	1.666E-12	0.000E+00
Ethylene Dibromide ¹	0.000E+00	7.687E-07	0.000E+00	0.000E+00	3.982E-06	0.000E+00
Ethylene Dichloride	6.076E-11	2.763E-10	2.529E-09	3.147E-10	1.431E-09	1.310E-08
Ethylene Oxide ¹	0.000E+00	7.687E-07	0.000E+00	0.000E+00	3.982E-06	0.000E+00
Formaldehyde	9.349E-11	7.771E-09	9.832E-10	4.843E-10	4.025E-08	5.093E-09
n-Hexane	1.751E-10	4.214E-10	8.073E-10	9.068E-10	2.183E-09	4.182E-09
Hydrazine	1.185E-11	6.773E-12	5.874E-13	6.136E-11	3.509E-11	3.043E-12
Hydrochloric acid	9.452E-10	1.998E-08	8.539E-09	4.896E-09	1.035E-07	4.423E-08
Hydrofluoric acid	3.195E-12	1.508E-10	1.790E-09	1.655E-11	7.814E-10	9.270E-09
Isopropanol	3.679E-09	2.523E-08	1.751E-08	1.906E-08	1.307E-07	9.071E-08
Methyl alcohol	1.155E-07	8.950E-08	4.387E-08	5.982E-07	4.636E-07	2.272E-07
Methyl bromide	2.911E-10	6.261E-08	0.000E+00	1.508E-09	3.243E-07	0.000E+00
Methylene chloride	1.074E-07	1.237E-09	2.839E-10	5.564E-07	6.410E-09	1.471E-09
Tetrachloroethylene	9.834E-11	5.741E-12	4.900E-11	5.094E-10	2.974E-11	2.538E-10
Toluene	7.734E-09	7.746E-10	4.114E-10	4.006E-08	4.013E-09	2.131E-09
1,1,1-Trichloroethane	2.118E-11	2.374E-11	1.374E-09	1.097E-10	1.230E-10	7.117E-09
Trichloroethylene	0.000E+00	6.249E-11	3.906E-10	0.000E+00	3.237E-10	2.023E-09
Triethylamine	6.538E-10	1.315E-10	0.000E+00	3.387E-09	6.814E-10	0.000E+00
Xylenes (mixed)	2.696E-10	1.543E-09	8.420E-10	1.397E-09	7.994E-09	4.362E-09

¹ Pollutants added that were not modeled in the 2004 HRA assume the maximum emission factor from existing pollutant emission factors in lieu of a pollutant-specific emission factor.

Table 11
Laboratory Type and Square Footage

Building Name	Lab Type	Lab Type I (ASF)	Lab Type II (ASF)	Lab Type III (ASF)	Total Research Lab (ASF)	Total Building ¹ (ASF)
Laboratories with Known Wet Laboratory Space						
303 University Center	2		7665		7665	25018
Biology Building - Muir	2		24072		24072	86440
Biomedical Sciences Building	2		61254		61254	340666
Bonner Hall	2		29052		29052	130003
Cellular and Molecular Medicine East	2		25782		25782	99812
Center for Memory and Recording Research	3			11120	11120	47540
Center for Neural Circuits and Behavior (Molecular Genetics)	2		7499		7499	46999
Engineering Building Unit I	1	41763		24460	66223	257708
Engineering Building Unit II	3			28881	28881	162839
George Palade Laboratories for Cellular & Molecular (West)	2		21352		21352	95567
Hubbs Hall	2		21599		21599	85484
Mayer Hall	3			24774	24774	123868
Medical Teaching Facility	2		23035		23035	107652
Natural Sciences Building	2				73849	188677
Nierenberg Hall	3			10429	10429	50522
Pacific Hall	1	38137	22923		61060	199252
Powell-Focht Bioengineering Hall	2		25451		25451	109803
Ritter Hall	2		10860		10860	42708
Scholander Hall	2		6626		6626	15330
School of Medicine Building 4 (IMG Clinic)	2		550		550	12145
Science and Engineering Research Facility	3			28365	28365	110950
Shiley Eye Center	2		4368		4368	47048
Social Science Research Building (Chemistry Research)	1	4814			4814	58769
Stein Clinical Research Building	2		27189		27189	109920
Sverdrup Hall	3			21562	21562	63764
Urey Hall	1	38075			38075	198919
Vaughan Hall, T. Wayland	2		4287	14156	18443	78408
York Hall	1	20538	15000		35538	130391

Building Name	Lab Type	Lab Type I (ASF)	Lab Type II (ASF)	Lab Type III (ASF)	Total Research Lab (ASF)	Total Building ¹ (ASF)
Laboratories with Unknown Wet Laboratory Space						
Altman Clinical Translational Research Institute	2	---	---	---	39818	413605
Applied Physics and Mathematics	3	---	---	---	22874	191065
Atkinson Hall	3	---	---	---	43031	274483
Biology Field Station - Storage and Restroom	2	---	---	---	1183	2129
Biomedical Research Facility II	2	---	---	---	71255	229651
Birch Aquarium at Scripps	2	---	---	---	1135	76665
Campus Services Complex - Fleet Services Building	3	---	---	---	4540	9296
Campus Services Complex - Shops	3	---	---	---	14982	31554
Central Utilities Plant	3	---	---	---	1120	64281
Cognitive Science Building	2	---	---	---	9217	56053
Deep Sea Drilling West	3	---	---	---	7468	15344
Environmental Management Facility	3	---	---	---	136	17563
Fred N. Spiess Hall	2	---	---	---	2886	21545
Hamilton Glaucoma and Jacobs Retina Center	2	---	---	---	3844	26689
High Bay Physics Laboratory	3	---	---	---	10808	12213
IGPP - Munk Laboratory	3	---	---	---	15801	49189
IGPP 4000 - Revelle Laboratory	3	---	---	---	2667	11759
Joan & Irwin Jacobs Center for La Jolla Playhouse	3	---	---	---	2761	63071
Kaplan Lab / Experimental Aquarium	2	---	---	---	4555	7905
Keck Oceanographic and Atmospheric Research - 1	3	---	---	---	5116	12903
Keck Oceanographic and Atmospheric Research - 3	3	---	---	---	2536	4792
Leichtag Family Foundation Biomedical Research Bldg	2	---	---	---	50507	154860
Mandell Weiss Theatre Shop	3	---	---	---	10412	10412
Mandler Hall	2	---	---	---	10794	30907
Marine Science Development Center - Building C	2	---	---	---	985	4761
McGill Hall	3	---	---	---	17371	87987
Medical Education and Telemedicine Center	2	---	---	---	9356	108652
MESOM	3	---	---	---	10732	40065
Moore's Cancer Center	2	---	---	---	45891	289101
Natatorium	3	---	---	---	8829	10233
Powell Structural Components/Composites Lab	3	---	---	---	7072	10868
Powell Structural Systems Laboratory	3	---	---	---	11161	14218

Building Name	Lab Type	Lab Type I (ASF)	Lab Type II (ASF)	Lab Type III (ASF)	Total Research Lab (ASF)	Total Building ¹ (ASF)
Preuss School - Building C	3	---	---	---	5255	9133
Sanford Consortium for Regenerative Medicine	2	---	---	---	44352	168194
Skaggs Pharmaceutical Sciences Building	2	---	---	---	36320	124968
Social Sciences Building	3	---	---	---	929	84391
Structural and Materials Engineering Building	3	---	---	---	60080	183751
Student Health and Wellness Center	3	---	---	---	677	19052
Visual Arts Facility - Building 1	3	---	---	---	3401	4309
W. M. Keck Building	2	---	---	---	5117	13100

Notes: ASF = assignable square footage. This is the area that can be physically used or assigned laboratory space and only accounts for wall to wall space.

¹ Building ASF obtained from UC San Diego Facilities Information System online portal. Available at <https://facilities.ucsd.edu/Default.htm>.

The loss factors were derived from a study prepared for Stanford University for the Stanford Biology-Chemistry Quadrangle project (Decision Focus 1989). These loss factors, summarized below, represent conservative estimates of evaporative chemical losses that might occur assuming relatively good to relatively poor laboratory practices (Decision Focus 1989). More details can be found in the UC Berkeley *Central Campus Human Health Risk Assessment* (URS 2000).

TACs included in this 2018 HRA are consistent with the evaporative loss rates from the 2004 HRA as well as those used in the recently drafted UC Davis 2018 HRA (UC Davis 2018). A conservative five percent loss rate was assumed for chemicals in general experimental operations, including acetonitrile, benzene, carbon tetrachloride, chloroform, 1,4-dioxane, n-hexane, hydrazine, hydrochloric acid, methanol, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, xylene, bromide, t-butyl alcohol, dimethylformamide, ethyl acetate, ethyl ether, glutaraldehyde, hydrofluoric acid, pyridine, tetrahydrofuran, and triethylamine. For formaldehyde, a 10 percent loss factor from the Decision Focus (1989) report for formaldehyde gels was used for overall formaldehyde use. A 20 percent loss factor was used for ethanol and isopropanol, which is the Decision Focus (1989) study upper bound for dishwashing activities. For methyl bromide (a gas at standard conditions), a conservative 100 percent loss factor was assumed.

Environmental Management Facility

To assess potential emissions from hazardous materials bulking operations at the EMF, 2015 hazardous materials throughput data for the EMF provided by UC San Diego were used. These data listed the annual mass bulked at the EMF by chemical or chemical mixture. The list of chemicals comprising this remaining amount was compared against the list of 47 TACs used to characterize laboratory TAC emissions (see Table 4). These chemicals comprised approximately three percent of the 2015 EMF throughput. The remaining chemicals consisted chiefly of inorganic solutions, buffer solutions, dilute organic solutions, paint thinner, tissue culture media, and cleaners, which would generally be either of low toxicity or low volatility. Therefore, the chemicals selected to characterize EMF emissions provided sufficient characterization of potential health risks both in terms of volatility and toxicity. This is consistent with the methodology performed in the 2004 HRA.

EMF emissions were estimated assuming the same chemical volatilization loss factors used to assess the handling of these TACs in laboratories. Given that there are two operational periods (i.e., 2025 and 2035 Scenarios), half of the total emissions increase is applied to the 2025 Scenario and half to the 2035 Scenario. Appendix A provides a summary of the EMF emission calculations attributable to the proposed 2018 LRDP.

Meteorological Data. AERMOD requires a sequential hourly record of dispersion meteorology representative of the region within which the project would be located. AERMOD was applied with five years (2012 through 2016) of hourly meteorological data consisting of surface observations from the Marine Corps Air Station at Miramar meteorological station. The meteorological station, which is owned and operated by SDAPCD, is located at 32.845°N and 117.124°W, approximately six miles to the southeast of the UC San Diego campus. A wind rose showing five years of data is shown in Figure 4. The wind rose indicates that the predominant wind direction is from the west-northwest to northwest. SDAPCD processed the meteorological data and provided it in AERMOD-ready format.

Building Downwash. When sources are located near or on buildings or structures, the dispersion of the plume can be influenced. Under certain wind speeds, the wake produced on the lee or sheltered side of the building can cause the plume to be pulled toward the ground near the building resulting in higher concentrations close to the building. These effects are called building downwash.

Federal stack height regulations limit the stack height used in performing dispersion modeling to predict the air quality impact of a source for purposes of setting a new emission limit for stacks placed into operation after 1970. Sources must be modeled at the actual physical stack height unless that height exceeds the Good Engineering Practice (GEP) formula stack height. If the physical stack height is less than the formula GEP height, the potential for the source's plume to be affected by aerodynamic wakes created by the building(s) must be evaluated in the dispersion modeling analysis.

A GEP stack height analysis has been performed for all stationary sources in accordance with EPA's "Guideline for Determination of Good Engineering Practice Stack Height" (EPA 1985). A GEP stack height is defined as the greater of 65 meters (213 feet), measured from the ground elevation of the stack, or the formula height (H_g), as determined from the following equation:

$$H_g = H_B + 1.5 L$$

where:

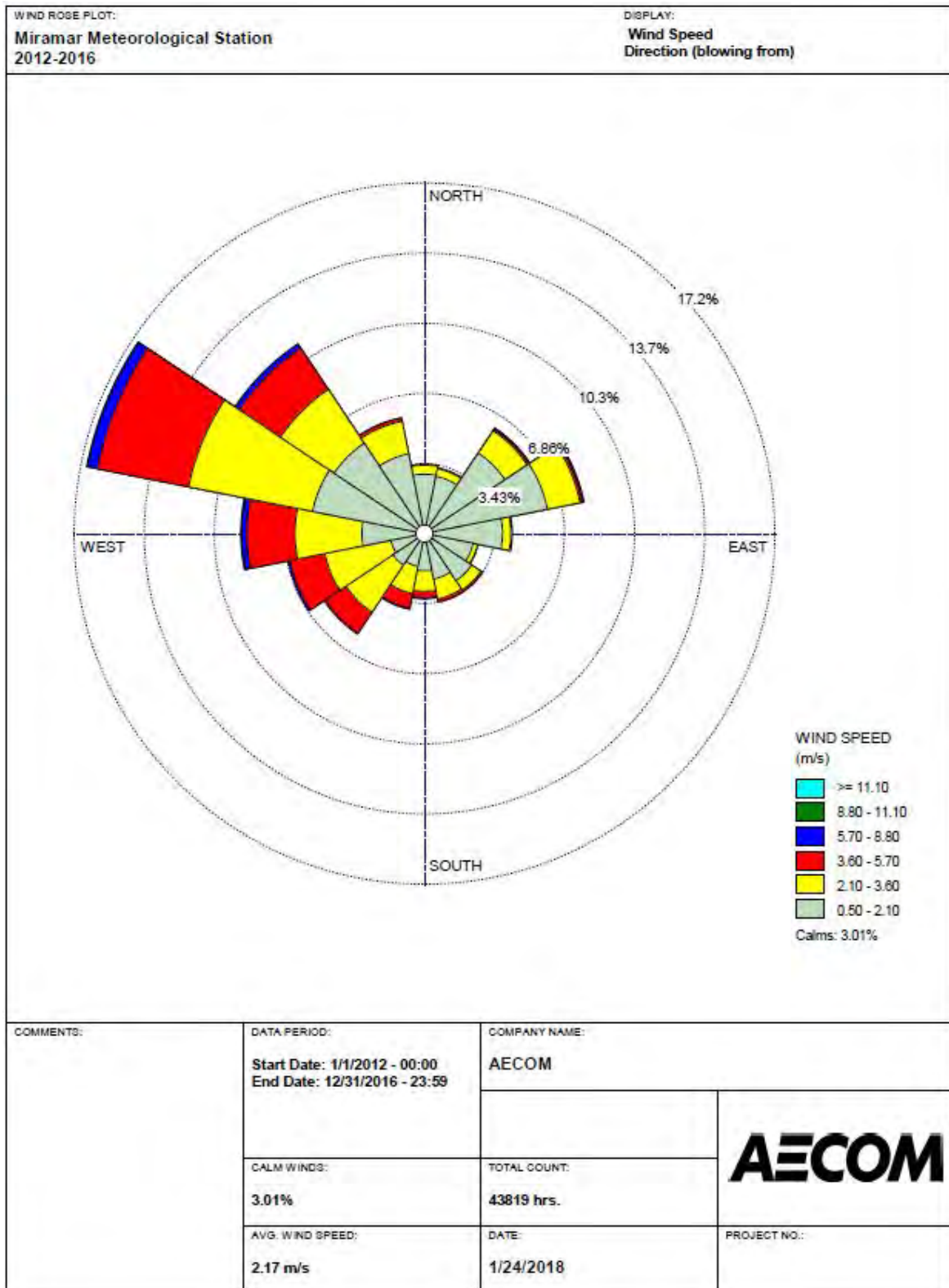
H_B is the height of the nearby structure which maximizes H_g , and

L is the lesser dimension (height or projected width) of the building (H_B).

For a squat structure, i.e., height less than projected width, the formula reduces to:

$$H_g = 2.5H_B.$$

Figure 4
Wind Rose for Miramar Station 2012-2016



In the absence of influencing structures, a “default” GEP stack height is credited up to 65 meters (213 feet). Both the height and the width of the building are determined through a vertical cross-section perpendicular to the wind direction. In all instances, the GEP formula height is based upon the highest value of H_g as determined from H and L over all nearby buildings over the entire range of possible wind directions. For the purposes of determining the GEP formula height, only buildings within $5L$ of the source of interest are considered.

The existing emission stacks on campus are less than GEP formula height and thus were considered in the downwash analysis. Due to the complexity of the stack/building relationships on the UC San Diego campus, the analysis included all buildings that could potentially influence each stationary emission point source. Figure 5 illustrates the buildings and point source locations included in the downwash analysis for existing sources.

Building downwash analysis was also conducted for future stationary point sources (i.e., emergency generators). Figure 6 shows the point source locations included in the downwash analysis for future emergency generator sources.

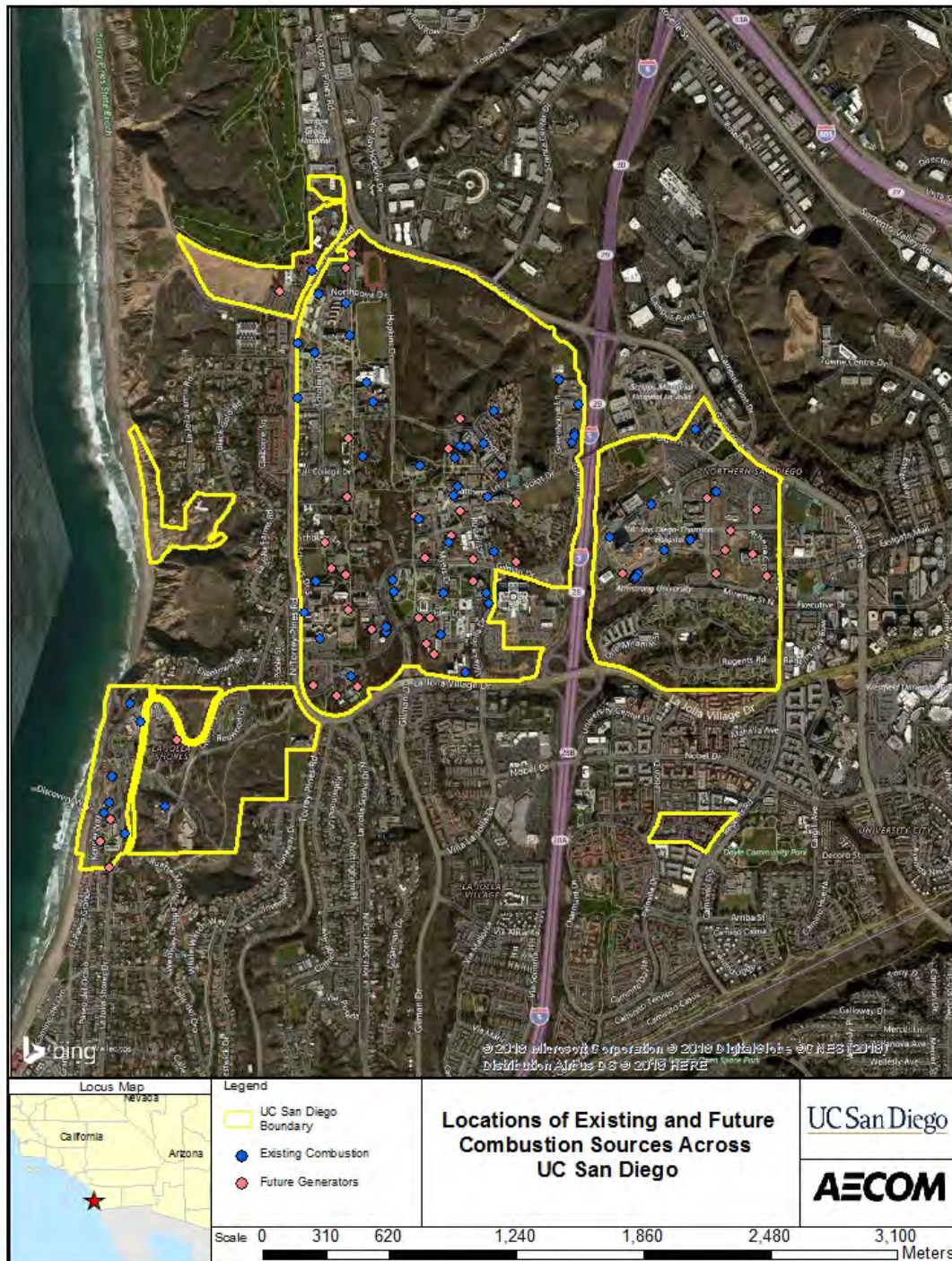
Terrain and Receptor Data Processing. Terrain elevations were obtained from commercially available digital terrain elevations developed by the U.S. Geological Survey by using its National Elevation Dataset (NED). The NED data provide terrain elevations with one-meter vertical resolution and 10-meter ($1/3$ arc-second) horizontal resolution based on a Universal Transverse Mercator (UTM) coordinate system. The U.S. Geological Survey specifies coordinates in North American Datum 83, UTM Zone 11. EPA’s AERMAP software was used to process the NED data and assign elevations to the receptor locations and sources. AERMAP is the terrain pre-processor of AERMOD that characterizes the terrain and generates receptor elevations. Electronic files containing these terrain elevations are included in Appendix A.

A nested Cartesian grid was used for the placement of off-campus receptors. Receptors were placed at 50-meter increments along the campus border and extending out 500 meters from the campus boundaries. For distances between 500 meters and one kilometer from the campus border, 100-meter receptor increments were used, and 250-meter increments between 1 and 2 kilometers. Figures 7 and 8 show the off-campus and on-campus receptors, respectively, for the construction and operational HRA. Additional off-campus sensitive receptors (Figure 9) were included in the HRA to account for schools, daycare facilities, and senior living centers within 5 kilometers of the La Jolla campus. Table 12 lists the names, type of facility and location of the sensitive receptors shown in Figure 9.

Figure 5
Existing Combustion Sources and Buildings

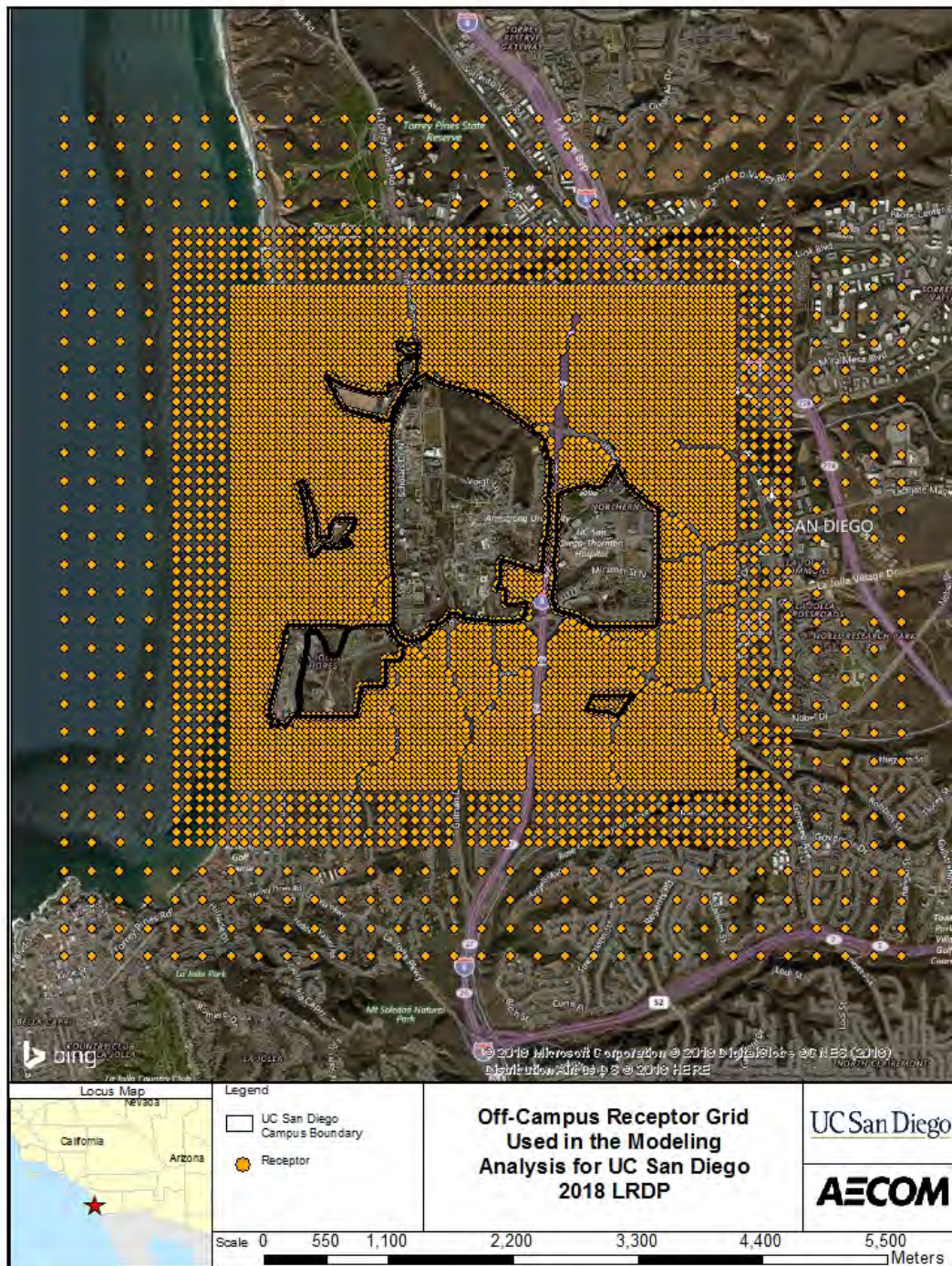


Figure 6
Existing and Future Combustion Sources by 2035



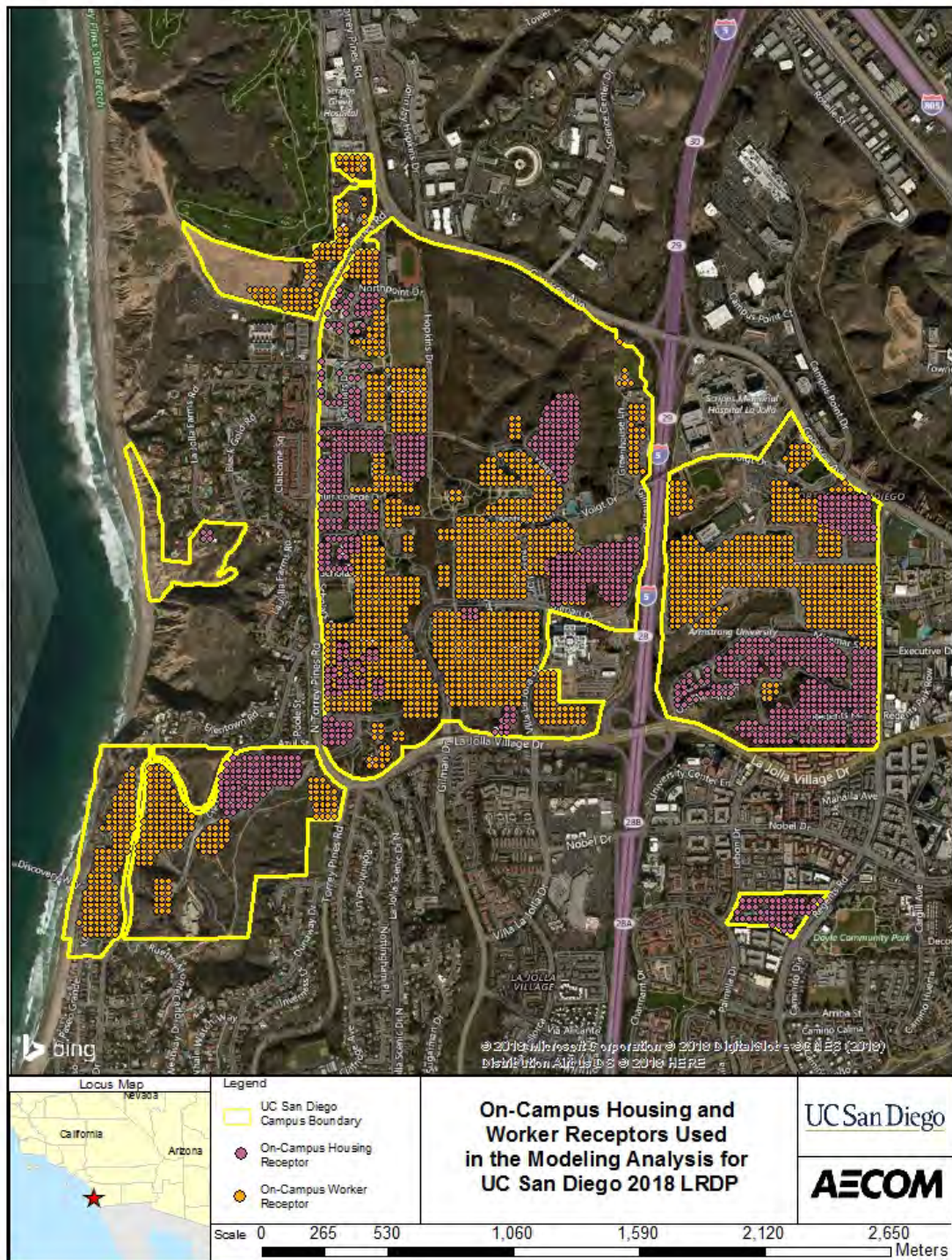
Note: Existing combustion sources include campus boilers, thermal heaters, turbines, crematory, and emergency generators. Future generators represent the new emergency generators to be installed under the proposed 2018 LRDP.

Figure 7
Construction HRA Off-Campus Receptor Grid



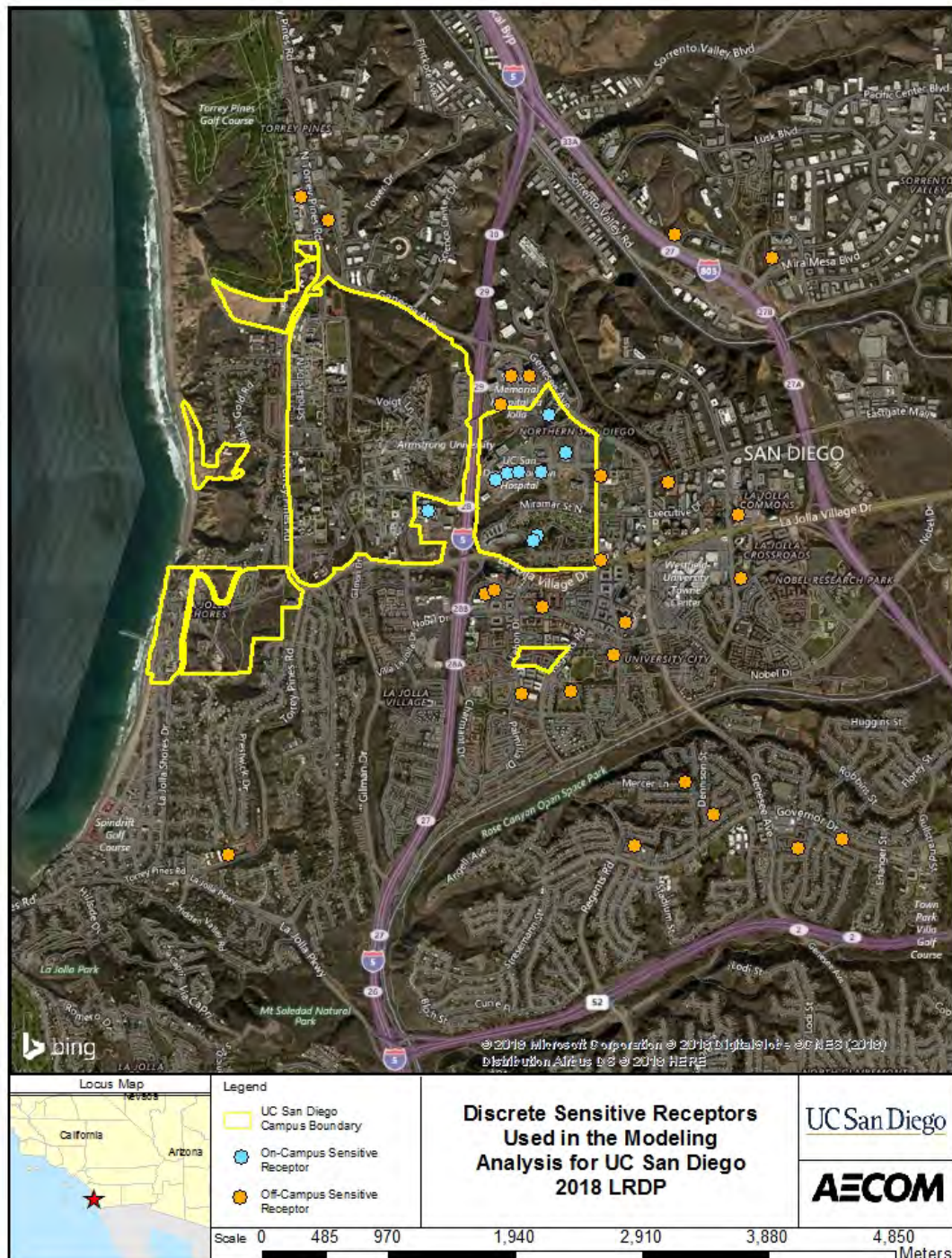
Notes: Receptor spacing along campus boundary out to 500 meters is at intervals of 50 meters. Receptor spacing is 100 meters at distances between 500 meters and one kilometer from campus and 250 meter spacing is used for distances one to two kilometers from campus.

Figure 8
Construction HRA On-Campus Receptor Grid



Notes: Receptors are placed on areas designated as housing (for students/staff) or non-housing (workers/staff) from UC San Diego land use categories. On-campus receptors are set to be 25 meters apart.

Figure 9
Construction HRA Sensitive Receptors



Notes: Sensitive receptors are defined as schools, hospitals, resident care facilities, day-care centers, or other facilities that may house individuals who are particularly susceptible to health effects or that would be adversely impacted by changes in air quality.

Table 12
On- and Off-Campus Sensitive HRA Receptors

Location	Description	Easting (m)	Northing (m)
Scripps Green Hospital	Hospital	477306.34	3639908.50
Prebys Cardiovascular Institute	Health Clinic	479060.08	3638535.25
Scripps Memorial Hospital	Hospital	478919.59	3638536.05
Veterans Administration Medical Center	Health Clinic	478281.80	3637503.92
VA Medical Center - La Jolla	Health Clinic	479610.32	3637127.48
University Ambulatory Surgery Center	Health Clinic	478789.92	3636899.04
UC San Diego Healthcare - Dermatology	Health Clinic	478719.34	3636871.21
Health Point Wellness Clinic	Health Clinic	480921.57	3639445.21
UC San Diego Healthcare - Maternal Fetal, Care	Health Clinic	480173.54	3639618.79
Perlman Clinic La Jolla	Health Clinic	478840.60	3638319.59
Preuss School UC San Diego	School	479207.23	3638240.31
La Jolla Country Day School	School	479603.26	3637776.30
East Gate Christian School	School	480118.94	3637727.03
Torah High School - San Diego	School	480683.93	3636992.23
Doyle Elementary School	School	479378.33	3636118.74
Barnett School	School	479004.42	3636102.77
Pacific Regent La Jolla	Retirement	479156.95	3636766.87
Classic Residence Vi Community	Retirement	479795.65	3636654.54
The Patrician, A Merrill Gardens Community	Retirement	479701.40	3636399.76
Right Choice Senior Living University City La Jolla	Retirement	480466.73	3635179.36
Elder Answers	Retirement	479866.33	3634936.88
University City Guest Home	Nursing Home	480256.19	3635423.00
La Jolla Nursing & Rehabilitation Center	Nursing Home	476753.05	3634875.52
Gluck Child Care Center	Daycare	477521.57	3639727.88
Bright Horizons	Daycare	480656.28	3637476.93
Day Marisols Care	Daycare	481458.58	3634990.21
Kinder Care Learning Center - University City	Daycare	481119.58	3634924.27
UC San Diego Early Childhood Education Center	Daycare	479115.60	3637314.28
UC San Diego Mesa Child Development Center	Daycare	479090.73	3637273.75
UC San Diego Healthcare La Jolla Hospital - Tower	Hospital	478800.67	3637743.97
Perlman Ambulatory Care Center	Hospital	478888.59	3637788.89
UC San Diego Healthcare La Jolla - Campus Point Drive	Hospital	478979.18	3637799.74
Moore's Cancer Center	Health Clinic	479151.94	3637799.15
Medical Center Modular Building 1 & 2	Health Clinic	479341.15	3637953.11

On-campus receptors were placed at 25-meter increments to include campus student housing (i.e., dormitories and apartments) and facilities where university staff and students may gather or work. All coordinates for sources and receptors were specified in North American Datum 83, UTM Zone 11.

Schedule, Source Parameters, and Emissions Summary. For the construction portion of the HRA analyses, the operating schedule of the construction equipment used at the project site was assumed to be 7 a.m. to 7 p.m., Monday through Saturday. The release height used for each area source was the elevation of the terrain for that given location that construction would be conducted. The dimensions of the construction area sources were based on preliminary building layout footprints provided and incorporating a “buffer” of 10 to 20 meters beyond the footprints. This buffer increases the area of the construction zone allowing for both an increase in the conservatism of the modeling and flexibility for changes to the building layouts, if necessary.

For the traffic sources in the operational HRA analysis, the volume source parameters used in the air dispersion model to evaluate TAC emissions from Interstate 805 (I-805) westward to the Pacific Ocean coastline on the project site receptors are summarized in Table 13. Figure 10 illustrates the road segment volume sources used in the modeling. Road segments included in the HRA analysis are based on the maps in the transportation impact study developed by LLG (LLG 2018).

Table 13
Traffic Volume-Source Release Parameters for the HRA

Description of Road Segment	Road Width (ft)	Road Width (m)	Model ID	Plume Height (m)	Plume Width (m)	Release Height (m)	Initial Lateral Dimension (m)	Initial Vertical Dimension (m)	# Volume Sources	Total Length (m)
La Jolla Shores Dr (North of El Paseo Grande and South of Shellback Way)	39.21	11.95	LJALL1	4.00	11.95	2.00	5.56	1.86	63.00	748.40
La Jolla Shores Dr (North of Shellback Way and South of Farms Rd)	37.30	11.37	LJALL2	4.00	11.37	2.00	5.29	1.86	113.00	1284.80
La Jolla Shores Dr (North of Farms Rd and South of Torrey Pines Rd)	40.06	12.21	LJALL3	4.00	12.21	2.00	5.68	1.86	8.00	97.10
Expedition Way (West of Shellback Way and East of Torrey Pines Rd)	33.17	10.11	EXPWY	4.00	10.11	2.00	4.70	1.86	101.00	1018.10
Torrey Pines Rd (North of Expedition Way and South of La Jolla Shores Dr)	80.64	24.58	TORR1	4.00	24.58	2.00	11.43	1.86	20.00	500.90
Torrey Pines Rd (North of La Jolla Shores Dr and South of Pangea Dr)	85.79	26.15	TORR2	4.00	26.15	2.00	12.16	1.86	35.00	908.70
Torrey Pines Rd (North of Pangea Dr and South of Salk Institute Rd)	92.06	28.06	TORR3	4.00	28.06	2.00	13.05	1.86	9.00	248.80
Torrey Pines Rd (North of Salk Institute Rd and South of Torrey Pines Scenic Dr)	78.74	24.00	TORR4	4.00	24.00	2.00	11.16	1.86	8.00	181.00
Torrey Pines Rd (North of Torrey Pines Scenic Dr and South of North Point Dr)	75.89	23.13	TORR5	4.00	23.13	2.00	10.76	1.86	8.00	193.30
Torrey Pines Rd (North of North Point Dr and South of Genesee Ave)	102.53	31.25	TORR6	4.00	31.25	2.00	14.53	1.86	12.00	374.20
Torrey Pines Rd (North of Torrey Pines Rd and South of John Jay Hopkins Dr)	130.54	39.79	TORR7	4.00	39.79	2.00	18.51	1.86	18.00	706.20

Description of Road Segment	Road Width (ft)	Road Width (m)	Model ID	Plume Height (m)	Plume Width (m)	Release Height (m)	Initial Lateral Dimension (m)	Initial Vertical Dimension (m)	# Volume Sources	Total Length (m)
Genesee Ave (North of Science Center Dr and South of Torrey Pines Rd)	127.13	38.75	GENE1	4.00	38.75	2.00	18.02	1.86	18.00	706.20
Genesee Ave (North of I-5 and South of Science Center Dr)	86.61	26.40	GENE2	4.00	26.40	2.00	12.28	1.86	22.00	587.30
Genesee Ave (North of Scripps Hospital Dr and South of I-5)	79.59	24.26	GENE3	4.00	24.26	2.00	11.28	1.86	25.00	611.10
Genesee Ave (North of Campus Point Dr and South of Scripps Hospital Dr)	108.99	33.22	GENE4	4.00	33.22	2.00	15.45	1.86	10.00	340.20
Genesee Ave (North of Regents Rd and South of Campus Point Dr)	105.38	32.12	GENE5	4.00	32.12	2.00	14.94	1.86	7.00	235.80
Genesee Ave (North of Eastgate Mall and South of Regents Rd)	98.88	30.14	GENE6	4.00	30.14	2.00	14.02	1.86	18.00	553.20
Genesee Ave (North of La Jolla Village Dr and South of Eastgate Mall)	103.08	31.42	GENE7	4.00	31.42	2.00	14.61	1.86	18.00	555.70
Genesee Ave (North of Nobel Dr and South of La Jolla Village Dr)	109.32	33.32	GENE8	4.00	33.32	2.00	15.50	1.86	19.00	641.80
Genesee Ave (North of University H.S. Dwy and South of La Jolla Village Dr)	77.79	23.71	GENE9	4.00	23.71	2.00	11.03	1.86	53.00	1267.40
Genesee Ave (North of Governor Dr and South of University H.S. Dwy)	100.56	30.65	GENE10	4.00	30.65	2.00	14.26	1.86	13.00	392.00
Eastgate Mall (West of Genesee Ave)	67.59	20.60	EGATE	4.00	20.60	2.00	9.58	1.86	121.00	2496.80
Eastgate Mall (East of Genesee Ave and West of Regents Rd)	64.30	19.60	EGATE2	4.00	19.60	2.00	9.12	1.86	21.00	404.10
Miramar Rd (East of I-805)	117.36	35.77	MIRAMAR	4.00	35.77	2.00	16.64	1.86	34.00	1222.60

Description of Road Segment	Road Width (ft)	Road Width (m)	Model ID	Plume Height (m)	Plume Width (m)	Release Height (m)	Initial Lateral Dimension (m)	Initial Vertical Dimension (m)	# Volume Sources	Total Length (m)
La Jolla Village Dr (West of I-805 and East of Towne Center Dr)	127.99	39.01	LJVD1	4.00	39.01	2.00	18.14	1.86	20.00	770.40
La Jolla Village Dr (West of Towne Center Dr and East of Executive Way)	101.57	30.96	LJVD2	4.00	30.96	2.00	14.40	1.86	7.00	219.40
La Jolla Village Dr (West of Executive Way and East of Genesee Ave)	105.84	32.26	LJVD3	4.00	32.26	2.00	15.00	1.86	13.00	423.00
La Jolla Village Dr (West of Genesee Ave and East of Regents Rd)	110.07	33.55	LJVD4	4.00	33.55	2.00	15.60	1.86	12.00	404.50
La Jolla Village Dr (West of Regents Rd and East of Lebon Dr)	102.40	31.21	LJVD5	4.00	31.21	2.00	14.52	1.86	17.00	540.70
La Jolla Village Dr (West of Lebon Dr and East of I-5)	105.71	32.22	LJVD6	4.00	32.22	2.00	14.99	1.86	18.00	574.50
La Jolla Village Dr (West of I-5 and East of Villa La Jolla Dr)	117.65	35.86	LJVD7	4.00	35.86	2.00	16.68	1.86	12.00	431.40
La Jolla Village Dr (West of Villa La Jolla Dr and East of Expedition Way)	117.49	35.81	LJVD8	4.00	35.81	2.00	16.66	1.86	28.00	990.60
Torrey Pines Rd (South of La Jolla Village Dr)	105.15	32.05	TORR8	4.00	32.05	2.00	14.91	1.86	29.00	934.70
Regents Rd (North of Health Sciences Way and South of Genesee Ave)	23.65	7.21	REGENT1	4.00	7.21	2.00	3.35	1.86	35.00	252.10
Regents Rd (North of Athena Way and South of Health Sciences Dr)	32.28	9.84	REGENT2	4.00	9.84	2.00	4.58	1.86	19.00	190.60
Regents Rd (North of Miramar St N and South of Athena Way)	55.05	16.78	REGENT3	4.00	16.78	2.00	7.80	1.86	11.00	190.60

Description of Road Segment	Road Width (ft)	Road Width (m)	Model ID	Plume Height (m)	Plume Width (m)	Release Height (m)	Initial Lateral Dimension (m)	Initial Vertical Dimension (m)	# Volume Sources	Total Length (m)
Regents Rd (North of Miramar St S and South of Miramar St N)	57.22	17.44	REGENT4	4.00	17.44	2.00	8.11	1.86	16.00	273.70
Regents Rd (North of La Jolla Village Dr and South of Miramar St S)	74.51	22.71	REGENT5	4.00	22.71	2.00	10.56	1.86	5.00	120.10
Regents Rd (North of Nobel Dr and South of La Jolla Village Dr)	89.21	27.19	REGENT6	4.00	27.19	2.00	12.65	1.86	15.00	419.80
Regents Rd (South of Nobel Dr)	87.30	26.61	REGENT7	4.00	26.61	2.00	12.38	1.86	45.00	1192.10
Nobel Rd (West of Miramar Rd and East of Judicial Dr)	102.33	31.19	NOBEL1	4.00	31.19	2.00	14.51	1.86	38.00	1175.00
Nobel Rd (West of Judicial Dr and East of Shoreline Dr)	100.56	30.65	NOBEL2	4.00	30.65	2.00	14.26	1.86	15.00	468.20
Nobel Rd (West of Shoreline Dr and East of Towne Center Dr)	100.20	30.54	NOBEL3	4.00	30.54	2.00	14.20	1.86	26.00	778.90
Nobel Rd (West of Towne Center Dr and Genesee Ave)	84.94	25.89	NOBEL4	4.00	25.89	2.00	12.04	1.86	20.00	519.30
Nobel Rd (West of Genesee Ave and East of Costa Verde Blvd)	102.00	31.09	NOBEL5	4.00	31.09	2.00	14.46	1.86	8.00	261.30
Nobel Rd (West of Costa Verde Blvd and East of Regents Rd)	106.50	32.46	NOBEL6	4.00	32.46	2.00	15.10	1.86	8.00	260.00
Nobel Rd (West of Regents Rd and East of Lebon Dr)	95.60	29.14	NOBEL7	4.00	29.14	2.00	13.55	1.86	19.00	550.30
Nobel Rd (West of Lebon Dr and East of I-5)	99.38	30.29	NOBEL8	4.00	30.29	2.00	14.09	1.86	15.00	441.60
Nobel Rd (West of I-5 and East of Villa La Jolla Dr)	81.00	24.69	NOBEL9	4.00	24.69	2.00	11.48	1.86	15.00	358.10
Towne Center Dr (North of Noble Dr and South of La Jolla Village Dr)	74.11	22.59	TOWN1	4.00	22.59	2.00	10.51	1.86	43.00	979.50

Description of Road Segment	Road Width (ft)	Road Width (m)	Model ID	Plume Height (m)	Plume Width (m)	Release Height (m)	Initial Lateral Dimension (m)	Initial Vertical Dimension (m)	# Volume Sources	Total Length (m)
Towne Center Dr (North of La Jolla Village Dr)	78.54	23.94	TOWN2	4.00	23.94	2.00	11.13	1.86	78.00	1866.20
Executive Dr (East of Regents Rd and West of Genesee Ave)	59.84	18.24	EXEC1	4.00	18.24	2.00	8.48	1.86	21.00	380.60
Executive Dr (East Genesee Ave)	68.77	20.96	EXEC2	4.00	20.96	2.00	9.75	1.86	56.00	1177.50
Villa La Jolla Dr (North of Nobel Dr and South of La Jolla Village Dr)	78.31	23.87	VILLA1	4.00	23.87	2.00	11.10	1.86	19.00	447.40
Villa La Jolla Dr (North of Gilman Dr and South of Noble Dr)	79.99	24.38	VILLA2	4.00	24.38	2.00	11.34	1.86	21.00	501.60
Gilman Dr (North of Villa La Jolla Dr and South of La Jolla Village Dr)	79.27	24.16	GILM1	4.00	24.16	2.00	11.24	1.86	35.00	842.30
Gilman Dr (South of Villa La Jolla Dr)	72.34	22.05	GILM2	4.00	22.05	2.00	10.26	1.86	73.00	1600.10
Gilman Dr (North of La Jolla Village Dr and East of Villa La Jolla Dr)	64.14	19.55	GILM3	4.00	19.55	2.00	9.09	1.86	55.00	1067.50
I-5 (North of Genesee Ave)	127.40	38.83	INT5_A	4.00	38.83	2.00	18.06	1.86	22.00	857.50
I-5 (North of La Jolla Village Dr and South of Genesee Ave)	134.32	40.94	INT5_B	4.00	40.94	2.00	19.04	1.86	40.00	1629.30
I-5 (North of Nobel Dr and South of La Jolla Village Dr)	132.35	40.34	INT5_C	4.00	40.34	2.00	18.76	1.86	10.00	388.30
I-5 (North of Gilman Dr and South of Nobel Dr)	134.48	40.99	INT5_D	4.00	40.99	2.00	19.07	1.86	53.00	2152.00
I-5 (South of Gilman Dr)	146.36	44.61	INT5_E	4.00	44.61	2.00	20.75	1.86	14.00	624.80
I-805 (North of Miramar Rd)	190.98	58.21	INT805_A	4.00	58.21	2.00	27.07	1.86	18.00	1028.60
I-805 (North of Nobel Dr and South of Miramar Rd)	204.10	62.21	INT805_B	4.00	62.21	2.00	28.93	1.86	11.00	688.90
I-805 (South of Nobel Dr)	190.65	58.11	INT805_C	4.00	58.11	2.00	27.03	1.86	27.00	1592.30

Figure 10
HRA Road Source Segments



Notes: Selection of road segments based on the maps in the Transportation Impact Study developed by LLG (LLG 2018).

All sources were modeled with 1 g/s divided by the area for area sources or 1 g/s emission rates in AERMOD. The resulting plot files for each source were imported to the HARP2 Air Dispersion and Risk Tool (Version 17320). The emission rates were imported via CSV (comma-separated value) file and assigned to each source. Based on guidance from SDAPCD (SDAPCD 2015), the options selected in HARP2 for the estimation of cancer risk are summarized in Table 14.

Table 14
Summary of HARP2 Options

Option	On-Campus		Off-Campus		Sensitive Groups ¹
	Cancer - Resident	Cancer - Worker	Cancer - Resident	Cancer - Worker	Cancer - Resident
Start Age (year)	18	16	Third Trimester	16	Varies ²
Exposure Duration (years)	4	25	30	25	12
Method	RMP using Derived Method	OEHHA Derived Method	RMP using Derived Method	OEHHA Derived Method	RMP using Derived Method
FAH	No	N/A	No	N/A	No
8-hour Breathing Rates	N/A	Yes, Moderate	N/A	Yes, Moderate	N/A

Notes: ¹ Sensitive groups include on- and off-campus schools, hospitals, resident care facilities, daycare centers, or other facilities that may house individuals who are particularly susceptible to health effects that would be adversely impacted by changes in air quality.

² Starting age for daycare facilities and UC San Diego Healthcare La Jolla = Third Trimester, starting age for schools = 4 years, all remaining sensitive receptors starting age = 16 years.

N/A = not applicable; OEHHA = Office of Environmental Health Hazard Assessment; RMP = ARB Risk Management Policy.

4.3 PROJECT IMPACTS

This section determines whether the potential impacts from construction and operation associated with implementation of the 2018 LRDP would result in a significant impact according to significance thresholds from SDAPCD summarized in Tables 5 and 6. Significant impacts are defined below in relation to the standards of significance outlined in Section 4.1. If the project would exceed the applicable threshold and potentially result in a significant impact, mitigation measures are required to reduce the potential impact to below a level of significance. If the project would not exceed the applicable standard, mitigation measures are not required.

Would the project conflict with or obstruct implementation of the applicable air quality plan?

Air quality plans describe air pollution control strategies to be implemented by a city, county, or regional air district. The primary purpose of an air quality plan is to bring an area that does not attain federal and state air quality standards into compliance with those standards pursuant to the requirements of the CAA and CCAA.

Air quality planning efforts are based on analysis and forecasts of air pollutant emissions throughout the entire region. The regional air quality plan for San Diego County is SDAPCD's RAQS, which is also the applicable portion of the SIP. The RAQS was developed pursuant to CCAA requirements, and identifies feasible emissions control measures to provide expeditious progress toward attaining the state ozone standard in San Diego County.

Projects that are consistent with the assumptions used in development of the applicable air quality plan are considered to not conflict with or obstruct the attainment of the air quality levels identified in the plan. The use of construction equipment in the RAQS is estimated for the region on an annual basis, and construction-related emissions are estimated as an aggregate in the RAQS. Therefore, the project would not increase the assumptions for off-road equipment use in the RAQS.

Assumptions for land use development used in the RAQS are taken from local and regional planning documents. Emission forecasts rely on projections of VMT by the Metropolitan Planning Organizations, such as SANDAG, and population, employment, and land use projections made by local jurisdictions during development of the area and general plans.

While the RAQS acknowledges mobile and area sources, minor changes in the assumptions relative to these sources would not obstruct successful implementation of the strategies for improvement of SDAB's air quality. The entire UC San Diego campus (100 percent) is located within one-half mile of high-frequency transit (15-minute headways or lower), which includes major transit stops, high-quality transit corridors, and shuttle stops, which will reduce trips and VMT. The UC San Diego campus is also identified as a Transit Priority Project Area with several roadways (i.e., La Jolla Village Drive, Nobel Drive, Genesee Avenue, North Torrey Pines Road, Regents Road) classified as a high-quality Transit Corridor.

The proposed 2018 LRDP incorporates the following strategies to ensure that mobility is preserved within the community and across the region:

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- Promote pedestrian and bicycle mobility
 - Improved transit accessibility, ridership, and performance
 - Promote TDM strategies
 - Ensure improvements support planned local and regional projects

The proposed 2018 LRDP land uses are generally consistent with the current campus land use types. Since the proposed 2018 LRDP incorporates strategies identified in the SANDAG Regional Transportation Plan and Sustainable Communities Strategy by integrating land use, housing, and transportation planning, the proposed 2018 LRDP is consistent with the goals developed by SANDAG. In addition, as shown in the TIS, implementation of the 2018 LRDP would result in lower VMT per capita and per employee than the San Diego regional averages (LLG 2018).

Because implementation of the 2018 LRDP would be consistent with the Smart Growth vision for the region and would result in less VMT than the regional average, the proposed 2018 LRDP would not conflict with or obstruct implementation of the applicable air quality plan. This impact would be less than significant.

Would the project cause a violation of any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction

Construction emissions are described as “short-term” or temporary in duration; however, they have the potential to represent a significant impact with respect to air quality. Construction of the project would result in the temporary generation of VOC, NO_x, CO, SO₂, PM₁₀, and PM_{2.5} emissions. VOC, NO_x, CO, and SO₂ emissions are primarily associated with mobile equipment exhaust, including off-road construction equipment and on-road motor vehicles. Fugitive PM dust emissions are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and VMT by construction vehicles on and off campus.

Construction emissions were estimated separately for West Campus, East Campus, and SIO. However, since construction activities could occur at all three areas of campus at the same time, emissions from each area were combined to estimate maximum daily construction emissions for the campus as a whole and then compared to the standards of significance. Table 15 presents total construction emissions associated with implementation of the 2018 LRDP for the 2025 and 2035 Scenarios. Additional modeling assumptions and details are provided in Appendix A.

Table 15
Estimated Unmitigated Maximum Daily Construction Emissions

	VOC	NO _x	CO	SO ₂	PM ₁₀ ¹	PM _{2.5} ¹
2025 Scenario						
West Campus	48.56	216.26	158.54	0.34	47.61	25.70
East Campus	59.59	210.61	147.63	0.30	44.98	24.95
SIO	11.63	93.97	57.65	0.10	16.49	10.38
2025 Scenario Total	119.78	520.84	363.82	0.74	109.08	61.02
2035 Scenario						
West Campus	31.73	105.90	111.20	0.27	37.23	19.02
East Campus	29.48	106.61	113.65	0.28	38.26	19.30
SIO	20.13	84.92	90.16	0.19	30.75	17.28
2035 Scenario Total	81.33	297.44	315.01	0.73	106.24	55.60
Maximum Daily Construction Emissions (lbs/day)	119.78	520.84	363.82	0.74	109.08	61.02
Standard of Significance (lbs/day)	137	250	550	250	100	55
<i>Significant Impact?</i>	No	Yes	No	No	Yes	Yes

Notes: Totals may not add due to rounding. Values are rounded to the nearest hundredth.

¹ PM₁₀ emissions shown include the sum of particulate matter with aerodynamic diameter 0 to 2.5 microns and particulate matter with aerodynamic diameter 2.5 to 10 microns.

VOC = volatile organic compounds; NO_x = oxides of nitrogen; CO = carbon monoxide; SO₂ = sulfur dioxide; PM₁₀ = suspended particulate matter; PM_{2.5} = fine particulate matter; lbs/day = pounds per day

As shown in Table 15, construction-generated emissions of NO_x, PM₁₀, and PM_{2.5} would exceed maximum daily standards established by the City of San Diego. Therefore, unmitigated construction emissions could violate an ambient air quality standard or contribute substantially to an existing violation.

The emission estimates presented in Table 15 assume compliance with SDAPCD Rule 67.0.1 Architectural Coatings. In addition, although development projects in the proposed 2018 LRDP would also be subject to SDAPCD Rule 55 (Fugitive Dust Control), compliance with Rule 55 does not necessarily ensure that the construction emissions would not exceed the applicable standards of significance. Therefore, implementation of mitigation measures would be required to reduce criteria pollutant emissions.

MM-AQ-1 Implement Measures to Control Particulate Matter Emissions Generated by Construction Activities. UC San Diego shall require by contract specification that contractors implement the following measures during all phases of construction of individual projects developed under the proposed 2018 LRDP:

- Water the grading areas a minimum of twice daily to minimize fugitive dust;
- Stabilize graded areas as quickly as possible to minimize fugitive dust;
- Apply chemical stabilizer or pave the last 100 feet of internal travel path within the construction site prior to public road entry;

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- Install wheel washers adjacent to a paved apron prior to vehicle entry on public roads;
 - Remove any visible track-out into traveled public streets via regular street sweeping;
 - Wet wash the construction access point at the end of each workday if any vehicle travel on unpaved surfaces has occurred;
 - Provide sufficient perimeter erosion control to prevent washout of silty material onto public roads;
 - Cover haul trucks or maintain at least 12 inches of freeboard to reduce blow-off during hauling;
 - Suspend all soil disturbance and travel on unpaved surfaces if winds exceed 25 mph;
 - Cover/water on-site stockpiles of excavated material;
 - Enforce a 15-mph speed limit on unpaved surfaces;
 - On dry days, dirt and debris spilled onto paved surfaces shall be swept up immediately to reduce re-suspension of particulate matter caused by vehicle movement. Approach routes to construction sites shall be cleaned daily of construction-related dirt in dry weather;
 - Disturbed areas shall be hydroseeded, landscaped, or developed as quickly as possible to reduce dust generation; and
 - Limit the daily grading volumes/area, to extent feasible.

MM-AQ-2 Minimize Off-Road Construction Equipment Emissions. UC San Diego shall require by contract specification that the construction contractor use off-road construction diesel engines that meet, at a minimum, the Tier 4 interim California Emissions Standards, unless such an engine is not available for a particular item of equipment. Tier 3 engines will be allowed on a project-by-project basis when the contractor has documented that no Tier 4 interim equipment or emissions equivalent retrofit equipment is available or feasible for the project.

Implementation of MM-AQ-1 and MM-AQ-2 would ensure that construction activities associated with campus development under the proposed 2018 LRDP would minimize criteria pollutant emissions. MM-AQ-1 would reduce fugitive dust emissions through implementation of a dust control measures. Although the specific control measures could vary, the emission estimates assumed frequent watering (at least two times per day) to achieve dust control efficiency of 55 percent (SCAQMD 2007).

MM-AQ-2 requires engines in diesel-fueled construction equipment above 50 horsepower to meet Tier 4 interim emission standards when feasible. Off-road construction equipment with Tier 4 interim engines would typically result in an additional 53 to 67 percent reduction in NO_x emissions from the use of Tier 2 equipment, depending on the horsepower of the equipment (SCAQMD 2005). Based on the mitigated estimates presented in Table 16, the use of Tier 4 interim engines for all construction equipment on all projects would result in emission reductions of approximately 56 to 61 percent for NO_x emissions.

Table 16 shows the mitigated construction emissions for the 2025 Scenario and the 2035 Scenario of the proposed 2018 LRDP with implementation of MM-AQ-1 and complete implementation of MM-AQ-2. The NO_x emissions presented in Table 16 do not factor in the potential use of construction equipment with lower-tiered engines (i.e., Tier 3) and therefore are provided for conceptual purposes only.

Table 16
Estimated Mitigated Maximum Daily Construction Emissions

	VOC	NO _x	CO	SO ₂	PM ₁₀ ^{1,2}	PM _{2.5} ^{1,2}
2025 Scenario						
West Campus	33.78	94.30	165.80	0.34	32.82	18.25
East Campus	44.81	88.65	154.89	0.30	30.15	17.49
SIO	3.62	36.46	61.46	0.10	10.57	7.36
2025 Scenario Total	82.21	219.41	382.14	0.74	73.55	43.10
2035 Scenario						
West Campus	25.03	78.34	136.43	0.27	22.39	11.56
East Campus	22.77	79.04	138.88	0.28	23.43	11.84
SIO	14.31	61.04	109.44	0.19	17.14	9.96
2035 Scenario Total	62.11	218.42	384.74	0.73	62.97	33.36
Maximum Daily Construction Emissions (lbs/day)	82.21	219.41	384.74	0.74	73.55	43.10
Standard of Significance (lbs/day)	137	250	550	250	100	55
<i>Significant Impact?</i>	No	No ³	No	No	No	No

Notes: Totals may not add due to rounding. Values are rounded to the nearest hundredth.

¹ PM₁₀ emissions shown include the sum of particulate matter with aerodynamic diameter 0 to 2.5 microns and particulate matter with aerodynamic diameter 2.5 to 10 microns.

² PM₁₀ and PM_{2.5} emissions include fugitive dust emission reductions associated with implementation of MM-AQ-1.

³ Assumes full implementation of MM-AQ-2 (all construction equipment on campus projects would use Tier 4 interim engines or better with no exceptions [e.g., no Tier 3 engines would be used]).

VOC = volatile organic compounds; NO_x = oxides of nitrogen; CO = carbon monoxide; SO₂ = sulfur dioxide; PM₁₀ = suspended particulate matter; PM_{2.5} = fine particulate matter; lbs/day = pounds per day

As shown in Table 16, with implementation of MM-AQ-1, construction-related PM₁₀ and PM_{2.5} emissions would not exceed the standards of significance.

Though the use of Tier 4 interim engines or better for all construction equipment used on campus would reduce NO_x emissions to less than significant levels (as shown in Table 16). However, it is not feasible to uniformly implement the requirements of MM-

AQ-2 because the San Diego region is currently experiencing an extremely competitive construction market with limited labor and equipment resources. As such, it is unlikely that UC San Diego would be able to assure MM-AQ-2 in full on all projects associated with the proposed 2018 LRDP.

At this time, UC San Diego would strongly encourage its contractors to meet the requirements of MM-AQ-2 (e.g., use of Tier 4 interim for construction equipment fleets) to the highest extent feasible. Tier 3 engines would be allowed on a project-by-project basis when the contractor provides documentation to the UC San Diego Project Manager explaining why Tier 4 interim equipment or emissions equivalent retrofit equipment is not used. Because full compliance with MM-AQ-2 cannot be assured, the proposed 2018 LRDP's significant impact due to exceedance of the thresholds would remain significant and unavoidable.

Due to equipment fleet turnover over time, it is anticipated that Tier 4 interim equipment would become more readily available in future years, increasing the feasibility of implementing MM-AQ-2 in full. Therefore, although the construction-related NO_x emissions could be reduced in concept, the infeasibility of the measure would mean that construction-related NO_x emissions could violate an ambient air quality standard or contribute substantially to an existing violation. As such, the construction-related NO_x impact would be significant and unavoidable.

Operation

As discussed in more detail in Section 4.2, Methodology, day-to-day activities associated with the operation of the project would generate emissions from area, mobile, and stationary sources. Pursuant to the state CEQA Guidelines (Section 15125[e]) this analysis evaluates the net change in operational emissions from the Adjusted Existing (existing campus during the 2015-16 academic year plus the near-term construction under the 2004 LRDP) to the 2025 Scenario operational year (2025) and the 2035 Scenario operational year (2035). This approach is consistent with the definition of baseline conditions pursuant to CEQA. Therefore, the emissions associated with the Adjusted Existing land uses were subtracted from the emissions under the proposed 2018 LRDP to calculate the net change in emissions associated with implementation of the 2018 LRDP. The net increase in emissions is compared to the applicable threshold of significance. The estimated net daily operational emissions for the 2025 Scenario and the 2035 Scenario associated with implementation of the 2018 LRDP are shown in Tables 17 and 18, respectively.

Table 17
2025 Scenario Operational Emissions

Emissions Source	VOC (lbs/day)	NO _x (lbs/day)	CO (lbs/day)	SO ₂ (lbs/day)	PM ₁₀ (lbs/day)	PM _{2.5} (lbs/day)
2018 LRDP – 2025 Emissions						
Area Sources (net emissions)	156.40	30.37	601.63	0.18	5.12	5.12
Mobile Sources	141.74	572.13	1,722.41	6.49	668.45	182.02
Stationary Sources	29.94	179.75	113.72	24.05	63.45	63.45
Total 2018 LRDP Emissions	328.08	782.25	2,437.76	30.72	737.01	250.59
Adjusted Existing Emissions						
Area Sources	--	--	--	--	--	--
Mobile Sources	302.99	1,236.72	3,740.02	8.45	651.92	184.23
Stationary Sources	27.81	141.42	77.37	23.94	61.87	61.87
Total Adjusted Existing Emissions	330.80	1,378.14	3,817.39	32.39	713.79	246.10
Net Change Attributable to 2018 LRDP	-2.71	-595.89	-1,379.64	-1.67	23.23	4.49
Standard of Significance	137	250	550	250	100	55
Significant Impact?	No	No	No	No	No	No

Notes: Totals may not add due to rounding. Values are rounded to the nearest hundredth.
VOC = volatile organic compounds; NO_x = oxides of nitrogen; CO = carbon monoxide; SO₂ = sulfur dioxide;
PM₁₀ = suspended particulate matter; PM_{2.5} = fine particulate matter; lbs/day = pounds per day

Table 18
2035 Scenario Operational Emissions

Emissions Source	VOC (lbs/day)	NO _x (lbs/day)	CO (lbs/day)	SO ₂ (lbs/day)	PM ₁₀ (lbs/day)	PM _{2.5} (lbs/day)
2018 LRDP – 2035 Emissions						
Area Sources	121.06	28.86	353.79	0.17	3.80	3.80
Mobile Sources	113.45	524.52	1,411.83	6.16	761.88	205.64
Stationary Sources	30.66	192.87	124.49	24.13	83.91	83.91
Total 2018 LRDP Emissions	265.17	746.24	1,890.11	30.46	849.59	293.35
Adjusted Existing						
Area Sources	--	--	--	--	--	--
Mobile Sources	302.99	1,236.72	3,740.02	8.45	651.92	184.23
Stationary Sources	27.81	141.42	77.37	23.94	61.87	61.87
Total Adjusted Existing Emissions	330.80	1,378.14	3,817.39	32.39	713.79	246.10
Net Change Attributable to 2018 LRDP	-65.62	-631.90	-1,927.28	-1.93	135.80	47.26
Standard of Significance	137	250	550	250	100	55
Significant Impact?	No	No	No	No	Yes	No

Notes: Totals may not add due to rounding. Values are rounded to the nearest hundredth.
VOC = volatile organic compounds; NO_x = oxides of nitrogen; CO = carbon monoxide; SO₂ = sulfur dioxide;
PM₁₀ = suspended particulate matter; PM_{2.5} = fine particulate matter; lbs/day = pounds per day

Implementation of the proposed 2018 LRDP would lead to long-term operational emissions of VOC, NO_x, CO, SO₂, PM₁₀, and PM_{2.5}. However, even considering the operation of the additional development under the proposed 2018 LRDP, implementation of the 2018 LRDP would result in a net decrease of VOC, NO_x, CO, and SO₂ emissions compared to the Adjusted Existing conditions. The net decrease is due to federal and state regulations related to advancements in engine technology and fleet turnover that would reduce mobile (vehicle) emissions over time. As shown in Table 17, the net increase in total operational emissions in the 2025 Scenario would not exceed the significance standards. However, as shown in Table 18, the net increase in total operational emissions in 2035 would exceed the significance threshold for PM₁₀. This net increase in PM₁₀ is primarily related to mobile sources. A majority of the PM emissions from mobile sources are generated by brake and tire wear. Thus, mobile-source PM emissions are directly related to VMT (CalEEMod 2016). As explained in more detail in the TIS, the average trip length increases in 2035 and includes a net new total of 23,041 trips campus-wide. These trip length estimates and average daily trips incorporate UC San Diego's extensive TDM system and include reductions associated with Mid-Coast trolley service to the campus projected to commence in 2021. As such, the campus has no ability to directly control brake and tire wear sources and there are no feasible mitigation measures to address PM₁₀ emissions from mobile sources in the 2035 Scenario. Thus, the impacts of long-term operational PM₁₀ emissions would be significant and unavoidable. However, as further transportation programs and greenhouse gas emissions reduction strategies are identified for the UC San Diego campus per the Sustainable Transportation goals for the UC Sustainable Practices Policy, mobile source emissions, including PM₁₀, are anticipated to decrease from levels estimated in this study.

Overlap of Construction and Operation

During all years (2018 through 2035) of the proposed 2018 LRDP, construction-related and operational emissions were assumed to overlap, as a portion of the proposed plan would be completed and in operation while construction is completed in other campus areas. As stated in Section 4.2, the maximum daily emissions were assumed to occur in 2025, as all buildings completed under the 2025 Scenario would be operational and, as assumed for a conservative construction scenario, 25 percent of construction of the 2035 Scenario would also occur in 2025. Table 19 shows the maximum daily overlapping unmitigated construction and operational emissions.

Table 19
Maximum Daily Overlapping Unmitigated Construction and Operational Emissions

Emissions Source	VOC (lbs/day)	NO _x (lbs/day)	CO (lbs/day)	SO ₂ (lbs/day)	PM ₁₀ (lbs/day)	PM _{2.5} (lbs/day)
Construction	81.33	297.44	315.01	0.73	106.24	55.60
2025 Net Operational Emissions	-2.71	-595.89	-1,379.64	-1.67	23.23	4.49
Overlapping Emissions	78.62	-298.45	-1,064.63	-0.94	129.46	60.09
Standard of Significance	137	250	550	250	100	55
Significant Impact?	No	No	No	No	Yes	Yes

Notes: Totals may not add due to rounding. Values are rounded to the nearest hundredth.

VOC = volatile organic compounds; NO_x = oxides of nitrogen; CO = carbon monoxide; SO₂ = sulfur dioxide;

PM₁₀ = suspended particulate matter; PM_{2.5} = fine particulate matter; lbs/day = pounds per day

As shown in Table 19, the combination of construction-generated and operational emissions of PM₁₀ and PM_{2.5} would exceed applicable daily standards established by the City of San Diego. Therefore, the unmitigated overlapping emissions could violate an ambient air quality standard or contribute substantially to an existing violation. As explained previously, implementation of MM-AQ-1 and MM-AQ-2 would reduce construction-related emissions. Table 20 shows the maximum daily overlapping mitigated construction and operational emissions with those mitigation measures in place.

Table 20
Maximum Daily Overlapping Mitigated Construction and Operational Emissions

Emissions Source	VOC (lbs/day)	NO _x (lbs/day)	CO (lbs/day)	SO ₂ (lbs/day)	PM ₁₀ ¹ (lbs/day)	PM _{2.5} ¹ (lbs/day)
Construction	62.11	218.42 ¹	384.74	0.73	62.97	33.36
2025 Net Operational Emissions	-2.71	-595.89	-1,379.64	-1.67	23.23	4.49
Overlapping Emissions	59.39	-377.47	-994.90	-0.94	86.19	37.85
Standard of Significance	137	250	550	250	100	55
Significant Impact?	No	No ²	No	No	No	No

VOC = volatile organic compounds; NO_x = oxides of nitrogen; CO = carbon monoxide; SO₂ = sulfur dioxide;

PM₁₀ = suspended particulate matter; PM_{2.5} = fine particulate matter; lbs/day = pounds per day

¹ PM₁₀ and PM_{2.5} emissions include fugitive dust emission reductions associated with implementation of MM-AQ-1.

² Assumes full implementation of MM-AQ-2 (all construction equipment on campus projects would use Tier 4 interim engines or better with no exceptions [e.g., no Tier 3 engines would be used]).

Values are rounded to the nearest hundredth.

However, as explained previously, the extent to which MM-AQ-2 would be applied could vary. Therefore, the NO_x emission estimates presented in Table 20 are for conceptual purposes only. As shown in Table 20, the construction and operational emissions during the overlap of operations of the 2025 Scenario and construction of the 2035 Scenario for the proposed 2018 LRDP would not exceed the standards of significance for PM₁₀ and PM_{2.5}. As such, overlapping construction and operation of the proposed 2018 LRDP would not violate an ambient air quality standard or contribute substantially to an existing violation. The impact due to overlapping construction and operations would be less than significant.

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

A significant impact related to air quality would occur if implementation of the 2018 LRDP would result in a cumulatively considerable net increase in emissions of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.

A cumulative impacts analysis focuses on whether a specific project, in combination with other past, present, and probable future projects, would result in a cumulatively significant impact, to which the project would make a cumulatively considerable contribution. By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development within the SDAB, and this regional impact is cumulative rather than attributable to any one source. A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and probable future development projects. The standards of significance are relevant to whether a project's individual emissions would result in a cumulatively considerable incremental contribution to the existing cumulative air quality conditions. If a project's emissions would be less than those threshold levels and the region is in attainment for a particular regional pollutant, the project would not be expected to result in a considerable incremental contribution to the significant cumulative impact. However, if the region is in nonattainment status for a particular criteria pollutant and a project's individual emissions exceed the threshold levels, its incremental contribution could be considered cumulatively considerable.

As discussed above, the net increase in emissions over existing conditions would result in the generation of criteria air pollutant emissions that exceed the standards for

construction or operational activities. These standards are designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards. Projects that would not exceed the standards of significance would not contribute to a considerable amount of criteria air pollutant emissions to the region's emissions profile, and would not impede attainment and maintenance of ambient air quality standards.

However, because implementation of the 2018 LRDP would exceed the project-level air quality significance standards for PM₁₀ in the 2035 Scenario, a criteria pollutant for which the project region is in nonattainment, long-term operational emissions associated with implementation of the 2018 LRDP would be cumulatively considerable. In addition, construction activities could also violate the NO_x air quality significance threshold. It is important to note that the San Diego region is in nonattainment for ozone and has shown an overall trend of high VOC/NO_x ratios;⁴ therefore, the formation of ozone is limited by the quantity of NO_x emissions. As such, NO_x controls are the main focus of the region's emission control measures to attain state and federal ozone standards (SDAPCD 2016c). Therefore, impacts related to a cumulatively considerable net increase of criteria pollutants would be significant and unavoidable.

Would the project expose sensitive receptors to substantial pollutant concentrations resulting in a CO hotspot?

Carbon Monoxide

The primary mobile-source pollutant of localized concern is CO. Local mobile-source CO emissions near roadway intersections are a direct function of traffic volume, speed, and delay. Transport of CO is limited since it disperses rapidly with distance from the source under normal meteorological conditions. However, under specific meteorological conditions, CO concentrations near roadways and/or intersections may reach unhealthy levels related to local sensitive land uses such as residential units, hospitals, schools, and childcare facilities.

CO concentration is a direct function of motor vehicle activity, particularly during peak commute hours, and meteorological conditions. Under specific meteorological conditions, CO concentrations may reach unhealthy levels with respect to local sensitive land uses, such as residential areas, schools, preschools, playgrounds, and hospitals.

⁴ VOC and NO_x, in the presence of sunlight, are precursors to the formation of ozone.

As a result, air districts typically recommend analysis of CO emissions at a local rather than a regional level.

Because increased CO concentrations are usually associated with roadways that are congested and with heavy traffic volume, many agencies have established preliminary screening criteria to determine with fair certainty whether project-generated, long-term operational local mobile-source emissions of CO would result in, or substantially contribute to, emissions concentrations that exceed the 1-hour ambient air quality standard of 20 ppm or the 8-hour standard of 9.0 ppm.

The City of San Diego's Significance Determination Thresholds indicates that if a proposed development causes a four- or six-lane road to deteriorate to LOS E or worse, the resulting longer queue at the traffic signals could cause a localized significant air quality impact (City of San Diego 2016). Tables 21 through 24 show the four- and six-lane roadway intersections and segments that would deteriorate to LOS E or worse from implementation of the 2018 LRDP.

Table 21
2025 Summary of Intersection Analysis

Intersection	Control Type	Peak Hour	2025 Scenario LOS without LRDP	2025 Scenario LOS with LRDP
Genesee Avenue/ Campus Point Drive	Signal	PM	D	E
N. Torrey Pines Road/Expedition Way	Signal	PM	E	F
Torrey Pines Road/ La Jolla Village Drive	Signal	PM	E	F
Regents Road/Health Sciences Drive	Signal	PM	D	E
Regents Road/ Eastgate Mall	Signal	PM	D	F
La Jolla Village Drive/Regents Road	Signal	AM	D	E
Nobel Drive/ Villa La Jolla Drive	Signal	PM	D	E
Genesee Avenue/ SR-52 EB Ramps	Signal	AM	D	E

Source: LLG 2018

Table 22
2025 Summary of Street Segment Analysis

Roadway Segment	Roadway Functional Classification	2025 Scenario LOS without LRDP	2025 Scenario LOS with LRDP
La Jolla Village Drive			
Regents Road to Genesee Avenue	6-Lane Major	D	E
I-5			
SR52 to Gilman Drive	SB Mainlines	E	F
Gilman Drive to Nobel Drive	SB Mainlines	E	F
Nobel Drive to La Jolla Village Drive	SB Mainlines	D	F
La Jolla Village Drive to Genesee Avenue	SB Mainlines	E	F

Source: LLG 2018

Table 23
2035 Summary of Intersection Analysis

Intersection	Control Type	Peak Hour	2035 Scenario LOS without LRDP	2035 Scenario LOS with LRDP
Genesee Avenue/Campus Point Drive	Signal	AM	D	E
		PM	E	F
N. Torrey Pines Road/Muir College Drive	Signal	PM	D	E
N. Torrey Pines Road/Expedition Way	Signal	AM	D	F
Regents Road/Health Sciences Drive	Signal	AM	D	F
		PM	D	F
Regents Road/Eastgate Mall	Signal	AM	C	E
Regents Road/Executive Drive	Signal	AM	B	E
		PM	C	F
Regents Road/Regents Park Row	Signal	PM	D	F
La Jolla Village Drive/La Jolla Scenic Drive	Signal	PM	D	E
La Jolla Village Drive/Gilman Drive Eastbound Ramps	OWSC ¹	AM	E	F
La Jolla Village Drive/I-5 Southbound Ramps	Signal	AM	D	E
		PM	D	E
La Jolla Village Drive/Regents Road	Signal	AM	E	F
Nobel Drive/Villa La Jolla Drive	Signal	AM	C	E
		PM	E	F
Nobel Drive/I-5 Southbound On-Ramp	Signal	PM	D	E
Nobel Drive/Regents Road	Signal	AM	C	E
Nobel Drive/Genesee Avenue	Signal	AM	E	F
		PM	E	F
Genesee Drive/Governor Drive	Signal	PM	E	F
La Jolla Shores Drive/Downwind Way	TWSC	PM	C	F
Genesee Avenue/SR-52 EB Ramps	Signal	AM	E	F
Miramar Road/Eastgate Mall	Signal	AM	D	E

Source: LLG 2018

Table 24
2035 Summary of Street Segment Analysis

Roadway Segment	Roadway Functional Classification	2035 Scenario LOS without LRDP	2035 Scenario LOS with LRDP
Genesee Avenue			
I-5 NB Ramps to Scripps Hospital Drive	6-Lane Prime	D	E
Scripps Hospital Drive to Campus Point Drive	6-Lane Prime	E	F
La Jolla Village Drive			
Torrey Pines Road to La Jolla Scenic Drive	6-Lane Prime	D	F
La Jolla Scenic Drive to Villa La Jolla Drive	6-Lane Prime	E	F
Genesee Avenue to Executive Way	6-Lane Major	E	F
I-5			
Gilman Drive to Nobel Drive	NB Mainlines	D	E
Gilman Drive to Nobel Drive	SB Mainlines	E	F
Nobel Drive to La Jolla Village Drive	SB Mainlines	D	E
SR-52			
Regents Road to Genesee Avenue	WB Mainlines	D	E

Source: LLG 2018

Notes: ¹One-Way Minor-Street Stop Controlled intersection

In addition to considering the changes in LOS pursuant to the City of San Diego CEQA Significance Thresholds, overall traffic volumes and how they affect volume/capacity ratios also affect whether a CO hot spot will occur. While the City of San Diego or SDAPCD does not provide additional guidance on the contribution of traffic volumes to such impacts, other agencies throughout the state have provided estimates of traffic volumes that could result in a CO hot spot. The Bay Area Air Quality Management District's (BAAQMD) CEQA Guidelines (BAAQMD 2017) suggest that projects would not result in a CO impact if the project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour. Furthermore, the SMAQMD screening criteria find that a project would not result in significant localized CO impacts if it would not result in an affected intersection experiencing more than 31,600 vehicles per hour (SMAQMD 2016).

The maximum roadway volume for the affected roadway segments is La Jolla Village Drive (La Jolla Scenic Drive to Villa La Jolla Drive), which has a maximum volume of approximately 55,000 vehicles per day in 2035. The intersection of La Jolla Scenic Drive and La Jolla Village Drive has a maximum combined volume of approximately 78,700 vehicles per day in 2035. Therefore, the peak hour volume at any point during the day, which is typically 10 percent of the daily volume, would not exceed any of the screening thresholds that are anticipated to result in a CO hot spot.

Although the BAAQMD and SMAQMD screening analyses indicate that the proposed 2018 LRDP would not result in a CO hotspot, the analysis conservatively modeled CO concentrations at the worst-case intersection of La Jolla Scenic Drive and La Jolla Village Drive for the proposed 2018 LRDP future (2035) scenario. This intersection was determined to experience the highest changes to delay times compared to other intersections within the project study area while operating at LOS D, E, or F, and therefore would have the highest potential to cause a CO hot-spot. These conditions represent the maximum traffic volumes at the affected intersections. All other alternatives and operational years would be anticipated to result in lower traffic volumes and fewer CO impacts than the 2035 conditions.

The potential for the proposed 2018 LRDP to generate a CO hot-spot at the signalized intersections was evaluated using CALINE4 (Version 2.1) pursuant to the Transportation Project-Level CO Protocol developed by UC Davis in 1997. A persistence factor is the ratio between the 1-hour and 8-hour CO concentrations and is used to relate the concentrations (UC Davis 1997). Consistent with the CO protocol, the 8-hour concentrations shown in Table 24 were calculated from the 1-hour modeled estimates using a persistence factor for urban areas of 0.78. CO concentrations estimated at the studied intersections were compared to the federal and state 1-hour CO standards of 35 ppm and 20 ppm, respectively, and the federal and state 8-hour CO standards of 9 ppm. The results of the quantitative CO hot-spot analysis for the 1-hour and 8-hour CO concentrations are presented in Table 25.

Table 25
CO Concentrations

Intersection	Period	1-Hour CO Concentrations (ppm)	8-Hour CO Concentrations (ppm)
		Build	Build
La Jolla Village Drive/La Jolla Scenic Drive	AM	6.5	55.2
Federal CO standards		35	9
State CO standards		20	9
Exceed Federal/State Standards		No	No

ppm = parts per million

As shown in Table 25, the proposed 2018 LRDP future traffic conditions would not result in or contribute to any exceedances of the 1-hour or 8-hour CO standards during the AM peak period, even considering conservative assumptions. Therefore, no localized CO impacts would occur.

As a result of improvements in technology and vehicle emission standards, CO emission factors are also projected to decrease in future years. These improvements would also reduce the concentration of CO emissions. Therefore, the CO concentrations resulting from implementation of the 2018 LRDP would not violate the CAAQS for either the 1-hour period (20 ppm) or the 8-hour period (9.0 ppm). This impact would be less than significant.

Would the project expose sensitive receptors to toxic air contaminant emissions?

In the HRA, the greatest potential for TAC emissions resulting from construction associated with implementation of the 2018 LRDP would originate from diesel PM emissions associated with heavy equipment operations. Construction would result in the generation of diesel PM from the use of off-road diesel construction equipment required for demolition, site preparation, construction, and equipment installation. Most diesel PM emissions associated with material delivery trucks and construction worker vehicles would occur off-campus.

The generation of diesel PM emissions from construction projects typically occurs in a single area for a short period of time; however, the exact length of construction time periods for individual projects implemented under the proposed 2018 LRDP is unknown at this time due to the lack of design details and phasing aside from it occurring in the 2025 Scenario or 2035 Scenario. As stated in Section 4.2, the analysis contained in this report assumes that 25 percent of the construction emissions in each Scenario would occur in the first year (either 2018 or 2025) and the remaining emissions would be evenly distributed through the rest of the years (2019–2024 or 2026–2034). The dose of TACs to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure a person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period to a fixed amount of emissions results in a higher exposure level and higher health risks for the maximally exposed individual.

The estimated cancer risk due to construction was based on the annual average diesel PM concentration; inhalation potency factor; and default estimates of breathing rate, body weight, and exposure period. In addition to the potential cancer risk, diesel PM may result in acute and chronic non-cancer health impacts. The exposure level is the concentration below which no adverse non-cancer health effects are anticipated.

As construction activity would coincide with operation of stationary sources and vehicles on nearby roadways, the cancer risk due to construction sources is added on a receptor-by-receptor basis to the cancer risk due to the operations sources.

As discussed in Section 4.2, operations stationary sources include combustion and laboratory sources. The UC San Diego campus is located near Interstate 5 (I-5), a high-volume roadway (i.e., 100,000 vehicles per day) and numerous local roadways that would exceed 50,000 vehicles per day. The nearest on-campus residential receptor would be located approximately 85 feet from I-5. Development of the proposed 2018 LRDP would generate additional trips on local and regional roadways. Diesel PM emissions from vehicle trips due to the proposed 2018 LRDP were included in the refined dispersion modeling to more accurately determine health risks from traffic emissions on the sensitive receptors.

During the years 2018 through 2035, project source emissions (construction, traffic and new stationary sources associated with proposed 2018 LRDP) were separated from existing operations. The cancer risk due to both of these was calculated with the project-only cancer risk compared to the threshold (10 in a million). Table 26 presents the off-campus MEIR and MEIW receptors during the 30 years and 25 years of exposure, respectively, due to construction, traffic, and operation of stationary sources that currently exist and those that would be built as part of the proposed 2018 LRDP. For the MEIR, it is assumed that one person lives in the same location for 30 years and that exposure begins at the third trimester through age 30. As described above, the construction emissions for the 2025 Scenario are assumed to be 25 percent in the first year of construction and 12 percent in the remaining years through 2024. Therefore, HARP2 modeling assumed one year of exposure for the first year of construction and six years of exposure for the lesser construction emissions in 2019 through 2024. The construction emissions for the 2035 Scenario are assumed to be 25 percent in the first year of construction and seven percent in the remaining years through 2034. Therefore, HARP2 modeling assumed one year of exposure for the first year of construction in the 2035 scenario and nine years of exposure for the lesser construction emissions in 2026 through 2034. For 2035 through 2047, HARP2 was run for traffic and stationary sources only to finish the 30-year exposure period. Similarly, for the MEIW assumed to begin at age 16, HARP2 was run with the same assumptions through 2034, and the remaining exposure period for 2035 through 2042 was run for traffic and stationary sources only to finish the 25-year exposure period.

Table 26
Modeled Cancer Risk at Off-Campus MEIR and MEIW

Year	Years of Age (MEIR)	MEIR (in a million)¹	Years of Age (MEIW)	MEIW (in a million)²
2018	Third trimester to 1	36.08	16-17	1.24
2019-2024	1-7	34.04	17-23	6.98
2025	7-8	0.69	23-24	0.73
2026-2034	8-17	3.50	24-33	5.64
2035-2047 / 2042	17-30	0.49	33-46	2.72
Total Cancer Risk	30	74.79	25	17.32
Existing	30	36.08	25	1.24
Net Change Attributable to 2018 LRDP	30	38.71	25	16.08
Standard of Significance	---	10.0	---	10.0
Significant Impact?	---	Yes	---	Yes

Notes: UTM = Universal Transverse Mercator

¹ Receptor location: X (UTM) = 4795744.00, Y (UTM) = 3638146.00.

² Receptor location: X (UTM) = 478174.00, Y (UTM) = 3637046.00.

The HRA was conducted assuming both the unmitigated emissions from construction activities and the mitigated emissions (only for receptors above the standard of significance using unmitigated emissions) from the use of Tier 4 interim construction equipment with implementation of MM-AQ-2. However, as discussed earlier in this section, the San Diego region is currently experiencing an extremely competitive construction market with limited labor and equipment resources. As such, it is unlikely that UC San Diego would be able to meet MM-AQ-2 in full on all projects and Tier 3 equipment could be used. At this time, UC San Diego would encourage its contractors to meet MM-AQ-2 to the highest extent feasible, but due to the uncertainty in the ability of every project to use Tier 4 interim engines for every piece of equipment, the significance determination is based off the unmitigated emission estimates.

The cancer risk of the proposed 2018 LRDP is equal to 38.71 in a million during the 30-year period at the off-campus MEIR and 16.08 in a million during the 25-year period at the off-campus MEIW. The MEIW was assumed to be at a location where an individual would work (i.e., gas station, restaurant, office buildings, etc.). The cancer risk impact would be significant before implementation of MM-AQ-2 at numerous receptors as shown in Figures 11 and 12 for MEIR and MEIR, respectively.

Figure 11
Locations of Modeled 30-Year (2018-2047) Cancer Risk from Construction and Future Operations at Off-Campus MEIR Exceeding Standard

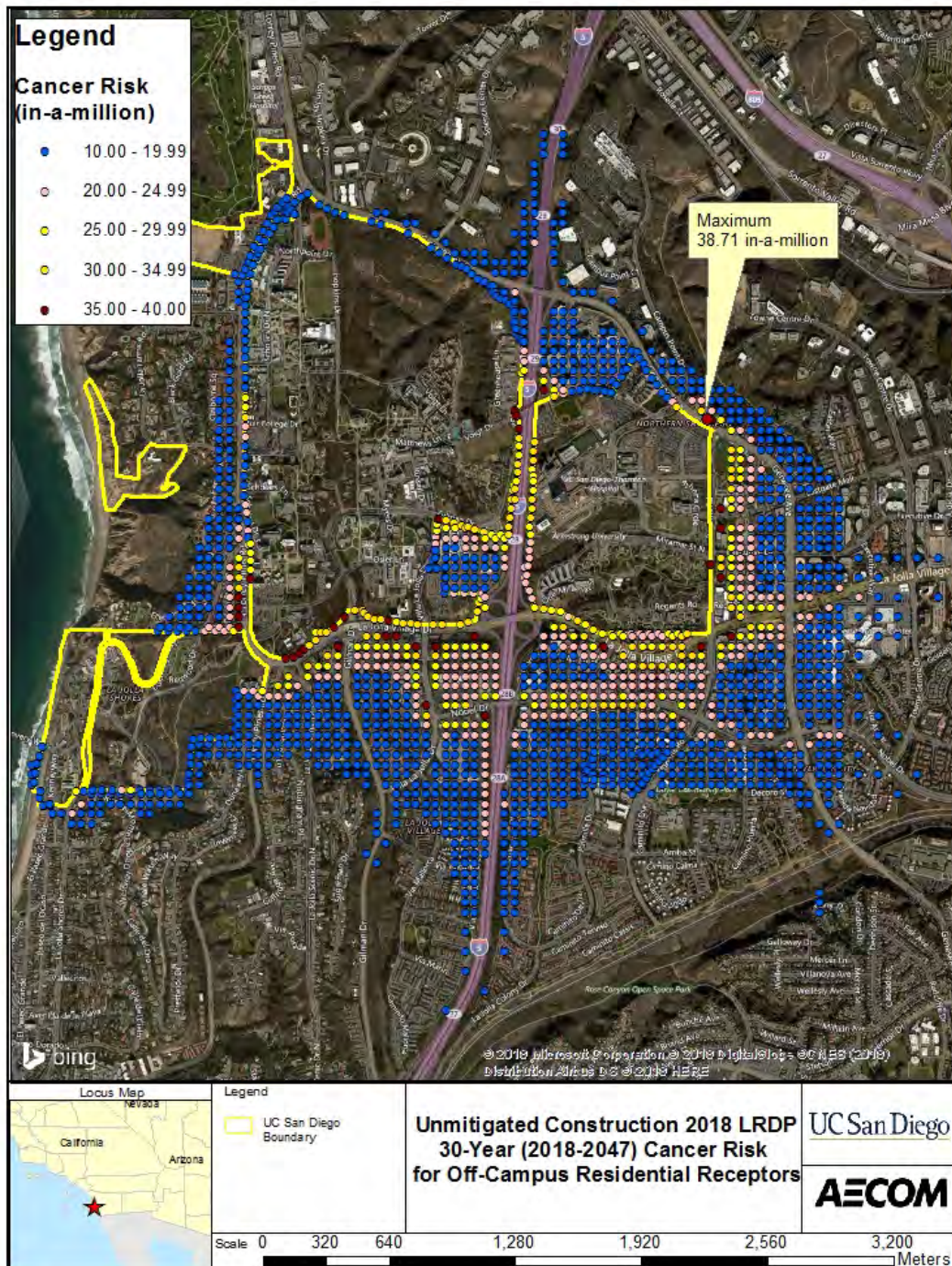


Figure 12
Locations of Modeled 25-Year (2018-2042) Cancer Risk from Construction and Future Operations at Off-Campus MEIW Exceeding Standard

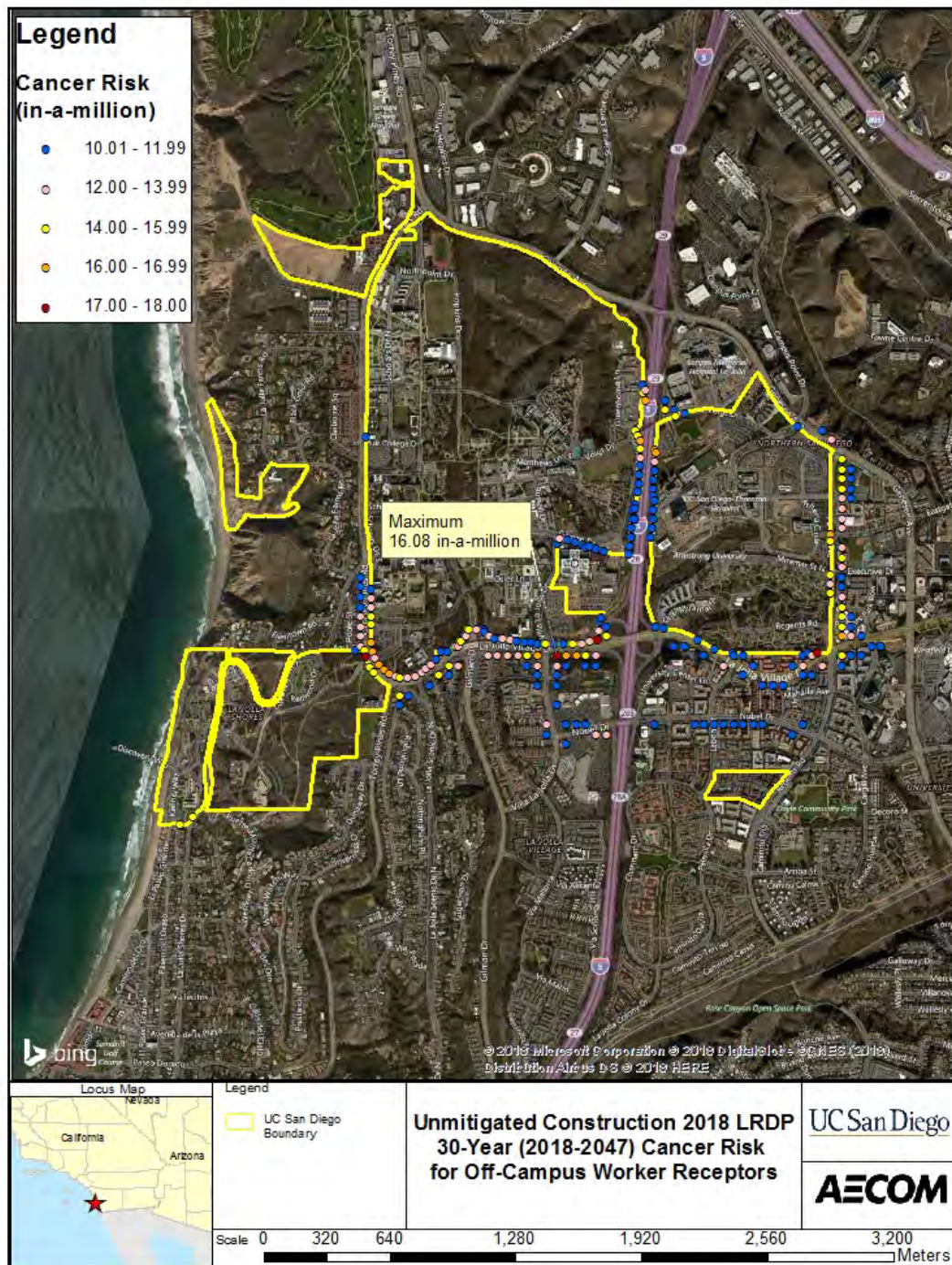


Table 27 summarizes the cancer risk for the on-campus MEIR (University Student) for both the 2025 Scenario (construction beginning in 2018) and 2035 Scenario (construction beginning in 2025). The cancer risk at the on-campus MEIR from the proposed 2018 LRDP during the four-year period is equal to 7.47 in a million for the 2025 Scenario and 1.85 in a million for the 2035 Scenario. The cancer risk impact would be less than significant at these receptors.

Table 27
Modeled Cancer Risk at On-Campus MEIR from Construction and Future Operations

Year	Years of Age	On-Campus MEIR 2025 Scenario (in a million) ¹	Years of Age	On-Campus MEIR 2035 Scenario (in a million) ²
2018	18	2.97	N/A	N/A
2019-2021	19-21	4.58	N/A	N/A
2025	N/A	N/A	18	0.89
2026-2028	N/A	N/A	19-21	1.00
Total Cancer Risk	4	7.55	4	1.89
Existing	4	0.08	4	0.04
Net Change Attributable to 2018 LRDP	4	7.47	4	1.85
Standard of Significance	---	10.0	---	10.0
Significant Impact?	---	No	---	No

Notes: N/A = not applicable; UTM = Universal Transverse Mercator
Duration for on-campus student is assumed to be four years.

¹ Receptor location: X (UTM) = 479499.00, Y (UTM) = 3638046.00.

² Receptor location: X (UTM) = 476726.89, Y (UTM) = 3637970.81.

Source: Compiled by AECOM in 2018.

Table 28 summarizes the cancer risk for the on-campus MEIW (University Worker) during 25 years of exposure. The cancer risk during the 25-year period from the proposed 2018 LRDP is equal to 7.66 in a million and would be less than significant at these receptors.

Table 28
Modeled Cancer Risk at On-Campus MEIW

Year	Years of Age	On-Campus MEIW (in a million) ¹
2018	16-17	6.40
2019-2024	17-23	37.70
2025	23-24	6.22
2026-2034	24-33	55.33
2035-2042	33-46	46.63
Total Cancer Risk	25	152.28
Existing	25	144.62
Net Change Attributable to 2018 LRDP	25	7.66
Standard of Significance	---	10.0
Significant Impact?	---	No

Notes: UTM = Universal Transverse Mercator

¹ Receptor location: X (UTM) = 477124.00, Y (UTM) = 3636946.00.

Source: Compiled by AECOM in 2018.

Table 29 summarizes the cancer risk for the maximally exposed individual (i.e., MEI) on-campus and off-campus sensitive receptors, such as schools, daycare, clinics, and hospitals during 12 years of exposure. Daycare centers and the UC San Diego Healthcare La Jolla (to account for the maternity ward) were modeled using a start year of third trimester; schools used a start year of age 4; and hospitals, VA centers, and health clinics used a starting age of 16 years. The cancer risk during the 12-year period is equal to 239.98 in a million for the on-campus sensitive receptors and 104.53 in a million for the off-campus sensitive receptors. The cancer risk impact would be significant before implementation of MM-AQ-2 at numerous receptors as shown in Figure 13.

Table 29
Modeled Cancer Risk at On-Campus and Off-Campus Sensitive Receptors

Year	Years of Age	Off-Campus Sensitive Receptor (in a million)¹	On- Campus Sensitive Receptor (in a million)²
2018	Third trimester to 1	15.75	56.57
2019-2024	1–7	51.72	57.03
2025	7–8	4.41	2.30
2026-2029	8–12	7.90	6.06
Total Cancer Risk	12	79.78	121.95
Existing	12	6.28	17.42
Net Change Attributable to 2018 LRDP	12	73.50	104.54
Standard of Significance	---	10.0	10.0
Significant Impact?	---	Yes	Yes

Notes: UTM = Universal Transverse Mercator

¹ Receptor location: X (UTM) = 479603.26, Y (UTM) = 3637776.30.

² Receptor location: X (UTM) = 478800.67, Y (UTM) = 3637743.97.

Source: Compiled by AECOM in 2018.

Figure 13
Locations of Modeled 12-Year (2018-2029) Cancer Risk from Construction and Future Operations at On-Campus and Off-Campus Sensitive Receptors Exceeding Standard



Table 30 presents the locations and chronic and acute non-cancer HI for the off-campus MEIR and MEIW. The HIs are below the significance level of 1 and impacts would be less than significant.

Table 30
Modeled Chronic and Acute HI at Off-Campus MEIR and MEIW

Year	Chronic HI (MEIR) ¹	Acute HI (MEIR) ²	Chronic HI (MEIW) ³	Acute HI (MEIW) ⁴
2018	0.050	0.187	0.057	0.314
2019-2024	0.048	0.187	0.049	0.314
2025	0.051	0.188	0.042	0.314
2026-2034	0.045	0.188	0.040	0.314
2035-2047 / 2042	0.041	0.188	0.039	0.314
Standard of Significance	1.0	1.0	1.0	1.0
Significant Impact?	No	No	No	No

Notes: UTM = Universal Transverse Mercator

¹ Receptor location: X (UTM) = 479124.00, Y (UTM) = 3637046.00.

² Receptor location: X (UTM) = 476624.00, Y (UTM) = 3637096.00.

³ Receptor location: X (UTM) = 478474.00, Y (UTM) = 3637546.00.

⁴ Receptor location: X (UTM) = 476474.00, Y (UTM) = 3637096.00.

Table 31 presents the locations and chronic and acute non-cancer HI for the On-campus MEIR for the 2025 and 2035 Scenarios. The HIs are below the significance level of 1 and impacts would be less than significant.

Table 31
Modeled Chronic and Acute HI at On-Campus MEIR

Year	Chronic HI (MEIR 2025 Scenario) ¹	Acute HI (MEIR 2025 Scenario) ²	Chronic HI (MEIW 2035 Scenario) ³	Acute HI (MEIW 2035 Scenario) ⁴
2018	0.223	0.373	N/A	N/A
2019-2021	0.218	0.373	N/A	N/A
2025	N/A	N/A	0.228	0.373
2026-2028	N/A	N/A	0.005	0.028
Standard of Significance	1.0	1.0	1.0	1.0
Significant Impact?	No	No	No	No

Notes: N/A = not applicable; UTM = Universal Transverse Mercator

¹ Receptor location: X (UTM) = 478999.00, Y (UTM) = 3637521.00.

² Receptor location: X (UTM) = 478999.00, Y (UTM) = 3637521.00.

³ Receptor location: X (UTM) = 477874.00, Y (UTM) = 3637646.00.

⁴ Receptor location: X (UTM) = 477874.00, Y (UTM) = 3637646.00.

Table 32 presents the locations and chronic and acute non-cancer HI for the on-campus and off-campus sensitive receptors. The HIs are below the significance level of 1 and impacts would be less than significant.

Table 32
Modeled Chronic and Acute HI at Off-Campus and On-Campus Sensitive Receptors

Year	Chronic HI (Off-Campus) ¹	Acute HI (Off-Campus) ²	Chronic HI (On-Campus) ³	Acute HI (On-Campus) ⁴
2018	0.071	0.093	0.109	0.057
2019-2024	0.035	0.093	0.029	0.057
2025	0.033	0.093	0.090	0.057
2026-2029	0.030	0.093	0.088	0.057
Standard of Significance	1.0	1.0	1.0	1.0
Significant Impact?	No	No	No	No

Notes: UTM = Universal Transverse Mercator

¹ Receptor location: X (UTM) = 479610.32, Y (UTM) = 3637127.48.

² Receptor location: X (UTM) = 478281.80, Y (UTM) = 3637503.92.

³ Receptor location: X (UTM) = 478800.67, Y (UTM) = 3637743.97.

⁴ Receptor location: X (UTM) = 478840.60, Y (UTM) = 3638319.59.

As explained previously, UC San Diego believes it is not likely that all projects would be able to meet MM-AQ-2 in full given the extremely competitive construction market with limited labor and equipment resources. For informational purposes, this HRA does incorporate MM-AQ-2 for receptors where the impacts are above the standard of significance. These results of this analysis are provided below.

Table 33 presents the mitigated modeled cancer risk for the off-campus MEIR and MEIW receptors during the 30 years and 25 years of exposure, respectively, due to mitigated (controlled) construction and operation of stationary sources that currently exist and would be built as part of the proposed 2018 LRDP. The cancer risk is equal to 33.1 in a million during the 30-year period at the off-campus MEIR and 14.89 in a million during the 25-year period at the off-campus MEIW. However, the cancer risk would still be significant, with or without implementation of MM-AQ-2, at numerous receptors as shown in Figures 14 and 15 for MEIR and MEIR, respectively.

Table 33
Mitigated Modeled Cancer Risk at Off-Campus MEIR and MEIW

Year	Years of Age	MEIR (in a million)¹	Years of Age	MEIW (in a million)²
2018	Third trimester to 1	15.48	16-17	1.09
2019-2024	1-7	26.38	17-23	6.53
2025	7-8	1.35	23-24	0.59
2026-2034	8-17	9.69	24-33	5.20
2035-2047 / 2042	17-30	1.46	33-46	2.72
Total Cancer Risk	30	54.36	25	16.13
Existing	30	21.26	25	1.24
Net Change Attributable to 2018 LRDP	30	33.10	25	14.89
Standard of Significance	---	10.0	---	10.0
Significant Impact?	---	Yes	---	Yes

Notes: UTM = Universal Transverse Mercator

¹ Receptor location: X (UTM) = 477624.00, Y (UTM) = 3636996.00.

² Receptor location: X (UTM) = 475824.00, Y (UTM) = 3637046.00.

Figure 14
Locations of Modeled 30-Year (2018-2047) Cancer Risk at Off-Campus MEIR
Exceeding Standard with Construction Mitigation

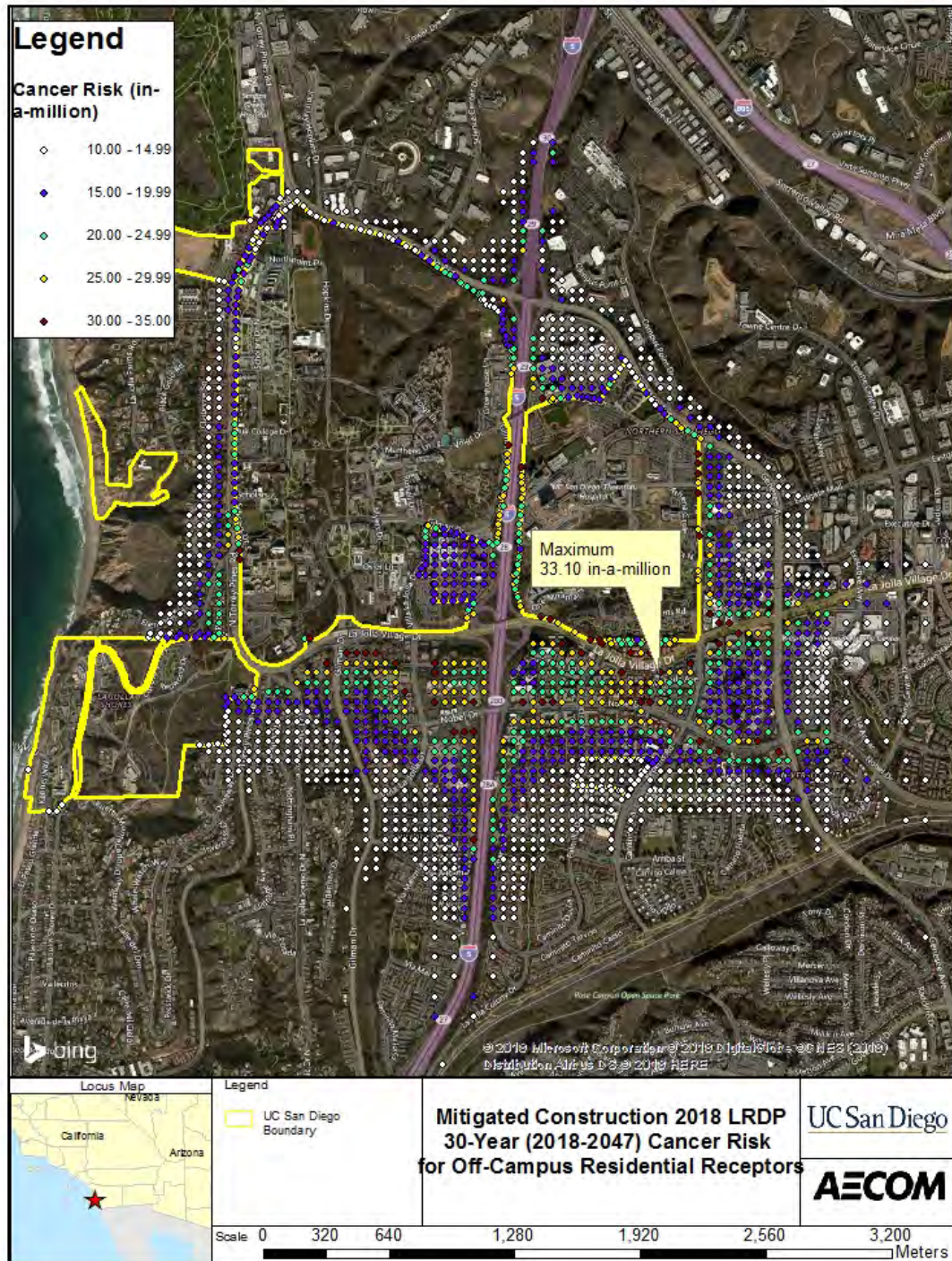


Figure 15
Locations of Modeled 25-Year (2018-2042) Cancer Risk at Off-Campus MEIW
Exceeding Standard with Construction Mitigation

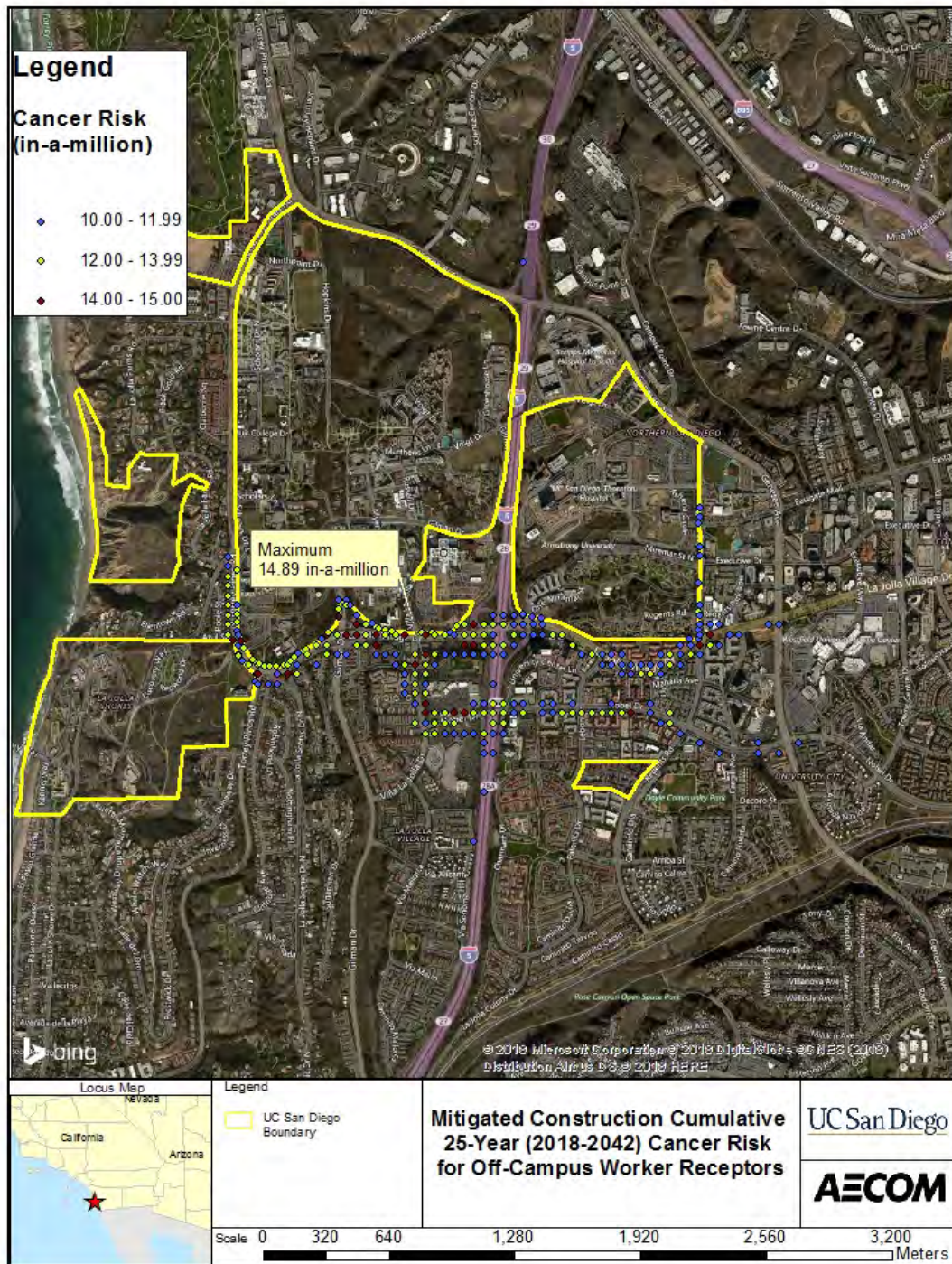


Table 34 summarizes the cancer risk for the maximally exposed on-campus and off-campus sensitive receptors, such as schools, daycare, clinics, and hospitals during 12 years of exposure. The cancer risk during the 12-year period is calculated to equal 23.64 in a million for the on-campus sensitive receptors and 20.64 in a million for the off-campus sensitive receptors at locations identified in Figure 16 and would result in a significant impact with or without implementation of MM-AQ-2.

Table 34
Mitigated Modeled Cancer Risk at Sensitive Receptors

Year	Years of Age	Off-Campus (in a million)¹	On-Campus (in a million)²
2018	Third trimester to 1	2.85	9.99
2019-2024	1–7	14.25	16.60
2025	7–8	1.49	1.23
2026-2029	8–12	5.38	4.06
Total Cancer Risk	12	23.97	31.89
Existing	12	3.33	17.42
Net Change Attributable to 2018 LRDP	12	20.64	23.64
Standard of Significance	---	10.0	10.0
Significant Impact?	---	Yes	Yes

Notes: UTM = Universal Transverse Mercator

¹ Receptor location: X (UTM) = 479090.73, Y (UTM) = 3637273.75

² Receptor location: X (UTM) = 479603.26, Y (UTM) = 3637776.30

Figure 16
Locations of Modeled 12-Year (2018-2029) Cancer Risk at Sensitive Receptors
Exceeding Standard with Mitigated Construction



The impacts above the standard of significance at off-campus (MEIR and MEIW) and sensitive receptors are largely due to traffic emissions and to a lesser extent construction activities in proximity to the receptor locations. Implementation of MM-AQ-2 would reduce exposure at both the on- and off-campus sensitive receptors. The cancer risk would decrease by more than 440 percent and 350 percent for on- and off-campus sensitive receptors, respectively, with implementation of MM-AQ-2. However, the benefit of using Tier 4 (mitigated) interim construction equipment was relatively minimal for the off-campus MEIR and MEIW as traffic emissions are the dominant contributor to cancer risk. This is particularly true along the heavily traveled La Jolla Village Drive and to a slightly lesser extent Nobel Drive. In addition, as described previously, the extent to which MM-AQ-2 would be applied could vary.

In addition, although implementation of the 2018 LRDP would result in lower VMT per capita and per employee than the San Diego regional averages and UC San Diego already implements a TDM program aimed at reducing and/or removing vehicle trips (LLG 2018), UC San Diego does not have an ability to directly control operational mobile source (traffic) emissions. As such, this impact remains significant and unavoidable.

Would the project create objectionable odors affecting a substantial number of people?

The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies.

Potential sources that may emit odors during construction of the project would include exhaust from diesel construction equipment. However, because of the temporary nature of these emissions and the highly diffusive properties of diesel exhaust, nearby receptors would not be anticipated to be affected by diesel exhaust odors associated with construction activities. Construction activities under the proposed 2018 LRDP would utilize typical construction techniques, and the odors from off-road equipment and on-road vehicles would be typical of most construction sites and temporary in nature.

Implementation of the 2018 LRDP would not add any new operational odor sources, and any odors generated would be similar to existing odors associated with land uses in the area. The land uses associated with the proposed 2018 LRDP would be

institutional, residential, academic, and commercial, which are consistent with existing campus uses and not typically large generators of odor emissions. As a result, construction and operational activities associated with implementation of the 2018 LRDP would not create objectionable odors affecting a substantial number of people and the impact would be less than significant.

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SECTION 5

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APPENDIX A

CALEEMOD MODELING DATA

2018 LRDP Development by Area of Campus (2025 and 2035 Scenario)

2025 Scenario						
Development Type	West Campus		East Campus		SIO ¹	
	Build-out	25%	Build-out	25%	Build-out	25%
Parking Structure (spaces)	1,700	425	2,000	500	340	85
Residential Development (beds/sf)	4,200/ 1,335,000	1,050/ 333,750	2,911/ 2,502,500	728/ 625,625	-	-
Research and Development (sf)	-	-	550,000	137,500	95,000	23,750
Educational (campus population/sf)	6,476/ 515,000	1,619/ 128,750	-	-	274/ 64,000	69/ 16,000
General Office Building (sf)	240,000	60,000	142,500	35,625	-	-
Medical Office (sf)	100,000	25,000	-	-	-	-
Demolition (sf)	152,911	38,228	235,315	58,829	39,107	9,777

Notes: sf = square feet.

¹ Scripps Institution of Oceanography.

2035 Scenario						
Development Type	West Campus		East Campus		SIO ¹	
	Build-out	25%	Build-out	25%	Build-out	25%
Parking Structure (spaces)	1,750	438	3,800	950	-	-
Residential Units (beds/sf)	1,290/ 250,000	323/ 62,500	1,980/ 800,000	495/ 200,000	800/ 670,000	200/ 167,500
Research and Development (sf)	515,000	128,750	520,000	130,000	145,000	36,250
Educational (campus population/sf)	5,724/ 720,000	1,431/ 180,000	-	-	276/ 150,000	69/ 37,500
General Office Building (sf)	500,000	125,000	-	-	-	-
Medical Office (sf)	-	-	180,000	45,000	-	-
Industrial (sf)	40,000	10,000	-	-	-	-
Dining (sf)	29,500	7,375	-	-	-	-
Demolition (sf)	257,493	64,373	221,221	55,305	123,029	30,757

Notes: sf = square feet.

¹ Scripps Institution of Oceanography.

East Campus 2018-2025 Construction - San Diego County, Winter

East Campus 2018-2025 Construction

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	500.00	Space	4.50	200,000.00	0
General Office Building	35.63	1000sqft	0.82	35,625.00	0
Apartments Mid Rise	728.00	Dwelling Unit	19.16	625,625.00	728
Research & Development	137.50	1000sqft	3.16	137,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

East Campus 2018-2025 Construction - San Diego County, Winter

Project Characteristics -

Land Use - Assuming 25% of 2018-2025 construction occurs in one year. Assumes 1 bed = 1 DU.

Construction Phase - Default construction schedule assumed to occur over one year.

Grading - Default acres graded.

Demolition - Assumes 25% of demolition to occur in one year.

Vehicle Trips - Construction only run.

Woodstoves - Construction only run.

Area Coating - Construction only run.

Energy Use - Construction only run.

Water And Wastewater - Construction only run.

Solid Waste - Construction only run.

Area Mitigation -

Construction Off-road Equipment Mitigation - Applies Tier 4 Interim mitigation.

Architectural Coating - Rule 67.0.1

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	100.00
tblAreaCoating	Area_Nonresidential_Exterior	86563	0
tblAreaCoating	Area_Nonresidential_Interior	259688	0
tblAreaCoating	Area_Parking	12000	0
tblAreaCoating	Area_Residential_Exterior	422297	0
tblAreaCoating	Area_Residential_Interior	1266891	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00

East Campus 2018-2025 Construction - San Diego County, Winter

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
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tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	35.00	261.00

East Campus 2018-2025 Construction - San Diego County, Winter

tblConstructionPhase	NumDays	440.00	261.00
tblConstructionPhase	NumDays	30.00	261.00
tblConstructionPhase	NumDays	45.00	261.00
tblConstructionPhase	NumDays	35.00	261.00
tblConstructionPhase	NumDays	20.00	261.00
tblConstructionPhase	PhaseEndDate	4/24/2020	12/31/2018
tblConstructionPhase	PhaseEndDate	1/17/2020	12/31/2018
tblConstructionPhase	PhaseEndDate	2/9/2018	12/31/2018
tblConstructionPhase	PhaseEndDate	5/11/2018	12/31/2018
tblConstructionPhase	PhaseEndDate	3/6/2020	12/31/2018
tblConstructionPhase	PhaseEndDate	3/9/2018	12/31/2018
tblConstructionPhase	PhaseStartDate	3/7/2020	1/1/2018
tblConstructionPhase	PhaseStartDate	5/12/2018	1/1/2018
tblConstructionPhase	PhaseStartDate	3/10/2018	1/1/2018
tblConstructionPhase	PhaseStartDate	1/18/2020	1/1/2018
tblConstructionPhase	PhaseStartDate	2/10/2018	1/1/2018
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	4.97	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	4.20	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	209.39	0.00

East Campus 2018-2025 Construction - San Diego County, Winter

tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.66	0.00
tblEnergyUse	T24E	1.21	0.00
tblEnergyUse	T24NG	3,248.74	0.00
tblEnergyUse	T24NG	15.99	0.00
tblEnergyUse	T24NG	4.31	0.00
tblFireplaces	NumberGas	400.40	0.00
tblFireplaces	NumberNoFireplace	72.80	0.00
tblFireplaces	NumberWood	254.80	0.00
tblLandUse	LandUseSquareFeet	728,000.00	625,625.00
tblLandUse	Population	2,082.00	728.00
tblSolidWaste	SolidWasteGenerationRate	334.88	0.00
tblSolidWaste	SolidWasteGenerationRate	33.14	0.00
tblSolidWaste	SolidWasteGenerationRate	10.45	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	8.11	0.00
tblWater	IndoorWaterUseRate	47,432,130.65	0.00
tblWater	IndoorWaterUseRate	6,332,653.44	0.00
tblWater	IndoorWaterUseRate	67,607,917.74	0.00
tblWater	OutdoorWaterUseRate	29,902,864.98	0.00

East Campus 2018-2025 Construction - San Diego County, Winter

tblWater	OutdoorWaterUseRate	3,881,303.72	0.00
tblWoodstoves	NumberCatalytic	36.40	0.00
tblWoodstoves	NumberNoncatalytic	36.40	0.00

2.0 Emissions Summary

East Campus 2018-2025 Construction - San Diego County, Winter

2.1 Overall Construction (Maximum Daily Emission)**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	59.5889	210.6127	147.6275	0.3033	35.0289	9.9539	44.9828	15.7218	9.2265	24.9483	0.0000	30,559.45 45	30,559.45 45	6.1969	0.0000	30,714.37 80
Maximum	59.5889	210.6127	147.6275	0.3033	35.0289	9.9539	44.9828	15.7218	9.2265	24.9483	0.0000	30,559.45 45	30,559.45 45	6.1969	0.0000	30,714.37 80

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	44.8092	88.6547	154.8851	0.3033	20.1986	0.5493	20.7479	8.2631	0.5390	8.8021	0.0000	30,559.45 45	30,559.45 45	6.1969	0.0000	30,714.37 80
Maximum	44.8092	88.6547	154.8851	0.3033	20.1986	0.5493	20.7479	8.2631	0.5390	8.8021	0.0000	30,559.45 45	30,559.45 45	6.1969	0.0000	30,714.37 80

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	24.80	57.91	-4.92	0.00	42.34	94.48	53.88	47.44	94.16	64.72	0.00	0.00	0.00	0.00	0.00	0.00

East Campus 2018-2025 Construction - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	18.9720	0.6918	60.0726	3.1800e-003		0.3332	0.3332		0.3332	0.3332	0.0000	108.2934	108.2934	0.1040	0.0000	110.8920
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
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
Total	18.9720	0.6918	60.0726	3.1800e-003	0.0000	0.3332	0.3332	0.0000	0.3332	0.3332	0.0000	108.2934	108.2934	0.1040	0.0000	110.8920

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	18.9720	0.6918	60.0726	3.1800e-003		0.3332	0.3332		0.3332	0.3332	0.0000	108.2934	108.2934	0.1040	0.0000	110.8920
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
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
Total	18.9720	0.6918	60.0726	3.1800e-003	0.0000	0.3332	0.3332	0.0000	0.3332	0.3332	0.0000	108.2934	108.2934	0.1040	0.0000	110.8920

East Campus 2018-2025 Construction - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	1/1/2018	12/31/2018	5	261	
2	Site Preparation	Site Preparation	1/1/2018	12/31/2018	5	261	
3	Grading	Grading	1/1/2018	12/31/2018	5	261	
4	Building Construction	Building Construction	1/1/2018	12/31/2018	5	261	
5	Paving	Paving	1/1/2018	12/31/2018	5	261	
6	Architectural Coating	Architectural Coating	1/1/2018	12/31/2018	5	261	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 652.5

Acres of Paving: 4.5

Residential Indoor: 1,266,891; Residential Outdoor: 422,297; Non-Residential Indoor: 259,688; Non-Residential Outdoor: 86,563; Striped Parking Area: 12,000 (Architectural Coating – sqft)

OffRoad Equipment

East Campus 2018-2025 Construction - San Diego County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
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
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

East Campus 2018-2025 Construction - San Diego County, Winter

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	268.00	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	664.00	139.00	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	133.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2246	0.0000	0.2246	0.0340	0.0000	0.0340			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048		3,871.7665	3,871.7665	1.0667		3,898.4344
Total	3.7190	38.3225	22.3040	0.0388	0.2246	1.9386	2.1632	0.0340	1.8048	1.8389		3,871.7665	3,871.7665	1.0667		3,898.4344

East Campus 2018-2025 Construction - San Diego County, Winter

3.2 Demolition - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.6700e-003	0.3301	0.0724	8.1000e-004	0.0179	1.3200e-003	0.0193	4.9200e-003	1.2600e-003	6.1800e-003		88.3310	88.3310	8.2100e-003		88.5364
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0721	0.0516	0.4871	1.2700e-003	0.1232	8.9000e-004	0.1241	0.0327	8.2000e-004	0.0335		126.3491	126.3491	4.3800e-003		126.4586
Total	0.0818	0.3817	0.5595	2.0800e-003	0.1412	2.2100e-003	0.1434	0.0376	2.0800e-003	0.0397		214.6801	214.6801	0.0126		214.9950

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1011	0.0000	0.1011	0.0153	0.0000	0.0153			0.0000			0.0000
Off-Road	0.5841	13.5576	24.6739	0.0388		0.0616	0.0616		0.0616	0.0616	0.0000	3,871.7665	3,871.7665	1.0667		3,898.4344
Total	0.5841	13.5576	24.6739	0.0388	0.1011	0.0616	0.1627	0.0153	0.0616	0.0770	0.0000	3,871.7665	3,871.7665	1.0667		3,898.4344

East Campus 2018-2025 Construction - San Diego County, Winter

3.2 Demolition - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.6700e-003	0.3301	0.0724	8.1000e-004	0.0179	1.3200e-003	0.0193	4.9200e-003	1.2600e-003	6.1800e-003		88.3310	88.3310	8.2100e-003		88.5364
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0721	0.0516	0.4871	1.2700e-003	0.1232	8.9000e-004	0.1241	0.0327	8.2000e-004	0.0335		126.3491	126.3491	4.3800e-003		126.4586
Total	0.0818	0.3817	0.5595	2.0800e-003	0.1412	2.2100e-003	0.1434	0.0376	2.0800e-003	0.0397		214.6801	214.6801	0.0126		214.9950

3.3 Site Preparation - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708		3,831.6239	3,831.6239	1.1928		3,861.4448
Total	4.5627	48.1988	22.4763	0.0380	18.0663	2.5769	20.6432	9.9307	2.3708	12.3014		3,831.6239	3,831.6239	1.1928		3,861.4448

East Campus 2018-2025 Construction - San Diego County, Winter

3.3 Site Preparation - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0866	0.0620	0.5845	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.6189	151.6189	5.2500e-003		151.7503
Total	0.0866	0.0620	0.5845	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.6189	151.6189	5.2500e-003		151.7503

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.6967	12.1620	22.9600	0.0380		0.0621	0.0621		0.0621	0.0621	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448
Total	0.6967	12.1620	22.9600	0.0380	8.1298	0.0621	8.1919	4.4688	0.0621	4.5309	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448

East Campus 2018-2025 Construction - San Diego County, Winter

3.3 Site Preparation - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0866	0.0620	0.5845	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.6189	151.6189	5.2500e-003		151.7503
Total	0.0866	0.0620	0.5845	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.6189	151.6189	5.2500e-003		151.7503

3.4 Grading - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230		6,244.4284	6,244.4284	1.9440		6,293.0278
Total	5.0901	59.5218	35.0894	0.0620	8.6733	2.6337	11.3071	3.5965	2.4230	6.0195		6,244.4284	6,244.4284	1.9440		6,293.0278

East Campus 2018-2025 Construction - San Diego County, Winter

3.4 Grading - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0962	0.0689	0.6495	1.6900e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		168.4655	168.4655	5.8400e-003		168.6114
Total	0.0962	0.0689	0.6495	1.6900e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		168.4655	168.4655	5.8400e-003		168.6114

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	1.0110	19.2707	36.7226	0.0620		0.1015	0.1015		0.1015	0.1015	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278
Total	1.0110	19.2707	36.7226	0.0620	3.9030	0.1015	4.0045	1.6184	0.1015	1.7200	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278

East Campus 2018-2025 Construction - San Diego County, Winter

3.4 Grading - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0962	0.0689	0.6495	1.6900e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		168.4655	168.4655	5.8400e-003		168.6114
Total	0.0962	0.0689	0.6495	1.6900e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		168.4655	168.4655	5.8400e-003		168.6114

3.5 Building Construction - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883

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3.5 Building Construction - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7472	18.3450	5.3655	0.0378	0.9410	0.1456	1.0866	0.2709	0.1393	0.4102		4,040.701 4	4,040.701 4	0.3497		4,049.442 6
Worker	3.1926	2.2859	21.5618	0.0562	5.4546	0.0393	5.4939	1.4468	0.0362	1.4830		5,593.053 1	5,593.053 1	0.1938		5,597.898 8
Total	3.9398	20.6309	26.9274	0.0940	6.3956	0.1849	6.5805	1.7177	0.1755	1.8932		9,633.754 5	9,633.754 5	0.5435		9,647.341 4

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5335	10.9122	17.8738	0.0269		0.0846	0.0846		0.0846	0.0846	0.0000	2,620.935 1	2,620.935 1	0.6421		2,636.988 3
Total	0.5335	10.9122	17.8738	0.0269		0.0846	0.0846		0.0846	0.0846	0.0000	2,620.935 1	2,620.935 1	0.6421		2,636.988 3

East Campus 2018-2025 Construction - San Diego County, Winter

3.5 Building Construction - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7472	18.3450	5.3655	0.0378	0.9410	0.1456	1.0866	0.2709	0.1393	0.4102		4,040.701 4	4,040.701 4	0.3497		4,049.442 6
Worker	3.1926	2.2859	21.5618	0.0562	5.4546	0.0393	5.4939	1.4468	0.0362	1.4830		5,593.053 1	5,593.053 1	0.1938		5,597.898 8
Total	3.9398	20.6309	26.9274	0.0940	6.3956	0.1849	6.5805	1.7177	0.1755	1.8932		9,633.754 5	9,633.754 5	0.5435		9,647.341 4

3.6 Paving - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797		2,294.088 7	2,294.088 7	0.7142		2,311.943 2
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797		2,294.088 7	2,294.088 7	0.7142		2,311.943 2

East Campus 2018-2025 Construction - San Diego County, Winter

3.6 Paving - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0721	0.0516	0.4871	1.2700e-003	0.1232	8.9000e-004	0.1241	0.0327	8.2000e-004	0.0335		126.3491	126.3491	4.3800e-003		126.4586
Total	0.0721	0.0516	0.4871	1.2700e-003	0.1232	8.9000e-004	0.1241	0.0327	8.2000e-004	0.0335		126.3491	126.3491	4.3800e-003		126.4586

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3341	10.0395	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.3341	10.0395	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,294.0887	2,294.0887	0.7142		2,311.9432

East Campus 2018-2025 Construction - San Diego County, Winter

3.6 Paving - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0721	0.0516	0.4871	1.2700e-003	0.1232	8.9000e-004	0.1241	0.0327	8.2000e-004	0.0335		126.3491	126.3491	4.3800e-003		126.4586
Total	0.0721	0.0516	0.4871	1.2700e-003	0.1232	8.9000e-004	0.1241	0.0327	8.2000e-004	0.0335		126.3491	126.3491	4.3800e-003		126.4586

3.7 Architectural Coating - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.6794					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	36.9780	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171

East Campus 2018-2025 Construction - San Diego County, Winter

3.7 Architectural Coating - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.6395	0.4579	4.3189	0.0113	1.0926	7.8700e-003	1.1004	0.2898	7.2500e-003	0.2971		1,120.2953	1,120.2953	0.0388		1,121.2659
Total	0.6395	0.4579	4.3189	0.0113	1.0926	7.8700e-003	1.1004	0.2898	7.2500e-003	0.2971		1,120.2953	1,120.2953	0.0388		1,121.2659

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.6794					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0545	1.0598	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4485	281.4485	0.0267		282.1171
Total	36.7338	1.0598	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4485	281.4485	0.0267		282.1171

East Campus 2018-2025 Construction - San Diego County, Winter

3.7 Architectural Coating - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.6395	0.4579	4.3189	0.0113	1.0926	7.8700e-003	1.1004	0.2898	7.2500e-003	0.2971		1,120.2953	1,120.2953	0.0388		1,121.2659
Total	0.6395	0.4579	4.3189	0.0113	1.0926	7.8700e-003	1.1004	0.2898	7.2500e-003	0.2971		1,120.2953	1,120.2953	0.0388		1,121.2659

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

East Campus 2018-2025 Construction - San Diego County, Winter

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

4.4 Fleet Mix

East Campus 2018-2025 Construction - San Diego County, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Enclosed Parking Structure	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
General Office Building	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Research & Development	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

East Campus 2018-2025 Construction - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	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
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
General Office Building	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
Research & Development	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

East Campus 2018-2025 Construction - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	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
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
General Office Building	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
Research & Development	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

East Campus 2018-2025 Construction - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	18.9720	0.6918	60.0726	3.1800e-003		0.3332	0.3332		0.3332	0.3332	0.0000	108.2934	108.2934	0.1040	0.0000	110.8920
Unmitigated	18.9720	0.6918	60.0726	3.1800e-003		0.3332	0.3332		0.3332	0.3332	0.0000	108.2934	108.2934	0.1040	0.0000	110.8920

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	17.1641					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8079	0.6918	60.0726	3.1800e-003		0.3332	0.3332		0.3332	0.3332		108.2934	108.2934	0.1040		110.8920
Total	18.9720	0.6918	60.0726	3.1800e-003		0.3332	0.3332		0.3332	0.3332	0.0000	108.2934	108.2934	0.1040	0.0000	110.8920

East Campus 2018-2025 Construction - San Diego County, Winter

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	17.1641					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8079	0.6918	60.0726	3.1800e-003		0.3332	0.3332		0.3332	0.3332		108.2934	108.2934	0.1040		110.8920
Total	18.9720	0.6918	60.0726	3.1800e-003		0.3332	0.3332		0.3332	0.3332	0.0000	108.2934	108.2934	0.1040	0.0000	110.8920

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

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

10.0 Stationary Equipment

East Campus 2018-2025 Construction - San Diego County, Winter

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

West Campus 2018-2025 Construction - San Diego County, Winter

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San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	60.00	1000sqft	1.38	60,000.00	0
Medical Office Building	25.00	1000sqft	0.57	25,000.00	0
University/College (4Yr)	1,619.00	Student	6.83	128,750.00	0
Enclosed Parking Structure	425.00	Space	3.82	170,000.00	0
Apartments Mid Rise	1,050.00	Dwelling Unit	27.63	333,750.00	1050

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

West Campus 2018-2025 Construction - San Diego County, Winter

Project Characteristics -

Land Use - Assuming 25% of 2018-2025 construction occurs in one year. Assumes 1 bed = 1 DU. University pop consistent with TIA.

Construction Phase - Default construction schedule scaled to occur over one year.

Demolition - Assumes 25% of demolition to occur in one year.

Grading - Default acres graded.

Architectural Coating - Rule 67.0.1

Vehicle Trips - Construction only run.

Woodstoves - Construction only run.

Area Coating - Construction only run.

Energy Use - Construction only run.

Water And Wastewater - Construction only run.

Solid Waste - Construction only run.

Construction Off-road Equipment Mitigation - Applies Tier 4 Interim mitigation.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	100.00
tblAreaCoating	Area_Nonresidential_Exterior	106875	0
tblAreaCoating	Area_Nonresidential_Interior	320625	0
tblAreaCoating	Area_Parking	10200	0
tblAreaCoating	Area_Residential_Exterior	225281	0
tblAreaCoating	Area_Residential_Interior	675844	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	55.00	261.00
tblConstructionPhase	NumDays	740.00	261.00

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tblConstructionPhase	NumDays	50.00	261.00
tblConstructionPhase	NumDays	75.00	261.00
tblConstructionPhase	NumDays	55.00	261.00
tblConstructionPhase	NumDays	30.00	261.00
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	LightingElect	3.53	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	4.97	0.00
tblEnergyUse	NT24E	4.97	0.00
tblEnergyUse	NT24E	2.69	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	4.20	0.00
tblEnergyUse	NT24NG	4.20	0.00
tblEnergyUse	NT24NG	5.16	0.00
tblEnergyUse	T24E	209.39	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.66	0.00
tblEnergyUse	T24E	4.66	0.00
tblEnergyUse	T24E	2.66	0.00
tblEnergyUse	T24NG	3,248.74	0.00
tblEnergyUse	T24NG	15.99	0.00
tblEnergyUse	T24NG	15.99	0.00
tblEnergyUse	T24NG	31.18	0.00
tblFireplaces	NumberGas	577.50	0.00

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tblFireplaces	NumberNoFireplace	105.00	0.00
tblFireplaces	NumberWood	367.50	0.00
tblLandUse	LandUseSquareFeet	297,568.10	128,750.00
tblLandUse	LandUseSquareFeet	1,050,000.00	333,750.00
tblLandUse	Population	3,003.00	1,050.00
tblSolidWaste	SolidWasteGenerationRate	483.00	0.00
tblSolidWaste	SolidWasteGenerationRate	55.80	0.00
tblSolidWaste	SolidWasteGenerationRate	270.00	0.00
tblSolidWaste	SolidWasteGenerationRate	295.47	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	8.96	0.00
tblVehicleTrips	ST_TR	1.30	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	1.55	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	36.13	0.00
tblVehicleTrips	WD_TR	1.71	0.00
tblWater	IndoorWaterUseRate	68,411,726.90	0.00
tblWater	IndoorWaterUseRate	10,664,024.88	0.00
tblWater	IndoorWaterUseRate	3,137,013.44	0.00
tblWater	IndoorWaterUseRate	3,466,440.90	0.00
tblWater	OutdoorWaterUseRate	43,129,132.18	0.00
tblWater	OutdoorWaterUseRate	6,536,015.25	0.00
tblWater	OutdoorWaterUseRate	597,526.37	0.00

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tblWater	OutdoorWaterUseRate	5,421,869.10	0.00
tblWoodstoves	NumberCatalytic	52.50	0.00
tblWoodstoves	NumberNoncatalytic	52.50	0.00

2.0 Emissions Summary

West Campus 2018-2025 Construction - San Diego County, Winter

2.1 Overall Construction (Maximum Daily Emission)**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	48.5607	216.2603	158.5387	0.3377	37.6028	10.0085	47.6113	16.4189	9.2782	25.6971	0.0000	34,051.42 76	34,051.42 76	6.3704	0.0000	34,210.68 84
Maximum	48.5607	216.2603	158.5387	0.3377	37.6028	10.0085	47.6113	16.4189	9.2782	25.6971	0.0000	34,051.42 76	34,051.42 76	6.3704	0.0000	34,210.68 84

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	33.7810	94.3023	165.7963	0.3377	22.8158	0.6040	23.4197	8.9668	0.5906	9.5574	0.0000	34,051.42 75	34,051.42 75	6.3704	0.0000	34,210.68 84
Maximum	33.7810	94.3023	165.7963	0.3377	22.8158	0.6040	23.4197	8.9668	0.5906	9.5574	0.0000	34,051.42 75	34,051.42 75	6.3704	0.0000	34,210.68 84

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	30.44	56.39	-4.58	0.00	39.32	93.97	50.81	45.39	93.63	62.81	0.00	0.00	0.00	0.00	0.00	0.00

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2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	14.3951	0.9989	86.7611	4.5900e-003		0.4810	0.4810		0.4810	0.4810	0.0000	156.4459	156.4459	0.1506	0.0000	160.2104
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
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
Total	14.3951	0.9989	86.7611	4.5900e-003	0.0000	0.4810	0.4810	0.0000	0.4810	0.4810	0.0000	156.4459	156.4459	0.1506	0.0000	160.2104

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	14.3951	0.9989	86.7611	4.5900e-003		0.4810	0.4810		0.4810	0.4810	0.0000	156.4459	156.4459	0.1506	0.0000	160.2104
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
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
Total	14.3951	0.9989	86.7611	4.5900e-003	0.0000	0.4810	0.4810	0.0000	0.4810	0.4810	0.0000	156.4459	156.4459	0.1506	0.0000	160.2104

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	1/1/2018	12/31/2018	5	261	
2	Site Preparation	Site Preparation	1/1/2018	12/31/2018	5	261	
3	Grading	Grading	1/1/2018	12/31/2018	5	261	
4	Building Construction	Building Construction	1/1/2018	12/31/2018	5	261	
5	Paving	Paving	1/1/2018	12/31/2018	5	261	
6	Architectural Coating	Architectural Coating	1/1/2018	12/31/2018	5	261	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 652.5****Acres of Paving: 3.82****Residential Indoor: 675,844; Residential Outdoor: 225,281; Non-Residential Indoor: 320,625; Non-Residential Outdoor: 106,875; Striped Parking Area: 10,200 (Architectural Coating – sqft)****OffRoad Equipment**

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	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

West Campus 2018-2025 Construction - San Diego County, Winter

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	174.00	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	909.00	175.00	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	182.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1460	0.0000	0.1460	0.0221	0.0000	0.0221			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048		3,871.7665	3,871.7665	1.0667		3,898.4344
Total	3.7190	38.3225	22.3040	0.0388	0.1460	1.9386	2.0845	0.0221	1.8048	1.8269		3,871.7665	3,871.7665	1.0667		3,898.4344

West Campus 2018-2025 Construction - San Diego County, Winter

3.2 Demolition - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.2800e-003	0.2143	0.0470	5.3000e-004	0.0117	8.5000e-004	0.0125	3.1900e-003	8.2000e-004	4.0100e-003		57.3493	57.3493	5.3300e-003		57.4826
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0721	0.0516	0.4871	1.2700e-003	0.1232	8.9000e-004	0.1241	0.0327	8.2000e-004	0.0335		126.3491	126.3491	4.3800e-003		126.4586
Total	0.0784	0.2660	0.5341	1.8000e-003	0.1349	1.7400e-003	0.1366	0.0359	1.6400e-003	0.0375		183.6983	183.6983	9.7100e-003		183.9411

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0657	0.0000	0.0657	9.9500e-003	0.0000	9.9500e-003			0.0000			0.0000
Off-Road	0.5841	13.5576	24.6739	0.0388		0.0616	0.0616		0.0616	0.0616	0.0000	3,871.7665	3,871.7665	1.0667		3,898.4344
Total	0.5841	13.5576	24.6739	0.0388	0.0657	0.0616	0.1273	9.9500e-003	0.0616	0.0716	0.0000	3,871.7665	3,871.7665	1.0667		3,898.4344

West Campus 2018-2025 Construction - San Diego County, Winter

3.2 Demolition - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.2800e-003	0.2143	0.0470	5.3000e-004	0.0117	8.5000e-004	0.0125	3.1900e-003	8.2000e-004	4.0100e-003		57.3493	57.3493	5.3300e-003		57.4826
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0721	0.0516	0.4871	1.2700e-003	0.1232	8.9000e-004	0.1241	0.0327	8.2000e-004	0.0335		126.3491	126.3491	4.3800e-003		126.4586
Total	0.0784	0.2660	0.5341	1.8000e-003	0.1349	1.7400e-003	0.1366	0.0359	1.6400e-003	0.0375		183.6983	183.6983	9.7100e-003		183.9411

3.3 Site Preparation - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708		3,831.6239	3,831.6239	1.1928		3,861.4448
Total	4.5627	48.1988	22.4763	0.0380	18.0663	2.5769	20.6432	9.9307	2.3708	12.3014		3,831.6239	3,831.6239	1.1928		3,861.4448

West Campus 2018-2025 Construction - San Diego County, Winter

3.3 Site Preparation - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0866	0.0620	0.5845	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.6189	151.6189	5.2500e-003		151.7503
Total	0.0866	0.0620	0.5845	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.6189	151.6189	5.2500e-003		151.7503

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.6967	12.1620	22.9600	0.0380		0.0621	0.0621		0.0621	0.0621	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448
Total	0.6967	12.1620	22.9600	0.0380	8.1298	0.0621	8.1919	4.4688	0.0621	4.5309	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448

West Campus 2018-2025 Construction - San Diego County, Winter

3.3 Site Preparation - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0866	0.0620	0.5845	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.6189	151.6189	5.2500e-003		151.7503
Total	0.0866	0.0620	0.5845	1.5200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		151.6189	151.6189	5.2500e-003		151.7503

3.4 Grading - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230		6,244.4284	6,244.4284	1.9440		6,293.0278
Total	5.0901	59.5218	35.0894	0.0620	8.6733	2.6337	11.3071	3.5965	2.4230	6.0195		6,244.4284	6,244.4284	1.9440		6,293.0278

West Campus 2018-2025 Construction - San Diego County, Winter

3.4 Grading - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0962	0.0689	0.6495	1.6900e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		168.4655	168.4655	5.8400e-003		168.6114
Total	0.0962	0.0689	0.6495	1.6900e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		168.4655	168.4655	5.8400e-003		168.6114

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	1.0110	19.2707	36.7226	0.0620		0.1015	0.1015		0.1015	0.1015	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278
Total	1.0110	19.2707	36.7226	0.0620	3.9030	0.1015	4.0045	1.6184	0.1015	1.7200	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278

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3.4 Grading - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0962	0.0689	0.6495	1.6900e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		168.4655	168.4655	5.8400e-003		168.6114
Total	0.0962	0.0689	0.6495	1.6900e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0900e-003	0.0447		168.4655	168.4655	5.8400e-003		168.6114

3.5 Building Construction - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883

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3.5 Building Construction - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9407	23.0962	6.7552	0.0476	1.1847	0.1833	1.3680	0.3410	0.1754	0.5164		5,087.214 0	5,087.214 0	0.4402		5,098.219 1
Worker	4.3707	3.1294	29.5176	0.0769	7.4672	0.0538	7.5210	1.9807	0.0496	2.0302		7,656.755 0	7,656.755 0	0.2653		7,663.388 5
Total	5.3113	26.2256	36.2728	0.1245	8.6519	0.2371	8.8890	2.3217	0.2250	2.5467		12,743.96 90	12,743.96 90	0.7055		12,761.60 76

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5335	10.9122	17.8738	0.0269		0.0846	0.0846		0.0846	0.0846	0.0000	2,620.935 1	2,620.935 1	0.6421		2,636.988 3
Total	0.5335	10.9122	17.8738	0.0269		0.0846	0.0846		0.0846	0.0846	0.0000	2,620.935 1	2,620.935 1	0.6421		2,636.988 3

West Campus 2018-2025 Construction - San Diego County, Winter

3.5 Building Construction - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9407	23.0962	6.7552	0.0476	1.1847	0.1833	1.3680	0.3410	0.1754	0.5164		5,087.214 0	5,087.214 0	0.4402		5,098.219 1
Worker	4.3707	3.1294	29.5176	0.0769	7.4672	0.0538	7.5210	1.9807	0.0496	2.0302		7,656.755 0	7,656.755 0	0.2653		7,663.388 5
Total	5.3113	26.2256	36.2728	0.1245	8.6519	0.2371	8.8890	2.3217	0.2250	2.5467		12,743.96 90	12,743.96 90	0.7055		12,761.60 76

3.6 Paving - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797		2,294.088 7	2,294.088 7	0.7142		2,311.943 2
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797		2,294.088 7	2,294.088 7	0.7142		2,311.943 2

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3.6 Paving - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0721	0.0516	0.4871	1.2700e-003	0.1232	8.9000e-004	0.1241	0.0327	8.2000e-004	0.0335		126.3491	126.3491	4.3800e-003		126.4586
Total	0.0721	0.0516	0.4871	1.2700e-003	0.1232	8.9000e-004	0.1241	0.0327	8.2000e-004	0.0335		126.3491	126.3491	4.3800e-003		126.4586

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3341	10.0395	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.3341	10.0395	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,294.0887	2,294.0887	0.7142		2,311.9432

West Campus 2018-2025 Construction - San Diego County, Winter

3.6 Paving - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0721	0.0516	0.4871	1.2700e-003	0.1232	8.9000e-004	0.1241	0.0327	8.2000e-004	0.0335		126.3491	126.3491	4.3800e-003		126.4586
Total	0.0721	0.0516	0.4871	1.2700e-003	0.1232	8.9000e-004	0.1241	0.0327	8.2000e-004	0.0335		126.3491	126.3491	4.3800e-003		126.4586

3.7 Architectural Coating - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	24.0474					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	24.3460	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171

West Campus 2018-2025 Construction - San Diego County, Winter

3.7 Architectural Coating - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.8751	0.6266	5.9100	0.0154	1.4951	0.0108	1.5059	0.3966	9.9300e-003	0.4065		1,533.0357	1,533.0357	0.0531		1,534.3638
Total	0.8751	0.6266	5.9100	0.0154	1.4951	0.0108	1.5059	0.3966	9.9300e-003	0.4065		1,533.0357	1,533.0357	0.0531		1,534.3638

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	24.0474					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0545	1.0598	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4485	281.4485	0.0267		282.1171
Total	24.1019	1.0598	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4485	281.4485	0.0267		282.1171

West Campus 2018-2025 Construction - San Diego County, Winter

3.7 Architectural Coating - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.8751	0.6266	5.9100	0.0154	1.4951	0.0108	1.5059	0.3966	9.9300e-003	0.4065		1,533.0357	1,533.0357	0.0531		1,534.3638
Total	0.8751	0.6266	5.9100	0.0154	1.4951	0.0108	1.5059	0.3966	9.9300e-003	0.4065		1,533.0357	1,533.0357	0.0531		1,534.3638

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

West Campus 2018-2025 Construction - San Diego County, Winter

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Medical Office Building	0.00	0.00	0.00		
University/College (4Yr)	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
University/College (4Yr)	9.50	7.30	7.30	6.40	88.60	5.00	91	9	0

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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Enclosed Parking Structure	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
General Office Building	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Medical Office Building	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
University/College (4Yr)	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

West Campus 2018-2025 Construction - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	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
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
General Office Building	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
Medical Office Building	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
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

West Campus 2018-2025 Construction - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	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
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
General Office Building	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
Medical Office Building	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
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

West Campus 2018-2025 Construction - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	14.3951	0.9989	86.7611	4.5900e-003		0.4810	0.4810		0.4810	0.4810	0.0000	156.4459	156.4459	0.1506	0.0000	160.2104
Unmitigated	14.3951	0.9989	86.7611	4.5900e-003		0.4810	0.4810		0.4810	0.4810	0.0000	156.4459	156.4459	0.1506	0.0000	160.2104

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.7767					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6184	0.9989	86.7611	4.5900e-003		0.4810	0.4810		0.4810	0.4810		156.4459	156.4459	0.1506		160.2104
Total	14.3951	0.9989	86.7611	4.5900e-003		0.4810	0.4810		0.4810	0.4810	0.0000	156.4459	156.4459	0.1506	0.0000	160.2104

West Campus 2018-2025 Construction - San Diego County, Winter

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.7767					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6184	0.9989	86.7611	4.5900e-003		0.4810	0.4810		0.4810	0.4810		156.4459	156.4459	0.1506		160.2104
Total	14.3951	0.9989	86.7611	4.5900e-003		0.4810	0.4810		0.4810	0.4810	0.0000	156.4459	156.4459	0.1506	0.0000	160.2104

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

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

10.0 Stationary Equipment

West Campus 2018-2025 Construction - San Diego County, Winter

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

SIO 2018-2025 Construction - San Diego County, Winter

SIO 2018-2025 Construction

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	85.00	Space	0.76	34,000.00	0
Research & Development	23.75	1000sqft	0.55	23,750.00	0
University/College (4Yr)	69.00	Student	0.29	16,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

SIO 2018-2025 Construction - San Diego County, Winter

Project Characteristics -

Land Use - Assuming 25% of 2018-2025 construction occurs in one year. University pop consistent with TIA.

Construction Phase - Default construction schedule to occur over one year.

Grading - Default acres graded.

Demolition - Assumes 25% of demolition to occur in one year.

Architectural Coating - Rule 67.0.1

Vehicle Trips - Construction only run.

Area Coating - Construction only run.

Energy Use - Construction only run.

Water And Wastewater - Construction only run.

Solid Waste - Construction only run.

Construction Off-road Equipment Mitigation - Applies Tier 4 Interim mitigation.

[illegible]

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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
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tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	10.00	261.00
tblConstructionPhase	NumDays	200.00	261.00
tblConstructionPhase	NumDays	20.00	261.00
tblConstructionPhase	NumDays	4.00	261.00
tblConstructionPhase	NumDays	10.00	261.00
tblConstructionPhase	NumDays	2.00	261.00
tblConstructionPhase	PhaseEndDate	12/10/2018	12/31/2018

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tblConstructionPhase	PhaseEndDate	11/12/2018	12/31/2018
tblConstructionPhase	PhaseEndDate	1/26/2018	12/31/2018
tblConstructionPhase	PhaseEndDate	2/5/2018	12/31/2018
tblConstructionPhase	PhaseEndDate	11/26/2018	12/31/2018
tblConstructionPhase	PhaseEndDate	1/30/2018	12/31/2018
tblConstructionPhase	PhaseStartDate	11/27/2018	1/1/2018
tblConstructionPhase	PhaseStartDate	2/6/2018	1/1/2018
tblConstructionPhase	PhaseStartDate	1/31/2018	1/1/2018
tblConstructionPhase	PhaseStartDate	11/13/2018	1/1/2018
tblConstructionPhase	PhaseStartDate	1/27/2018	1/1/2018
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	LightingElect	3.53	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24E	2.69	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	NT24NG	5.16	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	1.21	0.00
tblEnergyUse	T24E	2.66	0.00
tblEnergyUse	T24NG	4.31	0.00
tblEnergyUse	T24NG	31.18	0.00
tblLandUse	LandUseSquareFeet	12,682.03	16,000.00
tblSolidWaste	SolidWasteGenerationRate	1.80	0.00
tblSolidWaste	SolidWasteGenerationRate	12.59	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	1.30	0.00

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tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	WD_TR	8.11	0.00
tblVehicleTrips	WD_TR	1.71	0.00
tblWater	IndoorWaterUseRate	11,677,731.25	0.00
tblWater	IndoorWaterUseRate	147,735.90	0.00
tblWater	OutdoorWaterUseRate	231,074.10	0.00

2.0 Emissions Summary

SIO 2018-2025 Construction - San Diego County, Winter

2.1 Overall Construction (Maximum Daily Emission)**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	11.6346	93.9672	57.6535	0.1039	11.4679	5.0190	16.4869	5.6769	4.7005	10.3774	0.0000	10,218.44 44	10,218.44 44	2.4894	0.0000	10,280.67 86
Maximum	11.6346	93.9672	57.6535	0.1039	11.4679	5.0190	16.4869	5.6769	4.7005	10.3774	0.0000	10,218.44 44	10,218.44 44	2.4894	0.0000	10,280.67 86

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.6185	36.4574	61.4593	0.1039	5.5548	0.2929	5.8476	2.6602	0.2920	2.9522	0.0000	10,218.44 44	10,218.44 44	2.4894	0.0000	10,280.67 86
Maximum	3.6185	36.4574	61.4593	0.1039	5.5548	0.2929	5.8476	2.6602	0.2920	2.9522	0.0000	10,218.44 44	10,218.44 44	2.4894	0.0000	10,280.67 86

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	68.90	61.20	-6.60	0.00	51.56	94.16	64.53	53.14	93.79	71.55	0.00	0.00	0.00	0.00	0.00	0.00

SIO 2018-2025 Construction - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.8644	1.6000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0389	0.0389	1.0000e-004		0.0414
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
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
Total	0.8644	1.6000e-004	0.0181	0.0000	0.0000	6.0000e-005	6.0000e-005	0.0000	6.0000e-005	6.0000e-005		0.0389	0.0389	1.0000e-004	0.0000	0.0414

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.8644	1.6000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0389	0.0389	1.0000e-004		0.0414
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
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
Total	0.8644	1.6000e-004	0.0181	0.0000	0.0000	6.0000e-005	6.0000e-005	0.0000	6.0000e-005	6.0000e-005		0.0389	0.0389	1.0000e-004	0.0000	0.0414

SIO 2018-2025 Construction - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	1/1/2018	12/31/2018	5	261	
2	Site Preparation	Site Preparation	1/1/2018	12/31/2018	5	261	
3	Grading	Grading	1/1/2018	12/31/2018	5	261	
4	Building Construction	Building Construction	1/1/2018	12/31/2018	5	261	
5	Paving	Paving	1/1/2018	12/31/2018	5	261	
6	Architectural Coating	Architectural Coating	1/1/2018	12/31/2018	5	261	

Acres of Grading (Site Preparation Phase): 130.5

Acres of Grading (Grading Phase): 97.88

Acres of Paving: 0.76

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 59,625; Non-Residential Outdoor: 19,875; Striped Parking Area: 2,040 (Architectural Coating – sqft)

OffRoad Equipment

SIO 2018-2025 Construction - San Diego County, Winter

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

Trips and VMT

SIO 2018-2025 Construction - San Diego County, Winter

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	44.00	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	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	29.00	12.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0373	0.0000	0.0373	5.6500e-003	0.0000	5.6500e-003			0.0000			0.0000
Off-Road	2.4838	24.3641	15.1107	0.0241		1.4365	1.4365		1.3429	1.3429		2,391.1659	2,391.1659	0.6058		2,406.3105
Total	2.4838	24.3641	15.1107	0.0241	0.0373	1.4365	1.4738	5.6500e-003	1.3429	1.3485		2,391.1659	2,391.1659	0.6058		2,406.3105

SIO 2018-2025 Construction - San Diego County, Winter

3.2 Demolition - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5900e-003	0.0542	0.0119	1.3000e-004	2.9500e-003	2.2000e-004	3.1600e-003	8.1000e-004	2.1000e-004	1.0100e-003		14.5021	14.5021	1.3500e-003		14.5358
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0625	0.0448	0.4221	1.1000e-003	0.1068	7.7000e-004	0.1076	0.0283	7.1000e-004	0.0290		109.5026	109.5026	3.7900e-003		109.5974
Total	0.0641	0.0990	0.4340	1.2300e-003	0.1097	9.9000e-004	0.1107	0.0291	9.2000e-004	0.0301		124.0047	124.0047	5.1400e-003		124.1333

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0168	0.0000	0.0168	2.5400e-003	0.0000	2.5400e-003			0.0000			0.0000
Off-Road	0.4630	8.5434	15.4154	0.0241		0.0375	0.0375		0.0375	0.0375	0.0000	2,391.1659	2,391.1659	0.6058		2,406.3105
Total	0.4630	8.5434	15.4154	0.0241	0.0168	0.0375	0.0543	2.5400e-003	0.0375	0.0400	0.0000	2,391.1659	2,391.1659	0.6058		2,406.3105

SIO 2018-2025 Construction - San Diego County, Winter

3.2 Demolition - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5900e-003	0.0542	0.0119	1.3000e-004	2.9500e-003	2.2000e-004	3.1600e-003	8.1000e-004	2.1000e-004	1.0100e-003		14.5021	14.5021	1.3500e-003		14.5358
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0625	0.0448	0.4221	1.1000e-003	0.1068	7.7000e-004	0.1076	0.0283	7.1000e-004	0.0290		109.5026	109.5026	3.7900e-003		109.5974
Total	0.0641	0.0990	0.4340	1.2300e-003	0.1097	9.9000e-004	0.1107	0.0291	9.2000e-004	0.0301		124.0047	124.0047	5.1400e-003		124.1333

3.3 Site Preparation - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	1.8061	20.7472	8.0808	0.0172		0.9523	0.9523		0.8761	0.8761		1,735.3630	1,735.3630	0.5402		1,748.8690
Total	1.8061	20.7472	8.0808	0.0172	5.7996	0.9523	6.7518	2.9537	0.8761	3.8298		1,735.3630	1,735.3630	0.5402		1,748.8690

SIO 2018-2025 Construction - San Diego County, Winter

3.3 Site Preparation - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0385	0.0275	0.2598	6.8000e-004	0.0657	4.7000e-004	0.0662	0.0174	4.4000e-004	0.0179		67.3862	67.3862	2.3400e-003		67.4446
Total	0.0385	0.0275	0.2598	6.8000e-004	0.0657	4.7000e-004	0.0662	0.0174	4.4000e-004	0.0179		67.3862	67.3862	2.3400e-003		67.4446

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.6098	0.0000	2.6098	1.3292	0.0000	1.3292			0.0000			0.0000
Off-Road	0.2998	5.0659	9.8221	0.0172		0.0281	0.0281		0.0281	0.0281	0.0000	1,735.3630	1,735.3630	0.5402		1,748.8690
Total	0.2998	5.0659	9.8221	0.0172	2.6098	0.0281	2.6379	1.3292	0.0281	1.3573	0.0000	1,735.3630	1,735.3630	0.5402		1,748.8690

SIO 2018-2025 Construction - San Diego County, Winter

3.3 Site Preparation - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0385	0.0275	0.2598	6.8000e-004	0.0657	4.7000e-004	0.0662	0.0174	4.4000e-004	0.0179		67.3862	67.3862	2.3400e-003		67.4446
Total	0.0385	0.0275	0.2598	6.8000e-004	0.0657	4.7000e-004	0.0662	0.0174	4.4000e-004	0.0179		67.3862	67.3862	2.3400e-003		67.4446

3.4 Grading - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.4972	17.0666	6.7630	0.0141		0.7947	0.7947		0.7311	0.7311		1,421.2605	1,421.2605	0.4425		1,432.3219
Total	1.4972	17.0666	6.7630	0.0141	4.9143	0.7947	5.7090	2.5256	0.7311	3.2568		1,421.2605	1,421.2605	0.4425		1,432.3219

SIO 2018-2025 Construction - San Diego County, Winter

3.4 Grading - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0385	0.0275	0.2598	6.8000e-004	0.0657	4.7000e-004	0.0662	0.0174	4.4000e-004	0.0179		67.3862	67.3862	2.3400e-003		67.4446
Total	0.0385	0.0275	0.2598	6.8000e-004	0.0657	4.7000e-004	0.0662	0.0174	4.4000e-004	0.0179		67.3862	67.3862	2.3400e-003		67.4446

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.2114	0.0000	2.2114	1.1365	0.0000	1.1365			0.0000			0.0000
Off-Road	0.2466	4.1795	8.0841	0.0141		0.0230	0.0230		0.0230	0.0230	0.0000	1,421.2605	1,421.2605	0.4425		1,432.3219
Total	0.2466	4.1795	8.0841	0.0141	2.2114	0.0230	2.2344	1.1365	0.0230	1.1595	0.0000	1,421.2605	1,421.2605	0.4425		1,432.3219

SIO 2018-2025 Construction - San Diego County, Winter

3.4 Grading - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0385	0.0275	0.2598	6.8000e-004	0.0657	4.7000e-004	0.0662	0.0174	4.4000e-004	0.0179		67.3862	67.3862	2.3400e-003		67.4446
Total	0.0385	0.0275	0.2598	6.8000e-004	0.0657	4.7000e-004	0.0662	0.0174	4.4000e-004	0.0179		67.3862	67.3862	2.3400e-003		67.4446

3.5 Building Construction - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216		2,030.8389	2,030.8389	0.4088		2,041.0596
Total	2.5919	17.4280	13.8766	0.0220		1.0580	1.0580		1.0216	1.0216		2,030.8389	2,030.8389	0.4088		2,041.0596

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3.5 Building Construction - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0645	1.5837	0.4632	3.2600e-003	0.0812	0.0126	0.0938	0.0234	0.0120	0.0354		348.8375	348.8375	0.0302		349.5922
Worker	0.1394	0.0998	0.9417	2.4500e-003	0.2382	1.7200e-003	0.2399	0.0632	1.5800e-003	0.0648		244.2749	244.2749	8.4700e-003		244.4865
Total	0.2039	1.6836	1.4049	5.7100e-003	0.3195	0.0143	0.3338	0.0866	0.0136	0.1002		593.1124	593.1124	0.0387		594.0787

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4010	9.9925	13.4786	0.0220		0.1617	0.1617		0.1617	0.1617	0.0000	2,030.8389	2,030.8389	0.4088		2,041.0596
Total	0.4010	9.9925	13.4786	0.0220		0.1617	0.1617		0.1617	0.1617	0.0000	2,030.8389	2,030.8389	0.4088		2,041.0596

SIO 2018-2025 Construction - San Diego County, Winter

3.5 Building Construction - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0645	1.5837	0.4632	3.2600e-003	0.0812	0.0126	0.0938	0.0234	0.0120	0.0354		348.8375	348.8375	0.0302		349.5922
Worker	0.1394	0.0998	0.9417	2.4500e-003	0.2382	1.7200e-003	0.2399	0.0632	1.5800e-003	0.0648		244.2749	244.2749	8.4700e-003		244.4865
Total	0.2039	1.6836	1.4049	5.7100e-003	0.3195	0.0143	0.3338	0.0866	0.0136	0.1002		593.1124	593.1124	0.0387		594.0787

3.6 Paving - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618		1,346.4360	1,346.4360	0.4113		1,356.7186
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0182	10.4525	8.9926	0.0135		0.6097	0.6097		0.5618	0.5618		1,346.4360	1,346.4360	0.4113		1,356.7186

SIO 2018-2025 Construction - San Diego County, Winter

3.6 Paving - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0625	0.0448	0.4221	1.1000e-003	0.1068	7.7000e-004	0.1076	0.0283	7.1000e-004	0.0290		109.5026	109.5026	3.7900e-003		109.5974
Total	0.0625	0.0448	0.4221	1.1000e-003	0.1068	7.7000e-004	0.1076	0.0283	7.1000e-004	0.0290		109.5026	109.5026	3.7900e-003		109.5974

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2149	5.7133	9.8512	0.0135		0.0213	0.0213		0.0213	0.0213	0.0000	1,346.4360	1,346.4360	0.4113		1,356.7186
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.2149	5.7133	9.8512	0.0135		0.0213	0.0213		0.0213	0.0213	0.0000	1,346.4360	1,346.4360	0.4113		1,356.7186

SIO 2018-2025 Construction - San Diego County, Winter

3.6 Paving - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0625	0.0448	0.4221	1.1000e-003	0.1068	7.7000e-004	0.1076	0.0283	7.1000e-004	0.0290		109.5026	109.5026	3.7900e-003		109.5974
Total	0.0625	0.0448	0.4221	1.1000e-003	0.1068	7.7000e-004	0.1076	0.0283	7.1000e-004	0.0290		109.5026	109.5026	3.7900e-003		109.5974

3.7 Architectural Coating - 2018**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.5024					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	1.8010	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171

SIO 2018-2025 Construction - San Diego County, Winter

3.7 Architectural Coating - 2018**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0289	0.0207	0.1948	5.1000e-004	0.0493	3.5000e-004	0.0496	0.0131	3.3000e-004	0.0134		50.5396	50.5396	1.7500e-003		50.5834
Total	0.0289	0.0207	0.1948	5.1000e-004	0.0493	3.5000e-004	0.0496	0.0131	3.3000e-004	0.0134		50.5396	50.5396	1.7500e-003		50.5834

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.5024					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0545	1.0598	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4485	281.4485	0.0267		282.1171
Total	1.5569	1.0598	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4485	281.4485	0.0267		282.1171

SIO 2018-2025 Construction - San Diego County, Winter

3.7 Architectural Coating - 2018**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0289	0.0207	0.1948	5.1000e-004	0.0493	3.5000e-004	0.0496	0.0131	3.3000e-004	0.0134		50.5396	50.5396	1.7500e-003		50.5834
Total	0.0289	0.0207	0.1948	5.1000e-004	0.0493	3.5000e-004	0.0496	0.0131	3.3000e-004	0.0134		50.5396	50.5396	1.7500e-003		50.5834

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

SIO 2018-2025 Construction - San Diego County, Winter

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

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		
Research & Development	0.00	0.00	0.00		
University/College (4Yr)	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	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
University/College (4Yr)	9.50	7.30	7.30	6.40	88.60	5.00	91	9	0

4.4 Fleet Mix

SIO 2018-2025 Construction - San Diego County, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Research & Development	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
University/College (4Yr)	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

SIO 2018-2025 Construction - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
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
Research & Development	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
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	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	lb/day										lb/day					
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
Research & Development	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
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

SIO 2018-2025 Construction - San Diego County, Winter

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.8644	1.6000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0389	0.0389	1.0000e-004		0.0414
Unmitigated	0.8644	1.6000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0389	0.0389	1.0000e-004		0.0414

6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.8627					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.6700e-003	1.6000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0389	0.0389	1.0000e-004		0.0414
Total	0.8644	1.6000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0389	0.0389	1.0000e-004		0.0414

SIO 2018-2025 Construction - San Diego County, Winter

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.8627					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.6700e-003	1.6000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0389	0.0389	1.0000e-004		0.0414
Total	0.8644	1.6000e-004	0.0181	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0389	0.0389	1.0000e-004		0.0414

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

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

10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

SIO 2018-2025 Construction - San Diego County, Winter

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

East Campus 2025-2035 Construction - San Diego County, Winter

East Campus 2025-2035 Construction

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	950.00	Space	8.55	380,000.00	0
Apartments Mid Rise	495.00	Dwelling Unit	13.03	200,000.00	495
Research & Development	130.00	1000sqft	2.98	130,000.00	0
Medical Office Building	45.00	1000sqft	1.03	45,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2035
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

East Campus 2025-2035 Construction - San Diego County, Winter

Project Characteristics -

Land Use - Assuming 25% of 2025-2035 construction occurs in one year. Assumes 1 bed = 1 DU.

Construction Phase - Default construction schedule assumed to occur over one year.

Grading - Default acres graded.

Demolition - Assumes 25% of demolition occur in one year.

Architectural Coating - Rule 67.0.1

Vehicle Trips - Construction only run.

Woodstoves - Construction only run.

Area Coating - Construction only run.

Energy Use - Construction only run.

Water And Wastewater - Construction only run.

Solid Waste - Construction only run.

Construction Off-road Equipment Mitigation - Applies Tier 4 Interim mitigation.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	100.00
tblAreaCoating	Area_Nonresidential_Exterior	87500	0
tblAreaCoating	Area_Nonresidential_Interior	262500	0
tblAreaCoating	Area_Parking	22800	0
tblAreaCoating	Area_Residential_Exterior	135000	0
tblAreaCoating	Area_Residential_Interior	405000	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

East Campus 2025-2035 Construction - San Diego County, Winter

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
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tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	35.00	261.00
tblConstructionPhase	NumDays	440.00	261.00

East Campus 2025-2035 Construction - San Diego County, Winter

tblConstructionPhase	NumDays	30.00	261.00
tblConstructionPhase	NumDays	45.00	261.00
tblConstructionPhase	NumDays	35.00	261.00
tblConstructionPhase	NumDays	20.00	261.00
tblConstructionPhase	PhaseEndDate	4/27/2027	12/31/2025
tblConstructionPhase	PhaseEndDate	1/19/2027	12/31/2025
tblConstructionPhase	PhaseEndDate	2/11/2025	12/31/2025
tblConstructionPhase	PhaseEndDate	5/13/2025	12/31/2025
tblConstructionPhase	PhaseEndDate	3/9/2027	12/31/2025
tblConstructionPhase	PhaseEndDate	3/11/2025	12/31/2025
tblConstructionPhase	PhaseStartDate	3/10/2027	1/1/2025
tblConstructionPhase	PhaseStartDate	5/14/2025	1/1/2025
tblConstructionPhase	PhaseStartDate	3/12/2025	1/1/2025
tblConstructionPhase	PhaseStartDate	1/20/2027	1/1/2025
tblConstructionPhase	PhaseStartDate	2/12/2025	1/1/2025
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	4.97	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	4.20	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	209.39	0.00
tblEnergyUse	T24E	3.92	0.00

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tblEnergyUse	T24E	4.66	0.00
tblEnergyUse	T24E	1.21	0.00
tblEnergyUse	T24NG	3,248.74	0.00
tblEnergyUse	T24NG	15.99	0.00
tblEnergyUse	T24NG	4.31	0.00
tblFireplaces	NumberGas	272.25	0.00
tblFireplaces	NumberNoFireplace	49.50	0.00
tblFireplaces	NumberWood	173.25	0.00
tblLandUse	LandUseSquareFeet	495,000.00	200,000.00
tblLandUse	Population	1,416.00	495.00
tblSolidWaste	SolidWasteGenerationRate	227.70	0.00
tblSolidWaste	SolidWasteGenerationRate	486.00	0.00
tblSolidWaste	SolidWasteGenerationRate	9.88	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	8.96	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	1.55	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	36.13	0.00
tblVehicleTrips	WD_TR	8.11	0.00
tblWater	IndoorWaterUseRate	32,251,242.68	0.00
tblWater	IndoorWaterUseRate	5,646,624.19	0.00
tblWater	IndoorWaterUseRate	63,920,213.14	0.00
tblWater	OutdoorWaterUseRate	20,332,305.17	0.00
tblWater	OutdoorWaterUseRate	1,075,547.46	0.00

East Campus 2025-2035 Construction - San Diego County, Winter

tblWoodstoves	NumberCatalytic	24.75	0.00
tblWoodstoves	NumberNoncatalytic	24.75	0.00

2.0 Emissions Summary

East Campus 2025-2035 Construction - San Diego County, Winter

2.1 Overall Construction (Maximum Daily Emission)**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2025	29.4761	106.6117	113.6526	0.2778	34.1364	4.1207	38.2571	15.4873	3.8140	19.3013	0.0000	27,387.25 11	27,387.25 11	5.9110	0.0000	27,535.02 47
Maximum	29.4761	106.6117	113.6526	0.2778	34.1364	4.1207	38.2571	15.4873	3.8140	19.3013	0.0000	27,387.25 11	27,387.25 11	5.9110	0.0000	27,535.02 47

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2025	22.7701	79.0433	138.8779	0.2778	19.3135	0.4039	19.7174	8.0298	0.4002	8.4300	0.0000	27,387.25 11	27,387.25 11	5.9110	0.0000	27,535.02 47
Maximum	22.7701	79.0433	138.8779	0.2778	19.3135	0.4039	19.7174	8.0298	0.4002	8.4300	0.0000	27,387.25 11	27,387.25 11	5.9110	0.0000	27,535.02 47

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	22.75	25.86	-22.20	0.00	43.42	90.20	48.46	48.15	89.51	56.32	0.00	0.00	0.00	0.00	0.00	0.00

East Campus 2025-2035 Construction - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.3868	0.4705	40.8088	2.1700e-003		0.2269	0.2269		0.2269	0.2269	0.0000	73.7796	73.7796	0.0706	0.0000	75.5454
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
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
Total	9.3868	0.4705	40.8088	2.1700e-003	0.0000	0.2269	0.2269	0.0000	0.2269	0.2269	0.0000	73.7796	73.7796	0.0706	0.0000	75.5454

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	9.3868	0.4705	40.8088	2.1700e-003		0.2269	0.2269		0.2269	0.2269	0.0000	73.7796	73.7796	0.0706	0.0000	75.5454
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
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
Total	9.3868	0.4705	40.8088	2.1700e-003	0.0000	0.2269	0.2269	0.0000	0.2269	0.2269	0.0000	73.7796	73.7796	0.0706	0.0000	75.5454

East Campus 2025-2035 Construction - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	1/1/2025	12/31/2025	5	261	
2	Site Preparation	Site Preparation	1/1/2025	12/31/2025	5	261	
3	Grading	Grading	1/1/2025	12/31/2025	5	261	
4	Building Construction	Building Construction	1/1/2025	12/31/2025	5	261	
5	Paving	Paving	1/1/2025	12/31/2025	5	261	
6	Architectural Coating	Architectural Coating	1/1/2025	12/31/2025	5	261	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 652.5

Acres of Paving: 8.55

Residential Indoor: 405,000; Residential Outdoor: 135,000; Non-Residential Indoor: 262,500; Non-Residential Outdoor: 87,500; Striped Parking Area: 22,800 (Architectural Coating – sqft)

OffRoad Equipment

East Campus 2025-2035 Construction - San Diego County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
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
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

East Campus 2025-2035 Construction - San Diego County, Winter

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	252.00	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	572.00	144.00	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	114.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 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	lb/day										lb/day					
Fugitive Dust					0.2112	0.0000	0.2112	0.0320	0.0000	0.0320			0.0000			0.0000
Off-Road	2.0926	19.1966	19.4184	0.0388		0.8528	0.8528		0.7920	0.7920		3,747.5996	3,747.5996	1.0464		3,773.7606
Total	2.0926	19.1966	19.4184	0.0388	0.2112	0.8528	1.0639	0.0320	0.7920	0.8240		3,747.5996	3,747.5996	1.0464		3,773.7606

East Campus 2025-2035 Construction - San Diego County, Winter

3.2 Demolition - 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	lb/day										lb/day					
Hauling	4.7900e-003	0.1488	0.0605	6.8000e-004	0.0169	2.8000e-004	0.0172	4.6200e-003	2.7000e-004	4.8900e-003		75.4733	75.4733	7.0800e-003		75.6502
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092
Total	0.0531	0.1755	0.3407	1.6600e-003	0.1401	1.0700e-003	0.1412	0.0373	1.0000e-003	0.0383		173.4241	173.4241	9.4200e-003		173.6594

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0950	0.0000	0.0950	0.0144	0.0000	0.0144			0.0000			0.0000
Off-Road	0.5841	13.5576	24.6739	0.0388		0.0616	0.0616		0.0616	0.0616	0.0000	3,747.5996	3,747.5996	1.0464		3,773.7606
Total	0.5841	13.5576	24.6739	0.0388	0.0950	0.0616	0.1567	0.0144	0.0616	0.0760	0.0000	3,747.5996	3,747.5996	1.0464		3,773.7606

East Campus 2025-2035 Construction - San Diego County, Winter

3.2 Demolition - 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	lb/day										lb/day					
Hauling	4.7900e-003	0.1488	0.0605	6.8000e-004	0.0169	2.8000e-004	0.0172	4.6200e-003	2.7000e-004	4.8900e-003		75.4733	75.4733	7.0800e-003		75.6502
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092
Total	0.0531	0.1755	0.3407	1.6600e-003	0.1401	1.0700e-003	0.1412	0.0373	1.0000e-003	0.0383		173.4241	173.4241	9.4200e-003		173.6594

3.3 Site Preparation - 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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305		3,689.1037	3,689.1037	1.1931		3,718.9320

East Campus 2025-2035 Construction - San Diego County, Winter

3.3 Site Preparation - 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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0579	0.0320	0.3362	1.1800e-003	0.1479	9.5000e-004	0.1488	0.0392	8.7000e-004	0.0401		117.5410	117.5410	2.8000e-003		117.6111
Total	0.0579	0.0320	0.3362	1.1800e-003	0.1479	9.5000e-004	0.1488	0.0392	8.7000e-004	0.0401		117.5410	117.5410	2.8000e-003		117.6111

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.6967	12.1620	22.9600	0.0381		0.0621	0.0621		0.0621	0.0621	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
Total	0.6967	12.1620	22.9600	0.0381	8.1298	0.0621	8.1919	4.4688	0.0621	4.5309	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320

East Campus 2025-2035 Construction - San Diego County, Winter

3.3 Site Preparation - 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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0579	0.0320	0.3362	1.1800e-003	0.1479	9.5000e-004	0.1488	0.0392	8.7000e-004	0.0401		117.5410	117.5410	2.8000e-003		117.6111
Total	0.0579	0.0320	0.3362	1.1800e-003	0.1479	9.5000e-004	0.1488	0.0392	8.7000e-004	0.0401		117.5410	117.5410	2.8000e-003		117.6111

3.4 Grading - 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	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	2.9012	27.9429	26.3311	0.0621	8.6733	1.1309	9.8042	3.5965	1.0404	4.6369		6,008.2814	6,008.2814	1.9432		6,056.8614

East Campus 2025-2035 Construction - San Diego County, Winter

3.4 Grading - 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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0355	0.3736	1.3100e-003	0.1643	1.0500e-003	0.1654	0.0436	9.7000e-004	0.0446		130.6011	130.6011	3.1100e-003		130.6790
Total	0.0643	0.0355	0.3736	1.3100e-003	0.1643	1.0500e-003	0.1654	0.0436	9.7000e-004	0.0446		130.6011	130.6011	3.1100e-003		130.6790

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	1.0110	19.2707	36.7226	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	1.0110	19.2707	36.7226	0.0621	3.9030	0.1015	4.0045	1.6184	0.1015	1.7200	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614

East Campus 2025-2035 Construction - San Diego County, Winter

3.4 Grading - 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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0355	0.3736	1.3100e-003	0.1643	1.0500e-003	0.1654	0.0436	9.7000e-004	0.0446		130.6011	130.6011	3.1100e-003		130.6790
Total	0.0643	0.0355	0.3736	1.3100e-003	0.1643	1.0500e-003	0.1654	0.0436	9.7000e-004	0.0446		130.6011	130.6011	3.1100e-003		130.6790

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	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981

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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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3083	10.5543	3.3749	0.0360	0.9748	0.0127	0.9876	0.2806	0.0122	0.2928		3,898.464 2	3,898.464 2	0.2737		3,905.306 2
Worker	1.8402	1.0153	10.6845	0.0375	4.6988	0.0301	4.7289	1.2464	0.0277	1.2740		3,735.191 4	3,735.191 4	0.0891		3,737.418 1
Total	2.1484	11.5696	14.0594	0.0735	5.6737	0.0428	5.7165	1.5270	0.0399	1.5668		7,633.655 5	7,633.655 5	0.3628		7,642.724 2

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1

East Campus 2025-2035 Construction - San Diego County, Winter

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3083	10.5543	3.3749	0.0360	0.9748	0.0127	0.9876	0.2806	0.0122	0.2928		3,898.464 2	3,898.464 2	0.2737		3,905.306 2
Worker	1.8402	1.0153	10.6845	0.0375	4.6988	0.0301	4.7289	1.2464	0.0277	1.2740		3,735.191 4	3,735.191 4	0.0891		3,737.418 1
Total	2.1484	11.5696	14.0594	0.0735	5.6737	0.0428	5.7165	1.5270	0.0399	1.5668		7,633.655 5	7,633.655 5	0.3628		7,642.724 2

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	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.745 2	2,206.745 2	0.7137		2,224.587 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.745 2	2,206.745 2	0.7137		2,224.587 8

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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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092
Total	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3341	10.0395	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.3341	10.0395	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878

East Campus 2025-2035 Construction - San Diego County, Winter

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092
Total	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092

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	lb/day										lb/day					
Archit. Coating	16.8174					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	16.9883	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

East Campus 2025-2035 Construction - San Diego County, Winter

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3667	0.2024	2.1294	7.4600e-003	0.9365	5.9900e-003	0.9425	0.2484	5.5200e-003	0.2539		744.4263	744.4263	0.0178		744.8700
Total	0.3667	0.2024	2.1294	7.4600e-003	0.9365	5.9900e-003	0.9425	0.2484	5.5200e-003	0.2539		744.4263	744.4263	0.0178		744.8700

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	16.8174					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0545	1.0598	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0154		281.8319
Total	16.8719	1.0598	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0154		281.8319

East Campus 2025-2035 Construction - San Diego County, Winter

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3667	0.2024	2.1294	7.4600e-003	0.9365	5.9900e-003	0.9425	0.2484	5.5200e-003	0.2539		744.4263	744.4263	0.0178		744.8700
Total	0.3667	0.2024	2.1294	7.4600e-003	0.9365	5.9900e-003	0.9425	0.2484	5.5200e-003	0.2539		744.4263	744.4263	0.0178		744.8700

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

East Campus 2025-2035 Construction - San Diego County, Winter

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
Medical Office Building	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

4.4 Fleet Mix

East Campus 2025-2035 Construction - San Diego County, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
Enclosed Parking Structure	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
Medical Office Building	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
Research & Development	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

East Campus 2025-2035 Construction - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	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
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
Medical Office Building	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
Research & Development	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

East Campus 2025-2035 Construction - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	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
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
Medical Office Building	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
Research & Development	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

East Campus 2025-2035 Construction - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.3868	0.4705	40.8088	2.1700e-003		0.2269	0.2269		0.2269	0.2269	0.0000	73.7796	73.7796	0.0706	0.0000	75.5454
Unmitigated	9.3868	0.4705	40.8088	2.1700e-003		0.2269	0.2269		0.2269	0.2269	0.0000	73.7796	73.7796	0.0706	0.0000	75.5454

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.1596					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2272	0.4705	40.8088	2.1700e-003		0.2269	0.2269		0.2269	0.2269		73.7796	73.7796	0.0706		75.5454
Total	9.3868	0.4705	40.8088	2.1700e-003		0.2269	0.2269		0.2269	0.2269	0.0000	73.7796	73.7796	0.0706	0.0000	75.5454

East Campus 2025-2035 Construction - San Diego County, Winter

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.1596					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2272	0.4705	40.8088	2.1700e-003		0.2269	0.2269		0.2269	0.2269		73.7796	73.7796	0.0706		75.5454
Total	9.3868	0.4705	40.8088	2.1700e-003		0.2269	0.2269		0.2269	0.2269	0.0000	73.7796	73.7796	0.0706	0.0000	75.5454

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

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

10.0 Stationary Equipment

East Campus 2025-2035 Construction - San Diego County, Winter

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

West Campus 2025-2035 Construction - San Diego County, Winter

West Campus 2025-2035 Construction

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	125.00	1000sqft	2.87	125,000.00	0
Research & Development	128.75	1000sqft	2.96	128,750.00	0
University/College (4Yr)	1,431.00	Student	6.04	180,000.00	0
General Light Industry	10.00	1000sqft	0.23	10,000.00	0
Enclosed Parking Structure	437.00	Space	3.93	174,800.00	0
High Turnover (Sit Down Restaurant)	7.38	1000sqft	0.17	7,375.00	0
Apartments Mid Rise	322.00	Dwelling Unit	8.47	62,500.00	322

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2035
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

West Campus 2025-2035 Construction - San Diego County, Winter

Project Characteristics -

Land Use - Assuming 25% of 2018-2025 construction occurs in one year. Assumes 1 bed = 1 DU. University pop consistent with TIA.

Construction Phase - Default construction schedule assumed to occur over one year.

Demolition - Assumes 25% of demolition to occur in one year.

Grading - Default acres graded.

Architectural Coating - Rule 67.0.1

Vehicle Trips - Construction only run.

Woodstoves - Construction only run.

Area Coating - Construction only run.

Energy Use - Construction only run.

Water And Wastewater - Construction only run.

Solid Waste - Construction only run.

Construction Off-road Equipment Mitigation - Applies Tier 4 Interim mitigation.

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	100.00
tblAreaCoating	Area_Nonresidential_Exterior	225563	0
tblAreaCoating	Area_Nonresidential_Interior	676688	0
tblAreaCoating	Area_Parking	10488	0
tblAreaCoating	Area_Residential_Exterior	42188	0
tblAreaCoating	Area_Residential_Interior	126563	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

West Campus 2025-2035 Construction - San Diego County, Winter

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	261.00

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tblConstructionPhase	NumDays	370.00	261.00
tblConstructionPhase	NumDays	20.00	261.00
tblConstructionPhase	NumDays	35.00	261.00
tblConstructionPhase	NumDays	20.00	261.00
tblConstructionPhase	NumDays	10.00	261.00
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	LightingElect	3.81	0.00
tblEnergyUse	LightingElect	6.78	0.00
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	LightingElect	3.53	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24E	4.97	0.00
tblEnergyUse	NT24E	23.69	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24E	2.69	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	NT24NG	4.20	0.00
tblEnergyUse	NT24NG	138.46	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	NT24NG	5.16	0.00
tblEnergyUse	T24E	209.39	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	1.21	0.00

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tblEnergyUse	T24E	4.66	0.00
tblEnergyUse	T24E	8.23	0.00
tblEnergyUse	T24E	1.21	0.00
tblEnergyUse	T24E	2.66	0.00
tblEnergyUse	T24NG	3,248.74	0.00
tblEnergyUse	T24NG	4.31	0.00
tblEnergyUse	T24NG	15.99	0.00
tblEnergyUse	T24NG	35.92	0.00
tblEnergyUse	T24NG	4.31	0.00
tblEnergyUse	T24NG	31.18	0.00
tblFireplaces	NumberGas	177.10	0.00
tblFireplaces	NumberNoFireplace	32.20	0.00
tblFireplaces	NumberWood	112.70	0.00
tblLandUse	LandUseSquareFeet	263,014.18	180,000.00
tblLandUse	LandUseSquareFeet	7,380.00	7,375.00
tblLandUse	LandUseSquareFeet	322,000.00	62,500.00
tblLandUse	Population	921.00	322.00
tblSolidWaste	SolidWasteGenerationRate	148.12	0.00
tblSolidWaste	SolidWasteGenerationRate	12.40	0.00
tblSolidWaste	SolidWasteGenerationRate	116.25	0.00
tblSolidWaste	SolidWasteGenerationRate	87.82	0.00
tblSolidWaste	SolidWasteGenerationRate	9.78	0.00
tblSolidWaste	SolidWasteGenerationRate	261.16	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	158.37	0.00

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tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	1.30	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	131.84	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	127.15	0.00
tblVehicleTrips	WD_TR	8.11	0.00
tblVehicleTrips	WD_TR	1.71	0.00
tblWater	IndoorWaterUseRate	20,979,596.25	0.00
tblWater	IndoorWaterUseRate	2,312,500.00	0.00
tblWater	IndoorWaterUseRate	22,216,718.50	0.00
tblWater	IndoorWaterUseRate	2,240,078.80	0.00
tblWater	IndoorWaterUseRate	63,305,595.70	0.00
tblWater	IndoorWaterUseRate	3,063,914.10	0.00
tblWater	OutdoorWaterUseRate	13,226,267.20	0.00
tblWater	OutdoorWaterUseRate	13,616,698.43	0.00
tblWater	OutdoorWaterUseRate	142,983.75	0.00
tblWater	OutdoorWaterUseRate	4,792,275.90	0.00
tblWoodstoves	NumberCatalytic	16.10	0.00
tblWoodstoves	NumberNoncatalytic	16.10	0.00

2.0 Emissions Summary

West Campus 2025-2035 Construction - San Diego County, Winter

2.1 Overall Construction (Maximum Daily Emission)**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2025	31.7339	105.9045	111.2008	0.2681	33.1160	4.1137	37.2296	15.2117	3.8075	19.0192	0.0000	26,406.82 51	26,406.82 51	5.8797	0.0000	26,553.81 60
Maximum	31.7339	105.9045	111.2008	0.2681	33.1160	4.1137	37.2296	15.2117	3.8075	19.0192	0.0000	26,406.82 51	26,406.82 51	5.8797	0.0000	26,553.81 60

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2025	25.0279	78.3361	136.4261	0.2681	18.2740	0.3968	18.6708	7.7513	0.3937	8.1449	0.0000	26,406.82 50	26,406.82 50	5.8797	0.0000	26,553.81 60
Maximum	25.0279	78.3361	136.4261	0.2681	18.2740	0.3968	18.6708	7.7513	0.3937	8.1449	0.0000	26,406.82 50	26,406.82 50	5.8797	0.0000	26,553.81 60

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	21.13	26.03	-22.68	0.00	44.82	90.35	49.85	49.04	89.66	57.18	0.00	0.00	0.00	0.00	0.00	0.00

West Campus 2025-2035 Construction - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	11.8649	0.3074	26.6892	1.4200e-003		0.1481	0.1481		0.1481	0.1481	0.0000	48.3020	48.3020	0.0467	0.0000	49.4705
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
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
Total	11.8649	0.3074	26.6892	1.4200e-003	0.0000	0.1481	0.1481	0.0000	0.1481	0.1481	0.0000	48.3020	48.3020	0.0467	0.0000	49.4705

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	11.8649	0.3074	26.6892	1.4200e-003		0.1481	0.1481		0.1481	0.1481	0.0000	48.3020	48.3020	0.0467	0.0000	49.4705
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
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
Total	11.8649	0.3074	26.6892	1.4200e-003	0.0000	0.1481	0.1481	0.0000	0.1481	0.1481	0.0000	48.3020	48.3020	0.0467	0.0000	49.4705

West Campus 2025-2035 Construction - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	1/1/2025	12/31/2025	5	261	
2	Site Preparation	Site Preparation	1/1/2025	12/31/2025	5	261	
3	Grading	Grading	1/1/2025	12/31/2025	5	261	
4	Building Construction	Building Construction	1/1/2025	12/31/2025	5	261	
5	Paving	Paving	1/1/2025	12/31/2025	5	261	
6	Architectural Coating	Architectural Coating	1/1/2025	12/31/2025	5	261	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 652.5****Acres of Paving: 3.93****Residential Indoor: 126,563; Residential Outdoor: 42,188; Non-Residential Indoor: 676,688; Non-Residential Outdoor: 225,563; Striped Parking Area: 10,488 (Architectural Coating – sqft)****OffRoad Equipment**

West Campus 2025-2035 Construction - San Diego County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	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

West Campus 2025-2035 Construction - San Diego County, Winter

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	293.00	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	469.00	137.00	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	94.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 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	lb/day										lb/day					
Fugitive Dust					0.2458	0.0000	0.2458	0.0372	0.0000	0.0372			0.0000			0.0000
Off-Road	2.0926	19.1966	19.4184	0.0388		0.8528	0.8528		0.7920	0.7920		3,747.5996	3,747.5996	1.0464		3,773.7606
Total	2.0926	19.1966	19.4184	0.0388	0.2458	0.8528	1.0986	0.0372	0.7920	0.8292		3,747.5996	3,747.5996	1.0464		3,773.7606

West Campus 2025-2035 Construction - San Diego County, Winter

3.2 Demolition - 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	lb/day										lb/day					
Hauling	5.5700e-003	0.1731	0.0704	7.9000e-004	0.0196	3.3000e-004	0.0199	5.3800e-003	3.1000e-004	5.6900e-003		87.7527	87.7527	8.2300e-003		87.9584
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092
Total	0.0538	0.1997	0.3506	1.7700e-003	0.1428	1.1200e-003	0.1440	0.0381	1.0400e-003	0.0391		185.7035	185.7035	0.0106		185.9676

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1106	0.0000	0.1106	0.0168	0.0000	0.0168			0.0000			0.0000
Off-Road	0.5841	13.5576	24.6739	0.0388		0.0616	0.0616		0.0616	0.0616	0.0000	3,747.5996	3,747.5996	1.0464		3,773.7606
Total	0.5841	13.5576	24.6739	0.0388	0.1106	0.0616	0.1723	0.0168	0.0616	0.0784	0.0000	3,747.5996	3,747.5996	1.0464		3,773.7606

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3.2 Demolition - 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	lb/day										lb/day					
Hauling	5.5700e-003	0.1731	0.0704	7.9000e-004	0.0196	3.3000e-004	0.0199	5.3800e-003	3.1000e-004	5.6900e-003		87.7527	87.7527	8.2300e-003		87.9584
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092
Total	0.0538	0.1997	0.3506	1.7700e-003	0.1428	1.1200e-003	0.1440	0.0381	1.0400e-003	0.0391		185.7035	185.7035	0.0106		185.9676

3.3 Site Preparation - 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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305		3,689.1037	3,689.1037	1.1931		3,718.9320

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3.3 Site Preparation - 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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0579	0.0320	0.3362	1.1800e-003	0.1479	9.5000e-004	0.1488	0.0392	8.7000e-004	0.0401		117.5410	117.5410	2.8000e-003		117.6111
Total	0.0579	0.0320	0.3362	1.1800e-003	0.1479	9.5000e-004	0.1488	0.0392	8.7000e-004	0.0401		117.5410	117.5410	2.8000e-003		117.6111

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.6967	12.1620	22.9600	0.0381		0.0621	0.0621		0.0621	0.0621	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
Total	0.6967	12.1620	22.9600	0.0381	8.1298	0.0621	8.1919	4.4688	0.0621	4.5309	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320

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3.3 Site Preparation - 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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0579	0.0320	0.3362	1.1800e-003	0.1479	9.5000e-004	0.1488	0.0392	8.7000e-004	0.0401		117.5410	117.5410	2.8000e-003		117.6111
Total	0.0579	0.0320	0.3362	1.1800e-003	0.1479	9.5000e-004	0.1488	0.0392	8.7000e-004	0.0401		117.5410	117.5410	2.8000e-003		117.6111

3.4 Grading - 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	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	2.9012	27.9429	26.3311	0.0621	8.6733	1.1309	9.8042	3.5965	1.0404	4.6369		6,008.2814	6,008.2814	1.9432		6,056.8614

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3.4 Grading - 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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0355	0.3736	1.3100e-003	0.1643	1.0500e-003	0.1654	0.0436	9.7000e-004	0.0446		130.6011	130.6011	3.1100e-003		130.6790
Total	0.0643	0.0355	0.3736	1.3100e-003	0.1643	1.0500e-003	0.1654	0.0436	9.7000e-004	0.0446		130.6011	130.6011	3.1100e-003		130.6790

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	1.0110	19.2707	36.7226	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	1.0110	19.2707	36.7226	0.0621	3.9030	0.1015	4.0045	1.6184	0.1015	1.7200	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614

West Campus 2025-2035 Construction - San Diego County, Winter

3.4 Grading - 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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0355	0.3736	1.3100e-003	0.1643	1.0500e-003	0.1654	0.0436	9.7000e-004	0.0446		130.6011	130.6011	3.1100e-003		130.6790
Total	0.0643	0.0355	0.3736	1.3100e-003	0.1643	1.0500e-003	0.1654	0.0436	9.7000e-004	0.0446		130.6011	130.6011	3.1100e-003		130.6790

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	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981

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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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2933	10.0412	3.2109	0.0343	0.9274	0.0121	0.9396	0.2670	0.0116	0.2786		3,708.955 5	3,708.955 5	0.2604		3,715.464 9
Worker	1.5088	0.8325	8.7605	0.0307	3.8527	0.0247	3.8774	1.0219	0.0227	1.0446		3,062.595 7	3,062.595 7	0.0730		3,064.421 5
Total	1.8021	10.8738	11.9714	0.0650	4.7802	0.0368	4.8169	1.2889	0.0343	1.3232		6,771.551 2	6,771.551 2	0.3334		6,779.886 4

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1

West Campus 2025-2035 Construction - San Diego County, Winter

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2933	10.0412	3.2109	0.0343	0.9274	0.0121	0.9396	0.2670	0.0116	0.2786		3,708.955 5	3,708.955 5	0.2604		3,715.464 9
Worker	1.5088	0.8325	8.7605	0.0307	3.8527	0.0247	3.8774	1.0219	0.0227	1.0446		3,062.595 7	3,062.595 7	0.0730		3,064.421 5
Total	1.8021	10.8738	11.9714	0.0650	4.7802	0.0368	4.8169	1.2889	0.0343	1.3232		6,771.551 2	6,771.551 2	0.3334		6,779.886 4

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	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.745 2	2,206.745 2	0.7137		2,224.587 8
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.745 2	2,206.745 2	0.7137		2,224.587 8

West Campus 2025-2035 Construction - San Diego County, Winter

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092
Total	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3341	10.0395	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.3341	10.0395	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878

West Campus 2025-2035 Construction - San Diego County, Winter

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092
Total	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092

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	lb/day										lb/day					
Archit. Coating	19.4852					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	19.6560	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

West Campus 2025-2035 Construction - San Diego County, Winter

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3024	0.1669	1.7558	6.1600e-003	0.7722	4.9400e-003	0.7771	0.2048	4.5500e-003	0.2094		613.8252	613.8252	0.0146		614.1911
Total	0.3024	0.1669	1.7558	6.1600e-003	0.7722	4.9400e-003	0.7771	0.2048	4.5500e-003	0.2094		613.8252	613.8252	0.0146		614.1911

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	19.4852					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0545	1.0598	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0154		281.8319
Total	19.5396	1.0598	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0154		281.8319

West Campus 2025-2035 Construction - San Diego County, Winter

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3024	0.1669	1.7558	6.1600e-003	0.7722	4.9400e-003	0.7771	0.2048	4.5500e-003	0.2094		613.8252	613.8252	0.0146		614.1911
Total	0.3024	0.1669	1.7558	6.1600e-003	0.7722	4.9400e-003	0.7771	0.2048	4.5500e-003	0.2094		613.8252	613.8252	0.0146		614.1911

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

West Campus 2025-2035 Construction - San Diego County, Winter

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartment Mid Rise	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
University/College (4Yr)	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

West Campus 2025-2035 Construction - San Diego County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
University/College (4Yr)	9.50	7.30	7.30	6.40	88.60	5.00	91	9	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
Enclosed Parking Structure	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
General Light Industry	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
General Office Building	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
High Turnover (Sit Down Restaurant)	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
Research & Development	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
University/College (4Yr)	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

West Campus 2025-2035 Construction - San Diego County, Winter

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

West Campus 2025-2035 Construction - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	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
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
General Light Industry	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
General Office Building	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
High Turnover (Sit Down Restaurant)	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
Research & Development	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
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

West Campus 2025-2035 Construction - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	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
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
General Light Industry	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
General Office Building	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
High Turnover (Sit Down Restaurant)	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
Research & Development	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
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

West Campus 2025-2035 Construction - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	11.8649	0.3074	26.6892	1.4200e-003		0.1481	0.1481		0.1481	0.1481	0.0000	48.3020	48.3020	0.0467	0.0000	49.4705
Unmitigated	11.8649	0.3074	26.6892	1.4200e-003		0.1481	0.1481		0.1481	0.1481	0.0000	48.3020	48.3020	0.0467	0.0000	49.4705

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.0535					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.8114	0.3074	26.6892	1.4200e-003		0.1481	0.1481		0.1481	0.1481		48.3020	48.3020	0.0467		49.4705
Total	11.8649	0.3074	26.6892	1.4200e-003		0.1481	0.1481		0.1481	0.1481	0.0000	48.3020	48.3020	0.0467	0.0000	49.4705

West Campus 2025-2035 Construction - San Diego County, Winter

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	11.0535					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.8114	0.3074	26.6892	1.4200e-003		0.1481	0.1481		0.1481	0.1481		48.3020	48.3020	0.0467		49.4705
Total	11.8649	0.3074	26.6892	1.4200e-003		0.1481	0.1481		0.1481	0.1481	0.0000	48.3020	48.3020	0.0467	0.0000	49.4705

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

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

10.0 Stationary Equipment

West Campus 2025-2035 Construction - San Diego County, Winter

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

SIO 2025-2035 Construction - San Diego County, Winter

SIO 2025-2035 Construction

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	36.25	1000sqft	0.83	36,250.00	0
University/College (4Yr)	69.00	Student	0.29	37,500.00	0
Apartments Mid Rise	200.00	Dwelling Unit	5.26	167,500.00	200

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2035
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

SIO 2025-2035 Construction - San Diego County, Winter

Project Characteristics -

Land Use - Assuming 25% of 2025-2035 construction occurs in one year. University pop consistent with TIA. Assumes 1 bed = 1 DU.

Construction Phase - Default construction schedule assumed to occur over one year.

Demolition - Assumes 25% of demolition to occur in one year.

Grading - Default acres graded.

Architectural Coating - Rule 67.0.1

Vehicle Trips - Construction run only.

Woodstoves - Construction run only.

Area Coating - Construction run only.

Energy Use - Construction run only.

Water And Wastewater - Construction run only.

Solid Waste - Construction run only.

Construction Off-road Equipment Mitigation - Applies Tier 4 Interim.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	100.00
tblAreaCoating	Area_Nonresidential_Exterior	36875	0
tblAreaCoating	Area_Nonresidential_Interior	110625	0
tblAreaCoating	Area_Residential_Exterior	113063	0
tblAreaCoating	Area_Residential_Interior	339188	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00

SIO 2025-2035 Construction - San Diego County, Winter

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	261.00
tblConstructionPhase	NumDays	230.00	261.00
tblConstructionPhase	NumDays	20.00	261.00
tblConstructionPhase	NumDays	20.00	261.00
tblConstructionPhase	NumDays	20.00	261.00

SIO 2025-2035 Construction - San Diego County, Winter

tblConstructionPhase	NumDays	10.00	261.00
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	LightingElect	3.53	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24E	2.69	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	NT24NG	5.16	0.00
tblEnergyUse	T24E	209.39	0.00
tblEnergyUse	T24E	1.21	0.00
tblEnergyUse	T24E	2.66	0.00
tblEnergyUse	T24NG	3,248.74	0.00
tblEnergyUse	T24NG	4.31	0.00
tblEnergyUse	T24NG	31.18	0.00
tblFireplaces	NumberGas	110.00	0.00
tblFireplaces	NumberNoFireplace	20.00	0.00
tblFireplaces	NumberWood	70.00	0.00
tblLandUse	LandUseSquareFeet	12,682.03	37,500.00
tblLandUse	LandUseSquareFeet	200,000.00	167,500.00
tblLandUse	Population	572.00	200.00
tblSolidWaste	SolidWasteGenerationRate	92.00	0.00
tblSolidWaste	SolidWasteGenerationRate	2.75	0.00
tblSolidWaste	SolidWasteGenerationRate	12.59	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	1.90	0.00

SIO 2025-2035 Construction - San Diego County, Winter

tblVehicleTrips	ST_TR	1.30	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	8.11	0.00
tblVehicleTrips	WD_TR	1.71	0.00
tblWater	IndoorWaterUseRate	13,030,805.12	0.00
tblWater	IndoorWaterUseRate	17,823,905.59	0.00
tblWater	IndoorWaterUseRate	147,735.90	0.00
tblWater	OutdoorWaterUseRate	8,215,072.80	0.00
tblWater	OutdoorWaterUseRate	231,074.10	0.00
tblWoodstoves	NumberCatalytic	10.00	0.00
tblWoodstoves	NumberNoncatalytic	10.00	0.00

2.0 Emissions Summary

SIO 2025-2035 Construction - San Diego County, Winter

2.1 Overall Construction (Maximum Daily Emission)**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2025	20.1276	84.9191	90.1552	0.1855	27.1704	3.5779	30.7483	13.9668	3.3142	17.2810	0.0000	18,040.45 84	18,040.45 84	4.6074	0.0000	18,155.64 27
Maximum	20.1276	84.9191	90.1552	0.1855	27.1704	3.5779	30.7483	13.9668	3.3142	17.2810	0.0000	18,040.45 84	18,040.45 84	4.6074	0.0000	18,155.64 27

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2025	14.3091	61.0409	109.4394	0.1855	13.5655	0.3153	13.8808	6.6430	0.3140	6.9570	0.0000	18,040.45 83	18,040.45 83	4.6074	0.0000	18,155.64 27
Maximum	14.3091	61.0409	109.4394	0.1855	13.5655	0.3153	13.8808	6.6430	0.3140	6.9570	0.0000	18,040.45 83	18,040.45 83	4.6074	0.0000	18,155.64 27

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	28.91	28.12	-21.39	0.00	50.07	91.19	54.86	52.44	90.53	59.74	0.00	0.00	0.00	0.00	0.00	0.00

SIO 2025-2035 Construction - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.6553	0.1898	16.4529	8.7000e-004		0.0915	0.0915		0.0915	0.0915	0.0000	29.7335	29.7335	0.0283	0.0000	30.4420
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
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
Total	5.6553	0.1898	16.4529	8.7000e-004	0.0000	0.0915	0.0915	0.0000	0.0915	0.0915	0.0000	29.7335	29.7335	0.0283	0.0000	30.4420

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.6553	0.1898	16.4529	8.7000e-004		0.0915	0.0915		0.0915	0.0915	0.0000	29.7335	29.7335	0.0283	0.0000	30.4420
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
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
Total	5.6553	0.1898	16.4529	8.7000e-004	0.0000	0.0915	0.0915	0.0000	0.0915	0.0915	0.0000	29.7335	29.7335	0.0283	0.0000	30.4420

SIO 2025-2035 Construction - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	1/1/2025	12/31/2025	5	261	
2	Site Preparation	Site Preparation	1/1/2025	12/31/2025	5	261	
3	Grading	Grading	1/1/2025	12/31/2025	5	261	
4	Building Construction	Building Construction	1/1/2025	12/31/2025	5	261	
5	Paving	Paving	1/1/2025	12/31/2025	5	261	
6	Architectural Coating	Architectural Coating	1/1/2025	12/31/2025	5	261	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 130.5

Acres of Paving: 0

Residential Indoor: 339,188; Residential Outdoor: 113,063; Non-Residential Indoor: 110,625; Non-Residential Outdoor: 36,875; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

SIO 2025-2035 Construction - San Diego County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	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

SIO 2025-2035 Construction - San Diego County, Winter

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	140.00	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	171.00	33.00	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	34.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 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	lb/day										lb/day					
Fugitive Dust					0.1175	0.0000	0.1175	0.0178	0.0000	0.0178			0.0000			0.0000
Off-Road	2.0926	19.1966	19.4184	0.0388		0.8528	0.8528		0.7920	0.7920		3,747.5996	3,747.5996	1.0464		3,773.7606
Total	2.0926	19.1966	19.4184	0.0388	0.1175	0.8528	0.9702	0.0178	0.7920	0.8098		3,747.5996	3,747.5996	1.0464		3,773.7606

SIO 2025-2035 Construction - San Diego County, Winter

3.2 Demolition - 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	lb/day										lb/day					
Hauling	2.6600e-003	0.0827	0.0336	3.8000e-004	9.3700e-003	1.6000e-004	9.5300e-003	2.5700e-003	1.5000e-004	2.7200e-003		41.9296	41.9296	3.9300e-003		42.0279
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092
Total	0.0509	0.1093	0.3138	1.3600e-003	0.1326	9.5000e-004	0.1335	0.0353	8.8000e-004	0.0361		139.8804	139.8804	6.2700e-003		140.0371

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0529	0.0000	0.0529	8.0000e-003	0.0000	8.0000e-003			0.0000			0.0000
Off-Road	0.5841	13.5576	24.6739	0.0388		0.0616	0.0616		0.0616	0.0616	0.0000	3,747.5996	3,747.5996	1.0464		3,773.7606
Total	0.5841	13.5576	24.6739	0.0388	0.0529	0.0616	0.1145	8.0000e-003	0.0616	0.0696	0.0000	3,747.5996	3,747.5996	1.0464		3,773.7606

SIO 2025-2035 Construction - San Diego County, Winter

3.2 Demolition - 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	lb/day										lb/day					
Hauling	2.6600e-003	0.0827	0.0336	3.8000e-004	9.3700e-003	1.6000e-004	9.5300e-003	2.5700e-003	1.5000e-004	2.7200e-003		41.9296	41.9296	3.9300e-003		42.0279
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092
Total	0.0509	0.1093	0.3138	1.3600e-003	0.1326	9.5000e-004	0.1335	0.0353	8.8000e-004	0.0361		139.8804	139.8804	6.2700e-003		140.0371

3.3 Site Preparation - 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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
Total	2.4727	25.2339	17.9118	0.0381	18.0663	1.0868	19.1531	9.9307	0.9999	10.9305		3,689.1037	3,689.1037	1.1931		3,718.9320

SIO 2025-2035 Construction - San Diego County, Winter

3.3 Site Preparation - 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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0579	0.0320	0.3362	1.1800e-003	0.1479	9.5000e-004	0.1488	0.0392	8.7000e-004	0.0401		117.5410	117.5410	2.8000e-003		117.6111
Total	0.0579	0.0320	0.3362	1.1800e-003	0.1479	9.5000e-004	0.1488	0.0392	8.7000e-004	0.0401		117.5410	117.5410	2.8000e-003		117.6111

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.6967	12.1620	22.9600	0.0381		0.0621	0.0621		0.0621	0.0621	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
Total	0.6967	12.1620	22.9600	0.0381	8.1298	0.0621	8.1919	4.4688	0.0621	4.5309	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320

SIO 2025-2035 Construction - San Diego County, Winter

3.3 Site Preparation - 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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0579	0.0320	0.3362	1.1800e-003	0.1479	9.5000e-004	0.1488	0.0392	8.7000e-004	0.0401		117.5410	117.5410	2.8000e-003		117.6111
Total	0.0579	0.0320	0.3362	1.1800e-003	0.1479	9.5000e-004	0.1488	0.0392	8.7000e-004	0.0401		117.5410	117.5410	2.8000e-003		117.6111

3.4 Grading - 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	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.5227	15.3148	14.5402	0.0297		0.6236	0.6236		0.5737	0.5737		2,873.7052	2,873.7052	0.9294		2,896.9405
Total	1.5227	15.3148	14.5402	0.0297	6.5523	0.6236	7.1759	3.3675	0.5737	3.9412		2,873.7052	2,873.7052	0.9294		2,896.9405

SIO 2025-2035 Construction - San Diego County, Winter

3.4 Grading - 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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092
Total	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	0.5200	10.3327	18.9906	0.0297		0.0484	0.0484		0.0484	0.0484	0.0000	2,873.705 2	2,873.705 2	0.9294		2,896.940 5
Total	0.5200	10.3327	18.9906	0.0297	2.9486	0.0484	2.9970	1.5154	0.0484	1.5638	0.0000	2,873.705 2	2,873.705 2	0.9294		2,896.940 5

SIO 2025-2035 Construction - San Diego County, Winter

3.4 Grading - 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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092
Total	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092

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	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981

SIO 2025-2035 Construction - San Diego County, Winter

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0706	2.4187	0.7734	8.2500e-003	0.2234	2.9200e-003	0.2263	0.0643	2.7900e-003	0.0671		893.3980	893.3980	0.0627		894.9660
Worker	0.5501	0.3035	3.1941	0.0112	1.4047	8.9900e-003	1.4137	0.3726	8.2800e-003	0.3809		1,116.6394	1,116.6394	0.0266		1,117.3051
Total	0.6208	2.7222	3.9676	0.0195	1.6281	0.0119	1.6400	0.4369	0.0111	0.4480		2,010.0374	2,010.0374	0.0894		2,012.2711

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	0.5335	10.9122	17.8738	0.0270		0.0846	0.0846		0.0846	0.0846	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981

SIO 2025-2035 Construction - San Diego County, Winter

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0706	2.4187	0.7734	8.2500e-003	0.2234	2.9200e-003	0.2263	0.0643	2.7900e-003	0.0671		893.3980	893.3980	0.0627		894.9660
Worker	0.5501	0.3035	3.1941	0.0112	1.4047	8.9900e-003	1.4137	0.3726	8.2800e-003	0.3809		1,116.6394	1,116.6394	0.0266		1,117.3051
Total	0.6208	2.7222	3.9676	0.0195	1.6281	0.0119	1.6400	0.4369	0.0111	0.4480		2,010.0374	2,010.0374	0.0894		2,012.2711

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	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878

SIO 2025-2035 Construction - San Diego County, Winter

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092
Total	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3341	10.0395	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.3341	10.0395	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878

SIO 2025-2035 Construction - San Diego County, Winter

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092
Total	0.0483	0.0266	0.2802	9.8000e-004	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		97.9508	97.9508	2.3400e-003		98.0092

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	lb/day										lb/day					
Archit. Coating	10.6508					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	10.8216	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319

SIO 2025-2035 Construction - San Diego County, Winter

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1094	0.0604	0.6351	2.2300e-003	0.2793	1.7900e-003	0.2811	0.0741	1.6500e-003	0.0757		222.0219	222.0219	5.2900e-003		222.1542
Total	0.1094	0.0604	0.6351	2.2300e-003	0.2793	1.7900e-003	0.2811	0.0741	1.6500e-003	0.0757		222.0219	222.0219	5.2900e-003		222.1542

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	10.6508					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0545	1.0598	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0154		281.8319
Total	10.7052	1.0598	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0154		281.8319

SIO 2025-2035 Construction - San Diego County, Winter

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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1094	0.0604	0.6351	2.2300e-003	0.2793	1.7900e-003	0.2811	0.0741	1.6500e-003	0.0757		222.0219	222.0219	5.2900e-003		222.1542
Total	0.1094	0.0604	0.6351	2.2300e-003	0.2793	1.7900e-003	0.2811	0.0741	1.6500e-003	0.0757		222.0219	222.0219	5.2900e-003		222.1542

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

SIO 2025-2035 Construction - San Diego County, Winter

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartment Mid Rise	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
University/College (4Yr)	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
Apartment Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
University/College (4Yr)	9.50	7.30	7.30	6.40	88.60	5.00	91	9	0

4.4 Fleet Mix

SIO 2025-2035 Construction - San Diego County, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
Research & Development	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
University/College (4Yr)	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

SIO 2025-2035 Construction - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	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
Research & Development	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
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	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	lb/day										lb/day					
Apartments Mid Rise	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
Research & Development	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
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

SIO 2025-2035 Construction - San Diego County, Winter

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.6553	0.1898	16.4529	8.7000e-004		0.0915	0.0915		0.0915	0.0915	0.0000	29.7335	29.7335	0.0283	0.0000	30.4420
Unmitigated	5.6553	0.1898	16.4529	8.7000e-004		0.0915	0.0915		0.0915	0.0915	0.0000	29.7335	29.7335	0.0283	0.0000	30.4420

SIO 2025-2035 Construction - San Diego County, Winter

6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.1628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.4926	0.1898	16.4529	8.7000e-004		0.0915	0.0915		0.0915	0.0915		29.7335	29.7335	0.0283		30.4420
Total	5.6553	0.1898	16.4529	8.7000e-004		0.0915	0.0915		0.0915	0.0915	0.0000	29.7335	29.7335	0.0283	0.0000	30.4420

SIO 2025-2035 Construction - San Diego County, Winter

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.1628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.4926	0.1898	16.4529	8.7000e-004		0.0915	0.0915		0.0915	0.0915		29.7335	29.7335	0.0283		30.4420
Total	5.6553	0.1898	16.4529	8.7000e-004		0.0915	0.0915		0.0915	0.0915	0.0000	29.7335	29.7335	0.0283	0.0000	30.4420

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

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

10.0 Stationary Equipment

SIO 2025-2035 Construction - San Diego County, Winter

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

2025 Scenario Operational Emissions

Emissions Source	ROG (lbs/day)	NO _x (lbs/day)	CO (lbs/day)	SO ₂ (lbs/day)	PM ₁₀ (lbs/day)	PM _{2.5} (lbs/day)
2018 LRDP						
Area Sources (net emissions)	156.40	30.37	601.63	0.18	5.12	5.12
Mobile Sources	141.74	572.13	1,722.41	6.49	668.45	182.02
Stationary Sources	29.94	179.75	113.72	24.05	63.45	63.45
Total 2018 LRDP Emissions	328.08	782.25	2,437.76	30.72	737.01	250.59
Existing						
Mobile Sources	302.99	1,236.72	3,740.02	8.45	651.92	184.23
Stationary Sources	27.81	141.42	77.37	23.94	61.87	61.87
Total Existing Emissions	330.80	1,378.14	3,817.39	32.39	713.79	246.10
Net Change	(2.71)	(595.89)	(1,379.64)	(1.67)	23.23	4.49
Threshold of Significance	137	250	550	250	100	55
Significant Impact?	No	No	No	No	No	No

2035 Scenario Operational Emissions

Emissions Source	ROG (lbs/day)	NO _x (lbs/day)	CO (lbs/day)	SO ₂ (lbs/day)	PM ₁₀ (lbs/day)	PM _{2.5} (lbs/day)
2018 LRDP						
Area Sources (net emissions)	121.06	28.86	353.79	0.17	3.80	3.80
Mobile Sources	113.45	524.52	1,411.83	6.16	761.88	205.64
Stationary Sources	30.66	192.87	124.49	24.13	83.91	83.91
Total 2018 LRDP Emissions	265.17	746.24	1,890.11	30.46	849.59	293.35
Existing						
Mobile Sources	302.99	1,236.72	3,740.02	8.45	651.92	184.23
Stationary Sources	27.81	141.42	77.37	23.94	61.87	61.87
Total Existing Emissions	330.80	1,378.14	3,817.39	32.39	713.79	246.10
Net Change	(65.62)	(631.90)	(1,927.28)	(1.93)	135.80	47.26
Threshold of Significance	137	250	550	250	100	55
Significant Impact?	No	No	No	No	Yes	No

East Campus 2025 Mobile Source Emissions - San Diego County, Winter

East Campus 2025 Mobile Source Emissions
San Diego County, Winter**1.0 Project Characteristics**

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
University/College (4Yr)	1.00	Student	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

East Campus 2025 Mobile Source Emissions - San Diego County, Winter

Project Characteristics -

Land Use - Mobile source emissions run only.

Construction Phase - Mobile source emissions run only.

Off-road Equipment - Mobile source emissions run only.

Off-road Equipment - Mobile source emissions run only.

Trips and VMT - Operational mobile source emissions run only.

Vehicle Trips - ADT from TIA 2018.

Energy Use - Mobile source emissions run only.

Water And Wastewater - Mobile source emissions run only.

Solid Waste - Mobile source emissions run only.

East Campus 2025 Mobile Source Emissions - San Diego County, Winter

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	3.53	0.00
tblEnergyUse	NT24E	2.69	0.00
tblEnergyUse	NT24NG	5.16	0.00
tblEnergyUse	T24E	2.66	0.00
tblEnergyUse	T24NG	31.18	0.00
tblLandUse	LandUseSquareFeet	183.80	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.18	0.00
tblVehicleTrips	CC_TL	7.30	8.27
tblVehicleTrips	CNW_TL	7.30	8.27
tblVehicleTrips	CW_TL	9.50	8.27
tblVehicleTrips	DV_TP	9.00	0.00
tblVehicleTrips	PR_TP	91.00	100.00
tblVehicleTrips	ST_TR	1.30	0.00
tblVehicleTrips	WD_TR	1.71	28,801.00
tblWater	IndoorWaterUseRate	2,141.10	0.00
tblWater	OutdoorWaterUseRate	3,348.90	0.00

2.0 Emissions Summary

East Campus 2025 Mobile Source Emissions - San Diego County, Winter

[illegible]

East Campus 2025 Mobile Source Emissions - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Mobile	39.2728	158.5250	477.2391	1.7993	183.7862	1.4244	185.2106	49.1094	1.3249	50.4342		183,558.2703	183,558.2703	9.1198		183,786.2655
Total	39.2729	158.5250	477.2392	1.7993	183.7862	1.4244	185.2106	49.1094	1.3249	50.4342		183,558.2705	183,558.2705	9.1198	0.0000	183,786.2657

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Mobile	39.2728	158.5250	477.2391	1.7993	183.7862	1.4244	185.2106	49.1094	1.3249	50.4342		183,558.2703	183,558.2703	9.1198		183,786.2655
Total	39.2729	158.5250	477.2392	1.7993	183.7862	1.4244	185.2106	49.1094	1.3249	50.4342		183,558.2705	183,558.2705	9.1198	0.0000	183,786.2657

East Campus 2025 Mobile Source Emissions - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	Paving	Paving	1/1/2018	12/31/2017	5	0	
2	Architectural Coating	Architectural Coating	1/1/2018	12/31/2017	5	0	

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
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	0	7.00	130	0.42
Paving	Rollers	0	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Trips and VMT

East Campus 2025 Mobile Source Emissions - San Diego County, Winter

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
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	39.2728	158.5250	477.2391	1.7993	183.7862	1.4244	185.2106	49.1094	1.3249	50.4342		183,558.2703	183,558.2703	9.1198		183,786.2655
Unmitigated	39.2728	158.5250	477.2391	1.7993	183.7862	1.4244	185.2106	49.1094	1.3249	50.4342		183,558.2703	183,558.2703	9.1198		183,786.2655

4.2 Trip Summary Information

East Campus 2025 Mobile Source Emissions - San Diego County, Winter

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
University/College (4Yr)	28,801.00	0.00	0.00	61,927,910	61,927,910
Total	28,801.00	0.00	0.00	61,927,910	61,927,910

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
University/College (4Yr)	8.27	8.27	8.27	6.40	88.60	5.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
University/College (4Yr)	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

East Campus 2025 Mobile Source Emissions - San Diego County, Winter

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

East Campus 2025 Mobile Source Emissions - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	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	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

East Campus 2025 Mobile Source Emissions - San Diego County, Winter

6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

East Campus 2025 Mobile Source Emissions - San Diego County, Winter

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

West Campus 2025 Mobile Source Emissions - San Diego County, Winter

West Campus 2025 Mobile Source Emissions
San Diego County, Winter**1.0 Project Characteristics**

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
University/College (4Yr)	1.00	Student	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

West Campus 2025 Mobile Source Emissions - San Diego County, Winter

Project Characteristics -

Land Use - Mobile source emissions run only.

Construction Phase - Mobile source emissions run only.

Off-road Equipment - Mobile source emissions run only.

Off-road Equipment - Mobile source emissions run only.

Trips and VMT - Operational mobile source emissions run only.

Vehicle Trips - ADT from TIA 2018.

Energy Use - Mobile source emissions run only.

Water And Wastewater - Mobile source emissions run only.

Solid Waste - Mobile source emissions run only.

West Campus 2025 Mobile Source Emissions - San Diego County, Winter

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	3.53	0.00
tblEnergyUse	NT24E	2.69	0.00
tblEnergyUse	NT24NG	5.16	0.00
tblEnergyUse	T24E	2.66	0.00
tblEnergyUse	T24NG	31.18	0.00
tblLandUse	LandUseSquareFeet	183.80	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.18	0.00
tblVehicleTrips	CC_TL	7.30	8.27
tblVehicleTrips	CNW_TL	7.30	8.27
tblVehicleTrips	CW_TL	9.50	8.27
tblVehicleTrips	DV_TP	9.00	0.00
tblVehicleTrips	PR_TP	91.00	100.00
tblVehicleTrips	ST_TR	1.30	0.00
tblVehicleTrips	WD_TR	1.71	65,330.00
tblWater	IndoorWaterUseRate	2,141.10	0.00
tblWater	OutdoorWaterUseRate	3,348.90	0.00

2.0 Emissions Summary

West Campus 2025 Mobile Source Emissions - San Diego County, Winter

[illegible]

West Campus 2025 Mobile Source Emissions - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Mobile	89.0835	359.5861	1,082.5329	4.0813	416.8867	3.2309	420.1176	111.3960	3.0052	114.4012		416,369.6328	416,369.6328	20.6867		416,886.7999
Total	89.0835	359.5861	1,082.5330	4.0813	416.8867	3.2309	420.1176	111.3960	3.0052	114.4012		416,369.6331	416,369.6331	20.6867	0.0000	416,886.8002

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Mobile	89.0835	359.5861	1,082.5329	4.0813	416.8867	3.2309	420.1176	111.3960	3.0052	114.4012		416,369.6328	416,369.6328	20.6867		416,886.7999
Total	89.0835	359.5861	1,082.5330	4.0813	416.8867	3.2309	420.1176	111.3960	3.0052	114.4012		416,369.6331	416,369.6331	20.6867	0.0000	416,886.8002

West Campus 2025 Mobile Source Emissions - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	Paving	Paving	1/1/2018	12/31/2017	5	0	
2	Architectural Coating	Architectural Coating	1/1/2018	12/31/2017	5	0	

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
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	0	7.00	130	0.42
Paving	Rollers	0	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Trips and VMT

West Campus 2025 Mobile Source Emissions - San Diego County, Winter

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
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	89.0835	359.5861	1,082.5329	4.0813	416.8867	3.2309	420.1176	111.3960	3.0052	114.4012		416,369.6328	416,369.6328	20.6867		416,886.7999
Unmitigated	89.0835	359.5861	1,082.5329	4.0813	416.8867	3.2309	420.1176	111.3960	3.0052	114.4012		416,369.6328	416,369.6328	20.6867		416,886.7999

4.2 Trip Summary Information

West Campus 2025 Mobile Source Emissions - San Diego County, Winter

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
University/College (4Yr)	65,330.00	0.00	0.00	140,472,566	140,472,566
Total	65,330.00	0.00	0.00	140,472,566	140,472,566

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
University/College (4Yr)	8.27	8.27	8.27	6.40	88.60	5.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
University/College (4Yr)	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

West Campus 2025 Mobile Source Emissions - San Diego County, Winter

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

West Campus 2025 Mobile Source Emissions - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	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	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

West Campus 2025 Mobile Source Emissions - San Diego County, Winter

6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

West Campus 2025 Mobile Source Emissions - San Diego County, Winter

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

2025 SIO Mobile Source Emissions - San Diego County, Winter

2025 SIO Mobile Source Emissions
San Diego County, Winter**1.0 Project Characteristics**

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
University/College (4Yr)	1.00	Student	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

2025 SIO Mobile Source Emissions - San Diego County, Winter

Project Characteristics -

Land Use - Mobile source emissions run only.

Construction Phase - Mobile source emissions run only.

Off-road Equipment - Mobile source emissions run only.

Off-road Equipment - Mobile source emissions run only.

Trips and VMT - Operational mobile source emissions run only.

Vehicle Trips - ADT from TIA 2018.

Energy Use - Mobile source emissions run only.

Water And Wastewater - Mobile source emissions run only.

Solid Waste - Mobile source emissions run only.

2025 SIO Mobile Source Emissions - San Diego County, Winter

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	3.53	0.00
tblEnergyUse	NT24E	2.69	0.00
tblEnergyUse	NT24NG	5.16	0.00
tblEnergyUse	T24E	2.66	0.00
tblEnergyUse	T24NG	31.18	0.00
tblLandUse	LandUseSquareFeet	183.80	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.18	0.00
tblVehicleTrips	CC_TL	7.30	8.27
tblVehicleTrips	CNW_TL	7.30	8.27
tblVehicleTrips	CW_TL	9.50	8.27
tblVehicleTrips	DV_TP	9.00	0.00
tblVehicleTrips	PR_TP	91.00	100.00
tblVehicleTrips	ST_TR	1.30	0.00
tblVehicleTrips	WD_TR	1.71	9,815.00
tblWater	IndoorWaterUseRate	2,141.10	0.00
tblWater	OutdoorWaterUseRate	3,348.90	0.00

2.0 Emissions Summary

2025 SIO Mobile Source Emissions - San Diego County, Winter

[illegible]

2025 SIO Mobile Source Emissions - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Mobile	13.3837	54.0232	162.6368	0.6132	62.6319	0.4854	63.1173	16.7358	0.4515	17.1873		62,554.2315	62,554.2315	3.1079		62,631.9293
Total	13.3837	54.0232	162.6369	0.6132	62.6319	0.4854	63.1173	16.7358	0.4515	17.1873		62,554.2318	62,554.2318	3.1079	0.0000	62,631.9295

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Mobile	13.3837	54.0232	162.6368	0.6132	62.6319	0.4854	63.1173	16.7358	0.4515	17.1873		62,554.2315	62,554.2315	3.1079		62,631.9293
Total	13.3837	54.0232	162.6369	0.6132	62.6319	0.4854	63.1173	16.7358	0.4515	17.1873		62,554.2318	62,554.2318	3.1079	0.0000	62,631.9295

2025 SIO Mobile Source Emissions - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	Paving	Paving	1/1/2018	12/31/2017	5	0	
2	Architectural Coating	Architectural Coating	1/1/2018	12/31/2017	5	0	

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
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	0	7.00	130	0.42
Paving	Rollers	0	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Trips and VMT

2025 SIO Mobile Source Emissions - San Diego County, Winter

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
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	13.3837	54.0232	162.6368	0.6132	62.6319	0.4854	63.1173	16.7358	0.4515	17.1873		62,554.2315	62,554.2315	3.1079		62,631.9293
Unmitigated	13.3837	54.0232	162.6368	0.6132	62.6319	0.4854	63.1173	16.7358	0.4515	17.1873		62,554.2315	62,554.2315	3.1079		62,631.9293

4.2 Trip Summary Information

2025 SIO Mobile Source Emissions - San Diego County, Winter

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
University/College (4Yr)	9,815.00	0.00	0.00	21,104,213	21,104,213
Total	9,815.00	0.00	0.00	21,104,213	21,104,213

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
University/College (4Yr)	8.27	8.27	8.27	6.40	88.60	5.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
University/College (4Yr)	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

2025 SIO Mobile Source Emissions - San Diego County, Winter

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

2025 SIO Mobile Source Emissions - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	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	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

2025 SIO Mobile Source Emissions - San Diego County, Winter

6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

2025 SIO Mobile Source Emissions - San Diego County, Winter

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

2035 East Campus Mobile Source Emissions - San Diego County, Winter

2035 East Campus Mobile Source Emissions
San Diego County, Winter**1.0 Project Characteristics**

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
University/College (4Yr)	1.00	Student	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2035
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

2035 East Campus Mobile Source Emissions - San Diego County, Winter

Project Characteristics -

Land Use - Mobile source emissions run only.

Construction Phase - Mobile source emissions run only.

Off-road Equipment - Mobile source emissions run only.

Off-road Equipment - Mobile source emissions run only.

Trips and VMT - Operational mobile source emissions run only.

Vehicle Trips - ADT from TIA 2018.

Energy Use - Mobile source emissions run only.

Water And Wastewater - Mobile source emissions run only.

Solid Waste - Mobile source emissions run only.

2035 East Campus Mobile Source Emissions - San Diego County, Winter

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	3.53	0.00
tblEnergyUse	NT24E	2.69	0.00
tblEnergyUse	NT24NG	5.16	0.00
tblEnergyUse	T24E	2.66	0.00
tblEnergyUse	T24NG	31.18	0.00
tblLandUse	LandUseSquareFeet	183.80	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.18	0.00
tblVehicleTrips	CC_TL	7.30	8.39
tblVehicleTrips	CNW_TL	7.30	8.39
tblVehicleTrips	CW_TL	9.50	8.39
tblVehicleTrips	DV_TP	9.00	0.00
tblVehicleTrips	PR_TP	91.00	100.00
tblVehicleTrips	ST_TR	1.30	0.00
tblVehicleTrips	WD_TR	1.71	34,205.00
tblWater	IndoorWaterUseRate	2,141.10	0.00
tblWater	OutdoorWaterUseRate	3,348.90	0.00

2.0 Emissions Summary

2035 East Campus Mobile Source Emissions - San Diego County, Winter

[illegible]

2035 East Campus Mobile Source Emissions - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Mobile	33.1075	153.0704	412.0137	1.7967	221.4160	0.9232	222.3392	59.1549	0.8582	60.0132		184,646.7837	184,646.7837	8.9868		184,871.4529
Total	33.1075	153.0704	412.0138	1.7967	221.4160	0.9232	222.3392	59.1549	0.8582	60.0132		184,646.7840	184,646.7840	8.9868	0.0000	184,871.4532

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Mobile	33.1075	153.0704	412.0137	1.7967	221.4160	0.9232	222.3392	59.1549	0.8582	60.0132		184,646.7837	184,646.7837	8.9868		184,871.4529
Total	33.1075	153.0704	412.0138	1.7967	221.4160	0.9232	222.3392	59.1549	0.8582	60.0132		184,646.7840	184,646.7840	8.9868	0.0000	184,871.4532

2035 East Campus Mobile Source Emissions - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	Paving	Paving	1/1/2018	12/31/2017	5	0	
2	Architectural Coating	Architectural Coating	1/1/2018	12/31/2017	5	0	

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
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	0	7.00	130	0.42
Paving	Rollers	0	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Trips and VMT

2035 East Campus Mobile Source Emissions - San Diego County, Winter

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
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	33.1075	153.0704	412.0137	1.7967	221.4160	0.9232	222.3392	59.1549	0.8582	60.0132		184,646.7837	184,646.7837	8.9868		184,871.4529
Unmitigated	33.1075	153.0704	412.0137	1.7967	221.4160	0.9232	222.3392	59.1549	0.8582	60.0132		184,646.7837	184,646.7837	8.9868		184,871.4529

4.2 Trip Summary Information

2035 East Campus Mobile Source Emissions - San Diego County, Winter

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
University/College (4Yr)	34,205.00	0.00	0.00	74,614,787	74,614,787
Total	34,205.00	0.00	0.00	74,614,787	74,614,787

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
University/College (4Yr)	8.39	8.39	8.39	6.40	88.60	5.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
University/College (4Yr)	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

2035 East Campus Mobile Source Emissions - San Diego County, Winter

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

2035 East Campus Mobile Source Emissions - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	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	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

2035 East Campus Mobile Source Emissions - San Diego County, Winter

6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

2035 East Campus Mobile Source Emissions - San Diego County, Winter

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

West Campus 2035 Mobile Source Emissions - San Diego County, Winter

West Campus 2035 Mobile Source Emissions
San Diego County, Winter**1.0 Project Characteristics**

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
University/College (4Yr)	1.00	Student	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2035
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

West Campus 2035 Mobile Source Emissions - San Diego County, Winter

Project Characteristics -

Land Use - Mobile source emissions run only.

Construction Phase - Mobile source emissions run only.

Off-road Equipment - Mobile source emissions run only.

Off-road Equipment - Mobile source emissions run only.

Trips and VMT - Operational mobile source emissions run only.

Vehicle Trips - ADT from TIA 2018.

Energy Use - Mobile source emissions run only.

Water And Wastewater - Mobile source emissions run only.

Solid Waste - Mobile source emissions run only.

West Campus 2035 Mobile Source Emissions - San Diego County, Winter

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	3.53	0.00
tblEnergyUse	NT24E	2.69	0.00
tblEnergyUse	NT24NG	5.16	0.00
tblEnergyUse	T24E	2.66	0.00
tblEnergyUse	T24NG	31.18	0.00
tblLandUse	LandUseSquareFeet	183.80	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.18	0.00
tblVehicleTrips	CC_TL	7.30	8.39
tblVehicleTrips	CNW_TL	7.30	8.39
tblVehicleTrips	CW_TL	9.50	8.39
tblVehicleTrips	DV_TP	9.00	0.00
tblVehicleTrips	PR_TP	91.00	100.00
tblVehicleTrips	ST_TR	1.30	0.00
tblVehicleTrips	WD_TR	1.71	72,612.00
tblWater	IndoorWaterUseRate	2,141.10	0.00
tblWater	OutdoorWaterUseRate	3,348.90	0.00

2.0 Emissions Summary

West Campus 2035 Mobile Source Emissions - San Diego County, Winter

[illegible]

West Campus 2035 Mobile Source Emissions - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Mobile	70.2822	324.9451	874.6422	3.8141	470.0324	1.9598	471.9922	125.5769	1.8219	127.3988		391,976.9701	391,976.9701	19.0775		392,453.9085
Total	70.2822	324.9451	874.6423	3.8141	470.0324	1.9598	471.9922	125.5769	1.8219	127.3988		391,976.9703	391,976.9703	19.0775	0.0000	392,453.9087

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Mobile	70.2822	324.9451	874.6422	3.8141	470.0324	1.9598	471.9922	125.5769	1.8219	127.3988		391,976.9701	391,976.9701	19.0775		392,453.9085
Total	70.2822	324.9451	874.6423	3.8141	470.0324	1.9598	471.9922	125.5769	1.8219	127.3988		391,976.9703	391,976.9703	19.0775	0.0000	392,453.9087

West Campus 2035 Mobile Source Emissions - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	Paving	Paving	1/1/2018	12/31/2017	5	0	
2	Architectural Coating	Architectural Coating	1/1/2018	12/31/2017	5	0	

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
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	0	7.00	130	0.42
Paving	Rollers	0	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Trips and VMT

West Campus 2035 Mobile Source Emissions - San Diego County, Winter

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
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	70.2822	324.9451	874.6422	3.8141	470.0324	1.9598	471.9922	125.5769	1.8219	127.3988		391,976.9701	391,976.9701	19.0775		392,453.9085
Unmitigated	70.2822	324.9451	874.6422	3.8141	470.0324	1.9598	471.9922	125.5769	1.8219	127.3988		391,976.9701	391,976.9701	19.0775		392,453.9085

4.2 Trip Summary Information

West Campus 2035 Mobile Source Emissions - San Diego County, Winter

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
University/College (4Yr)	72,612.00	0.00	0.00	158,395,817	158,395,817
Total	72,612.00	0.00	0.00	158,395,817	158,395,817

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
University/College (4Yr)	8.39	8.39	8.39	6.40	88.60	5.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
University/College (4Yr)	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

West Campus 2035 Mobile Source Emissions - San Diego County, Winter

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

West Campus 2035 Mobile Source Emissions - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	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	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

West Campus 2035 Mobile Source Emissions - San Diego County, Winter

6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

West Campus 2035 Mobile Source Emissions - San Diego County, Winter

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

2035 SIO Mobile Source Emissions - San Diego County, Winter

2035 SIO Mobile Source Emissions

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
University/College (4Yr)	1.00	Student	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2035
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

2035 SIO Mobile Source Emissions - San Diego County, Winter

Project Characteristics -

Land Use - Mobile source emissions run only.

Construction Phase - Mobile source emissions run only.

Off-road Equipment - Mobile source emissions run only.

Off-road Equipment - Mobile source emissions run only.

Trips and VMT - Operational mobile source emissions run only.

Vehicle Trips - ADT from TIA 2018.

Energy Use - Mobile source emissions run only.

Water And Wastewater - Mobile source emissions run only.

Solid Waste - Mobile source emissions run only.

2035 SIO Mobile Source Emissions - San Diego County, Winter

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	3.53	0.00
tblEnergyUse	NT24E	2.69	0.00
tblEnergyUse	NT24NG	5.16	0.00
tblEnergyUse	T24E	2.66	0.00
tblEnergyUse	T24NG	31.18	0.00
tblLandUse	LandUseSquareFeet	183.80	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.18	0.00
tblVehicleTrips	CC_TL	7.30	8.39
tblVehicleTrips	CNW_TL	7.30	8.39
tblVehicleTrips	CW_TL	9.50	8.39
tblVehicleTrips	DV_TP	9.00	0.00
tblVehicleTrips	PR_TP	91.00	100.00
tblVehicleTrips	ST_TR	1.30	0.00
tblVehicleTrips	WD_TR	1.71	10,392.00
tblWater	IndoorWaterUseRate	2,141.10	0.00
tblWater	OutdoorWaterUseRate	3,348.90	0.00

2.0 Emissions Summary

2035 SIO Mobile Source Emissions - San Diego County, Winter

[illegible]

2035 SIO Mobile Source Emissions - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Mobile	10.0586	46.5051	125.1760	0.5459	67.2696	0.2805	67.5500	17.9722	0.2608	18.2329		56,098.5054	56,098.5054	2.7303		56,166.7633
Total	10.0586	46.5051	125.1761	0.5459	67.2696	0.2805	67.5500	17.9722	0.2608	18.2329		56,098.5056	56,098.5056	2.7303	0.0000	56,166.7635

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Mobile	10.0586	46.5051	125.1760	0.5459	67.2696	0.2805	67.5500	17.9722	0.2608	18.2329		56,098.5054	56,098.5054	2.7303		56,166.7633
Total	10.0586	46.5051	125.1761	0.5459	67.2696	0.2805	67.5500	17.9722	0.2608	18.2329		56,098.5056	56,098.5056	2.7303	0.0000	56,166.7635

2035 SIO Mobile Source Emissions - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	Paving	Paving	1/1/2018	12/31/2017	5	0	
2	Architectural Coating	Architectural Coating	1/1/2018	12/31/2017	5	0	

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
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	0	7.00	130	0.42
Paving	Rollers	0	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Trips and VMT

2035 SIO Mobile Source Emissions - San Diego County, Winter

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
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	10.0586	46.5051	125.1760	0.5459	67.2696	0.2805	67.5500	17.9722	0.2608	18.2329		56,098.5054	56,098.5054	2.7303		56,166.7633
Unmitigated	10.0586	46.5051	125.1760	0.5459	67.2696	0.2805	67.5500	17.9722	0.2608	18.2329		56,098.5054	56,098.5054	2.7303		56,166.7633

4.2 Trip Summary Information

2035 SIO Mobile Source Emissions - San Diego County, Winter

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
University/College (4Yr)	10,392.00	0.00	0.00	22,669,109	22,669,109
Total	10,392.00	0.00	0.00	22,669,109	22,669,109

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
University/College (4Yr)	8.39	8.39	8.39	6.40	88.60	5.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
University/College (4Yr)	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

2035 SIO Mobile Source Emissions - San Diego County, Winter

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

2035 SIO Mobile Source Emissions - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	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	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

2035 SIO Mobile Source Emissions - San Diego County, Winter

6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

2035 SIO Mobile Source Emissions - San Diego County, Winter

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

East Campus Existing Mobile Source Emissions - San Diego County, Winter

East Campus Existing Mobile Source Emissions

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
University/College (4Yr)	1.00	Student	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2015
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

East Campus Existing Mobile Source Emissions - San Diego County, Winter

Project Characteristics -

Land Use - Mobile source emissions run only.

Construction Phase - Mobile source emissions run only.

Off-road Equipment - Mobile source emissions run only.

Off-road Equipment - Mobile source emissions run only.

Trips and VMT - Operational mobile source emissions run only.

Vehicle Trips - ADT from TIA 2018.

Energy Use - Mobile source emissions run only.

Water And Wastewater - Mobile source emissions run only.

Solid Waste - Mobile source emissions run only.

East Campus Existing Mobile Source Emissions - San Diego County, Winter

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	3.53	0.00
tblEnergyUse	NT24E	2.69	0.00
tblEnergyUse	NT24NG	5.16	0.00
tblEnergyUse	T24E	2.66	0.00
tblEnergyUse	T24NG	31.18	0.00
tblLandUse	LandUseSquareFeet	183.80	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.18	0.00
tblVehicleTrips	CC_TL	7.30	8.76
tblVehicleTrips	CNW_TL	7.30	8.76
tblVehicleTrips	CW_TL	9.50	8.76
tblVehicleTrips	DV_TP	9.00	0.00
tblVehicleTrips	PR_TP	91.00	100.00
tblVehicleTrips	ST_TR	1.30	0.00
tblVehicleTrips	WD_TR	1.71	21,234.00
tblWater	IndoorWaterUseRate	2,141.10	0.00
tblWater	OutdoorWaterUseRate	3,348.90	0.00

2.0 Emissions Summary

East Campus Existing Mobile Source Emissions - San Diego County, Winter

[illegible]

East Campus Existing Mobile Source Emissions - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Mobile	68.3205	278.8692	843.3405	1.9045	143.7380	3.2637	147.0017	38.4487	3.0933	41.5420		192,089.2426	192,089.2426	13.0534		192,415.5786
Total	68.3205	278.8692	843.3406	1.9045	143.7380	3.2637	147.0017	38.4487	3.0933	41.5420		192,089.2428	192,089.2428	13.0534	0.0000	192,415.5788

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Mobile	68.3205	278.8692	843.3405	1.9045	143.7380	3.2637	147.0017	38.4487	3.0933	41.5420		192,089.2426	192,089.2426	13.0534		192,415.5786
Total	68.3205	278.8692	843.3406	1.9045	143.7380	3.2637	147.0017	38.4487	3.0933	41.5420		192,089.2428	192,089.2428	13.0534	0.0000	192,415.5788

East Campus Existing Mobile Source Emissions - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	Paving	Paving	1/1/2014	12/31/2013	5	0	
2	Architectural Coating	Architectural Coating	1/1/2014	12/31/2013	5	0	

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
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	0	7.00	130	0.42
Paving	Rollers	0	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Trips and VMT

East Campus Existing Mobile Source Emissions - San Diego County, Winter

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
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	68.3205	278.8692	843.3405	1.9045	143.7380	3.2637	147.0017	38.4487	3.0933	41.5420		192,089.2426	192,089.2426	13.0534		192,415.5786
Unmitigated	68.3205	278.8692	843.3405	1.9045	143.7380	3.2637	147.0017	38.4487	3.0933	41.5420		192,089.2426	192,089.2426	13.0534		192,415.5786

4.2 Trip Summary Information

East Campus Existing Mobile Source Emissions - San Diego County, Winter

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
University/College (4Yr)	21,234.00	0.00	0.00	48,362,558	48,362,558
Total	21,234.00	0.00	0.00	48,362,558	48,362,558

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
University/College (4Yr)	8.76	8.76	8.76	6.40	88.60	5.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
University/College (4Yr)	0.546319	0.051132	0.197604	0.126998	0.023152	0.005783	0.014168	0.021253	0.001850	0.002415	0.006828	0.000702	0.001795

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

East Campus Existing Mobile Source Emissions - San Diego County, Winter

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

East Campus Existing Mobile Source Emissions - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	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	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

East Campus Existing Mobile Source Emissions - San Diego County, Winter

6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

East Campus Existing Mobile Source Emissions - San Diego County, Winter

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

West Campus Existing Mobile Source Emissions - San Diego County, Winter

West Campus Existing Mobile Source Emissions

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
University/College (4Yr)	1.00	Student	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2015
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

West Campus Existing Mobile Source Emissions - San Diego County, Winter

Project Characteristics -

Land Use - Mobile source emissions run only.

Construction Phase - Mobile source emissions run only.

Off-road Equipment - Mobile source emissions run only.

Off-road Equipment - Mobile source emissions run only.

Trips and VMT - Operational mobile source emissions run only.

Vehicle Trips - ADT from TIA 2018.

Energy Use - Mobile source emissions run only.

Water And Wastewater - Mobile source emissions run only.

Solid Waste - Mobile source emissions run only.

West Campus Existing Mobile Source Emissions - San Diego County, Winter

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	3.53	0.00
tblEnergyUse	NT24E	2.69	0.00
tblEnergyUse	NT24NG	5.16	0.00
tblEnergyUse	T24E	2.66	0.00
tblEnergyUse	T24NG	31.18	0.00
tblLandUse	LandUseSquareFeet	183.80	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.18	0.00
tblVehicleTrips	CC_TL	7.30	8.76
tblVehicleTrips	CNW_TL	7.30	8.76
tblVehicleTrips	CW_TL	9.50	8.76
tblVehicleTrips	DV_TP	9.00	0.00
tblVehicleTrips	PR_TP	91.00	100.00
tblVehicleTrips	ST_TR	1.30	0.00
tblVehicleTrips	WD_TR	1.71	64,720.00
tblWater	IndoorWaterUseRate	2,141.10	0.00
tblWater	OutdoorWaterUseRate	3,348.90	0.00

2.0 Emissions Summary

West Campus Existing Mobile Source Emissions - San Diego County, Winter

[illegible]

West Campus Existing Mobile Source Emissions - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Mobile	208.2368	849.9771	2,570.4529	5.8049	438.1050	9.9477	448.0527	117.1894	9.4281	126.6175		585,476.8664	585,476.8664	39.7861		586,471.5195
Total	208.2368	849.9771	2,570.4531	5.8049	438.1050	9.9477	448.0527	117.1894	9.4281	126.6175		585,476.8666	585,476.8666	39.7861	0.0000	586,471.5198

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Mobile	208.2368	849.9771	2,570.4529	5.8049	438.1050	9.9477	448.0527	117.1894	9.4281	126.6175		585,476.8664	585,476.8664	39.7861		586,471.5195
Total	208.2368	849.9771	2,570.4531	5.8049	438.1050	9.9477	448.0527	117.1894	9.4281	126.6175		585,476.8666	585,476.8666	39.7861	0.0000	586,471.5198

West Campus Existing Mobile Source Emissions - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	Paving	Paving	1/1/2014	12/31/2013	5	0	
2	Architectural Coating	Architectural Coating	1/1/2014	12/31/2013	5	0	

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
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	0	7.00	130	0.42
Paving	Rollers	0	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Trips and VMT

West Campus Existing Mobile Source Emissions - San Diego County, Winter

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
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	208.2368	849.9771	2,570.4529	5.8049	438.1050	9.9477	448.0527	117.1894	9.4281	126.6175		585,476.8664	585,476.8664	39.7861		586,471.5195
Unmitigated	208.2368	849.9771	2,570.4529	5.8049	438.1050	9.9477	448.0527	117.1894	9.4281	126.6175		585,476.8664	585,476.8664	39.7861		586,471.5195

4.2 Trip Summary Information

West Campus Existing Mobile Source Emissions - San Diego County, Winter

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
University/College (4Yr)	64,720.00	0.00	0.00	147,406,272	147,406,272
Total	64,720.00	0.00	0.00	147,406,272	147,406,272

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
University/College (4Yr)	8.76	8.76	8.76	6.40	88.60	5.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
University/College (4Yr)	0.546319	0.051132	0.197604	0.126998	0.023152	0.005783	0.014168	0.021253	0.001850	0.002415	0.006828	0.000702	0.001795

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

West Campus Existing Mobile Source Emissions - San Diego County, Winter

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

West Campus Existing Mobile Source Emissions - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	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	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

West Campus Existing Mobile Source Emissions - San Diego County, Winter

6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

West Campus Existing Mobile Source Emissions - San Diego County, Winter

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

SIO Existing Mobile Source Emissions - San Diego County, Winter

SIO Existing Mobile Source Emissions

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
University/College (4Yr)	1.00	Student	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2015
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

SIO Existing Mobile Source Emissions - San Diego County, Winter

Project Characteristics -

Land Use - Mobile source emissions run only.

Construction Phase - Mobile source emissions run only.

Off-road Equipment - Mobile source emissions run only.

Off-road Equipment - Mobile source emissions run only.

Trips and VMT - Operational mobile source emissions run only.

Vehicle Trips - ADT from TIA 2018.

Energy Use - Mobile source emissions run only.

Water And Wastewater - Mobile source emissions run only.

Solid Waste - Mobile source emissions run only.

SIO Existing Mobile Source Emissions - San Diego County, Winter

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	3.53	0.00
tblEnergyUse	NT24E	2.69	0.00
tblEnergyUse	NT24NG	5.16	0.00
tblEnergyUse	T24E	2.66	0.00
tblEnergyUse	T24NG	31.18	0.00
tblLandUse	LandUseSquareFeet	183.80	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.18	0.00
tblVehicleTrips	CC_TL	7.30	8.76
tblVehicleTrips	CNW_TL	7.30	8.76
tblVehicleTrips	CW_TL	9.50	8.76
tblVehicleTrips	DV_TP	9.00	0.00
tblVehicleTrips	PR_TP	91.00	100.00
tblVehicleTrips	ST_TR	1.30	0.00
tblVehicleTrips	WD_TR	1.71	8,214.00
tblWater	IndoorWaterUseRate	2,141.10	0.00
tblWater	OutdoorWaterUseRate	3,348.90	0.00

2.0 Emissions Summary

SIO Existing Mobile Source Emissions - San Diego County, Winter

[illegible]

SIO Existing Mobile Source Emissions - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Mobile	26.4286	107.8756	326.2315	0.7367	55.6025	1.2625	56.8650	14.8732	1.1966	16.0698		74,306.3501	74,306.3501	5.0495		74,432.5875
Total	26.4286	107.8756	326.2316	0.7367	55.6025	1.2625	56.8650	14.8732	1.1966	16.0698		74,306.3504	74,306.3504	5.0495	0.0000	74,432.5877

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Mobile	26.4286	107.8756	326.2315	0.7367	55.6025	1.2625	56.8650	14.8732	1.1966	16.0698		74,306.3501	74,306.3501	5.0495		74,432.5875
Total	26.4286	107.8756	326.2316	0.7367	55.6025	1.2625	56.8650	14.8732	1.1966	16.0698		74,306.3504	74,306.3504	5.0495	0.0000	74,432.5877

SIO Existing Mobile Source Emissions - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	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	Paving	Paving	1/1/2014	12/31/2013	5	0	
2	Architectural Coating	Architectural Coating	1/1/2014	12/31/2013	5	0	

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
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Pavers	0	7.00	130	0.42
Paving	Rollers	0	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Trips and VMT

SIO Existing Mobile Source Emissions - San Diego County, Winter

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
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	26.4286	107.8756	326.2315	0.7367	55.6025	1.2625	56.8650	14.8732	1.1966	16.0698		74,306.3501	74,306.3501	5.0495		74,432.5875
Unmitigated	26.4286	107.8756	326.2315	0.7367	55.6025	1.2625	56.8650	14.8732	1.1966	16.0698		74,306.3501	74,306.3501	5.0495		74,432.5875

4.2 Trip Summary Information

SIO Existing Mobile Source Emissions - San Diego County, Winter

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
University/College (4Yr)	8,214.00	0.00	0.00	18,708,206	18,708,206
Total	8,214.00	0.00	0.00	18,708,206	18,708,206

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
University/College (4Yr)	8.76	8.76	8.76	6.40	88.60	5.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
University/College (4Yr)	0.546319	0.051132	0.197604	0.126998	0.023152	0.005783	0.014168	0.021253	0.001850	0.002415	0.006828	0.000702	0.001795

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

SIO Existing Mobile Source Emissions - San Diego County, Winter

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

SIO Existing Mobile Source Emissions - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
University/College (4Yr)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	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	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

SIO Existing Mobile Source Emissions - San Diego County, Winter

6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

SIO Existing Mobile Source Emissions - San Diego County, Winter

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

East Campus 2025 Operations - Area and Energy Sources

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	2,000.00	Space	18.00	800,000.00	0
General Office Building	142.50	1000sqft	3.27	142,500.00	0
Apartments Mid Rise	2,911.00	Dwelling Unit	76.61	2,502,500.00	2911
Research & Development	550.00	1000sqft	12.63	550,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	559.06	CH4 Intensity (lb/MW hr)	0	N2O Intensity (lb/MW hr)	0

1.3 User Entered Comments & Non-Default Data

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

Project Characteristics - CO2 is presented in CO2e and based on projected RPS for SDG&E.

Land Use - Based on LRDP Buildout Database.

Construction Phase - Operational run only.

Off-road Equipment - Operational run only.

Off-road Equipment - Operational run only.

Trips and VMT - Operational run only.

Architectural Coating - Operational run only.

Vehicle Trips - Mobile sources calculated separately.

Woodstoves - Assumes no woodstoves or fireplaces.

Consumer Products - San Diego County specific general category EF.

Area Coating -

Energy Use -

Water And Wastewater - Water use calculated separately.

Solid Waste - Solid waste calculated separately.

Area Mitigation - SDAPCD Rule 67.0.1

Energy Mitigation - UC Direct Services Unit

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	346,250.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,038,750.00	0.00
tblArchitecturalCoating	ConstArea_Parking	48,000.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	1,689,188.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	5,067,563.00	0.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	100

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	PhaseEndDate	5/25/2034	7/21/2033
tblConstructionPhase	PhaseEndDate	7/21/2033	9/16/2032
tblConsumerProducts	ROG_EF	2.14E-05	1.65E-05
tblFireplaces	NumberGas	1,601.05	0.00
tblFireplaces	NumberWood	1,018.85	0.00
tblLandUse	LandUseSquareFeet	2,911,000.00	2,502,500.00
tblLandUse	Population	8,325.00	2,911.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	720.49	559.06
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblSolidWaste	SolidWasteGenerationRate	1,339.06	0.00
tblSolidWaste	SolidWasteGenerationRate	132.53	0.00
tblSolidWaste	SolidWasteGenerationRate	41.80	0.00
tblTripsAndVMT	WorkerTripNumber	531.00	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	WD_TR	6.65	0.00

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	8.11	0.00
tblWater	IndoorWaterUseRate	189,663,368.58	0.00
tblWater	IndoorWaterUseRate	25,327,059.09	0.00
tblWater	IndoorWaterUseRate	270,431,670.96	0.00
tblWater	OutdoorWaterUseRate	119,570,384.54	0.00
tblWater	OutdoorWaterUseRate	15,523,036.22	0.00
tblWoodstoves	NumberCatalytic	145.55	0.00
tblWoodstoves	NumberNoncatalytic	145.55	0.00

2.0 Emissions Summary

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

[illegible]

Mitigated Construction

[illegible][illegible]

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	86.2297	2.7662	240.2078	0.0127		1.3323	1.3323		1.3323	1.3323	0.0000	433.0250	433.0250	0.4156	0.0000	443.4160
Energy	0.9118	7.9405	4.4071	0.0497		0.6300	0.6300		0.6300	0.6300		9,946.8613	9,946.8613	0.1907	0.1824	10,005.9705
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
Total	87.1415	10.7068	244.6149	0.0624	0.0000	1.9623	1.9623	0.0000	1.9623	1.9623	0.0000	10,379.8863	10,379.8863	0.6063	0.1824	10,449.3865

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	70.7213	2.7662	240.2078	0.0127		1.3323	1.3323		1.3323	1.3323	0.0000	433.0250	433.0250	0.4156	0.0000	443.4160
Energy	0.9118	7.9405	4.4071	0.0497		0.6300	0.6300		0.6300	0.6300		9,946.8613	9,946.8613	0.1907	0.1824	10,005.9705
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
Total	71.6331	10.7068	244.6149	0.0624	0.0000	1.9623	1.9623	0.0000	1.9623	1.9623	0.0000	10,379.8863	10,379.8863	0.6063	0.1824	10,449.3865

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	17.80	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	Paving	Paving	9/17/2032	9/16/2032	5	0	
2	Architectural Coating	Architectural Coating	7/22/2033	7/21/2033	5	0	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 0****Acres of Paving: 18****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
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Pavers	0	8.00	130	0.42
Paving	Rollers	0	8.00	80	0.38
Paving	Paving Equipment	0	8.00	132	0.36

Trips and VMT

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

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
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Paving - 2032

Unmitigated Construction On-Site

[illegible]

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

3.2 Paving - 2032

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

3.2 Paving - 2032

Mitigated Construction Off-Site

[illegible]

3.3 Architectural Coating - 2033

Unmitigated Construction On-Site

[illegible]

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

3.3 Architectural Coating - 2033

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

3.3 Architectural Coating - 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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartment Mid Rise	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartment Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

4.4 Fleet Mix

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Enclosed Parking Structure	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
General Office Building	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Research & Development	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.9118	7.9405	4.4071	0.0497		0.6300	0.6300		0.6300	0.6300		9,946.8613	9,946.8613	0.1907	0.1824	10,005.9705
NaturalGas Unmitigated	0.9118	7.9405	4.4071	0.0497		0.6300	0.6300		0.6300	0.6300		9,946.8613	9,946.8613	0.1907	0.1824	10,005.9705

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	59246.7	0.6389	5.4600	2.3234	0.0349		0.4415	0.4415		0.4415	0.4415		6,970.2054	6,970.2054	0.1336	0.1278	7,011.6258
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
General Office Building	7882.4	0.0850	0.7728	0.6491	4.6400e-003		0.0587	0.0587		0.0587	0.0587		927.3409	927.3409	0.0178	0.0170	932.8516
Research & Development	17419.2	0.1879	1.7078	1.4345	0.0103		0.1298	0.1298		0.1298	0.1298		2,049.3151	2,049.3151	0.0393	0.0376	2,061.4931
Total		0.9118	7.9405	4.4071	0.0497		0.6300	0.6300		0.6300	0.6300		9,946.8613	9,946.8613	0.1907	0.1824	10,005.9705

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	59.2467	0.6389	5.4600	2.3234	0.0349		0.4415	0.4415		0.4415	0.4415		6,970.2054	6,970.2054	0.1336	0.1278	7,011.6258
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
General Office Building	7.8824	0.0850	0.7728	0.6491	4.6400e-003		0.0587	0.0587		0.0587	0.0587		927.3409	927.3409	0.0178	0.0170	932.8516
Research & Development	17.4192	0.1879	1.7078	1.4345	0.0103		0.1298	0.1298		0.1298	0.1298		2,049.3151	2,049.3151	0.0393	0.0376	2,061.4931
Total		0.9118	7.9405	4.4071	0.0497		0.6300	0.6300		0.6300	0.6300		9,946.8613	9,946.8613	0.1907	0.1824	10,005.9705

6.0 Area Detail**6.1 Mitigation Measures Area**

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	70.7213	2.7662	240.2078	0.0127		1.3323	1.3323		1.3323	1.3323	0.0000	433.0250	433.0250	0.4156	0.0000	443.4160
Unmitigated	86.2297	2.7662	240.2078	0.0127		1.3323	1.3323		1.3323	1.3323	0.0000	433.0250	433.0250	0.4156	0.0000	443.4160

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	25.9997					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	53.0009					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.2292	2.7662	240.2078	0.0127		1.3323	1.3323		1.3323	1.3323		433.0250	433.0250	0.4156		443.4160
Total	86.2297	2.7662	240.2078	0.0127		1.3323	1.3323		1.3323	1.3323	0.0000	433.0250	433.0250	0.4156	0.0000	443.4160

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	10.4913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	53.0009					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.2292	2.7662	240.2078	0.0127		1.3323	1.3323		1.3323	1.3323		433.0250	433.0250	0.4156		443.4160
Total	70.7213	2.7662	240.2078	0.0127		1.3323	1.3323		1.3323	1.3323	0.0000	433.0250	433.0250	0.4156	0.0000	443.4160

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

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

10.0 Stationary Equipment

East Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

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

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

West Campus 2025 Operations - Area and Energy Sources

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,700.00	Space	15.30	680,000.00	0
General Office Building	240.00	1000sqft	5.51	240,000.00	0
Apartments Mid Rise	4,200.00	Dwelling Unit	110.53	1,335,000.00	4200
University/College (4Yr)	6,476.00	Student	27.32	515,000.00	0
Medical Office Building	100.00	1000sqft	2.30	100,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	559.06	CH4 Intensity (lb/MW hr)	0	N2O Intensity (lb/MW hr)	0

1.3 User Entered Comments & Non-Default Data

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

Project Characteristics - CO2 is presented in CO2e and based on projected CO2e intensity per RPS for SDG&E.

Land Use - Based on LRDP Buildout Database.

Construction Phase - Operational run only.

Off-road Equipment - Operational run only.

Off-road Equipment - Operational run only.

Trips and VMT - Operational run only.

Architectural Coating - Operational run only.

Vehicle Trips - Mobile sources calculated separately.

Woodstoves - Assumes no woodstoves or fireplaces.

Consumer Products - San Diego County specific general category EF.

Energy Use -

Water And Wastewater - Water use calculated separately.

Solid Waste - Solid waste calculated separately.

Operational Off-Road Equipment -

Area Mitigation - SDAPCD Rule 67.0.1

Energy Mitigation - UC Direct Services Energy Unit

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	427,500.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,282,500.00	0.00
tblArchitecturalCoating	ConstArea_Parking	40,800.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	901,125.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,703,375.00	0.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	100

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	PhaseEndDate	5/25/2034	7/21/2033
tblConstructionPhase	PhaseEndDate	7/21/2033	9/16/2032
tblConsumerProducts	ROG_EF	2.14E-05	1.6463E-05
tblFireplaces	NumberGas	2,310.00	0.00
tblFireplaces	NumberWood	1,470.00	0.00
tblLandUse	LandUseSquareFeet	4,200,000.00	1,335,000.00
tblLandUse	LandUseSquareFeet	1,190,272.41	515,000.00
tblLandUse	Population	12,012.00	4,200.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	720.49	559.06
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblSolidWaste	SolidWasteGenerationRate	1,932.00	0.00
tblSolidWaste	SolidWasteGenerationRate	223.20	0.00
tblSolidWaste	SolidWasteGenerationRate	1,080.00	0.00
tblSolidWaste	SolidWasteGenerationRate	1,181.87	0.00
tblTripsAndVMT	WorkerTripNumber	727.00	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	8.96	0.00
tblVehicleTrips	ST_TR	1.30	0.00
tblVehicleTrips	SU_TR	5.86	0.00

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	1.55	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	36.13	0.00
tblVehicleTrips	WD_TR	1.71	0.00
tblWater	IndoorWaterUseRate	273,646,907.61	0.00
tblWater	IndoorWaterUseRate	42,656,099.52	0.00
tblWater	IndoorWaterUseRate	12,548,053.76	0.00
tblWater	IndoorWaterUseRate	13,865,763.60	0.00
tblWater	OutdoorWaterUseRate	172,516,528.71	0.00
tblWater	OutdoorWaterUseRate	26,144,061.00	0.00
tblWater	OutdoorWaterUseRate	2,390,105.48	0.00
tblWater	OutdoorWaterUseRate	21,687,476.40	0.00
tblWoodstoves	NumberCatalytic	210.00	0.00
tblWoodstoves	NumberNoncatalytic	210.00	0.00

2.0 Emissions Summary

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

[illegible]

Mitigated Construction

[illegible][illegible]

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	63.7697	3.9954	347.0442	0.0184		1.9239	1.9239		1.9239	1.9239	0.0000	625.7834	625.7834	0.6023	0.0000	640.8415
Energy	1.6776	14.7484	9.1236	0.0915		1.1591	1.1591		1.1591	1.1591		18,301.50 14	18,301.50 14	0.3508	0.3355	18,410.25 80
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
Total	65.4474	18.7438	356.1679	0.1099	0.0000	3.0830	3.0830	0.0000	3.0830	3.0830	0.0000	18,927.28 48	18,927.28 48	0.9531	0.3355	19,051.09 95

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	53.6467	3.9954	347.0442	0.0184		1.9239	1.9239		1.9239	1.9239	0.0000	625.7834	625.7834	0.6023	0.0000	640.8415
Energy	1.6776	14.7484	9.1236	0.0915		1.1591	1.1591		1.1591	1.1591		18,301.50 14	18,301.50 14	0.3508	0.3355	18,410.25 80
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
Total	55.3244	18.7438	356.1679	0.1099	0.0000	3.0830	3.0830	0.0000	3.0830	3.0830	0.0000	18,927.28 48	18,927.28 48	0.9531	0.3355	19,051.09 95

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	15.47	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	Paving	Paving	9/17/2032	9/16/2032	5	0	
2	Architectural Coating	Architectural Coating	7/22/2033	7/21/2033	5	0	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 0****Acres of Paving: 15.3****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
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Pavers	0	8.00	130	0.42
Paving	Rollers	0	8.00	80	0.38
Paving	Paving Equipment	0	8.00	132	0.36

Trips and VMT

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

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
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Paving - 2032

Unmitigated Construction On-Site

[illegible]

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

3.2 Paving - 2032

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

3.2 Paving - 2032

Mitigated Construction Off-Site

[illegible]

3.3 Architectural Coating - 2033

Unmitigated Construction On-Site

[illegible]

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

3.3 Architectural Coating - 2033

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

3.3 Architectural Coating - 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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Medical Office Building	0.00	0.00	0.00		
University/College (4Yr)	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
University/College (4Yr)	9.50	7.30	7.30	6.40	88.60	5.00	91	9	0

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Enclosed Parking Structure	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
General Office Building	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Medical Office Building	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
University/College (4Yr)	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.6776	14.7484	9.1236	0.0915		1.1591	1.1591		1.1591	1.1591		18,301.50 14	18,301.50 14	0.3508	0.3355	18,410.25 80
NaturalGas Unmitigated	1.6776	14.7484	9.1236	0.0915		1.1591	1.1591		1.1591	1.1591		18,301.50 14	18,301.50 14	0.3508	0.3355	18,410.25 80

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	85481.4	0.9219	7.8777	3.3522	0.0503		0.6369	0.6369		0.6369	0.6369		10,056.6343	10,056.6343	0.1928	0.1844	10,116.3959
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
General Office Building	13275.6	0.1432	1.3015	1.0933	7.8100e-003		0.0989	0.0989		0.0989	0.0989		1,561.8372	1,561.8372	0.0299	0.0286	1,571.1185
Medical Office Building	5531.51	0.0597	0.5423	0.4555	3.2500e-003		0.0412	0.0412		0.0412	0.0412		650.7655	650.7655	0.0125	0.0119	654.6327
University/College (4Yr)	51274.2	0.5530	5.0269	4.2226	0.0302		0.3820	0.3820		0.3820	0.3820		6,032.2643	6,032.2643	0.1156	0.1106	6,068.1110
Total		1.6776	14.7484	9.1236	0.0915		1.1591	1.1591		1.1591	1.1591		18,301.5014	18,301.5014	0.3508	0.3355	18,410.2581

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	85.4814	0.9219	7.8777	3.3522	0.0503		0.6369	0.6369		0.6369	0.6369		10,056.6343	10,056.6343	0.1928	0.1844	10,116.3959
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
General Office Building	13.2756	0.1432	1.3015	1.0933	7.8100e-003		0.0989	0.0989		0.0989	0.0989		1,561.8372	1,561.8372	0.0299	0.0286	1,571.1185
Medical Office Building	5.53151	0.0597	0.5423	0.4555	3.2500e-003		0.0412	0.0412		0.0412	0.0412		650.7655	650.7655	0.0125	0.0119	654.6327
University/College (4Yr)	51.2742	0.5530	5.0269	4.2226	0.0302		0.3820	0.3820		0.3820	0.3820		6,032.2643	6,032.2643	0.1156	0.1106	6,068.1110
Total		1.6776	14.7484	9.1236	0.0915		1.1591	1.1591		1.1591	1.1591		18,301.5014	18,301.5014	0.3508	0.3355	18,410.2581

6.0 Area Detail**6.1 Mitigation Measures Area**

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	53.6467	3.9954	347.0442	0.0184		1.9239	1.9239		1.9239	1.9239	0.0000	625.7834	625.7834	0.6023	0.0000	640.8415
Unmitigated	63.7697	3.9954	347.0442	0.0184		1.9239	1.9239		1.9239	1.9239	0.0000	625.7834	625.7834	0.6023	0.0000	640.8415

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	17.0012					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	36.2948					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	10.4737	3.9954	347.0442	0.0184		1.9239	1.9239		1.9239	1.9239		625.7834	625.7834	0.6023		640.8415
Total	63.7697	3.9954	347.0442	0.0184		1.9239	1.9239		1.9239	1.9239	0.0000	625.7834	625.7834	0.6023	0.0000	640.8415

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.8782					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	36.2948					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	10.4737	3.9954	347.0442	0.0184		1.9239	1.9239		1.9239	1.9239		625.7834	625.7834	0.6023		640.8415
Total	53.6467	3.9954	347.0442	0.0184		1.9239	1.9239		1.9239	1.9239	0.0000	625.7834	625.7834	0.6023	0.0000	640.8415

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

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

10.0 Stationary Equipment

West Campus 2025 Operations - Area and Energy Sources - San Diego County, Winter

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

SIO 2025 Operations - Area and Energy Sources - San Diego County, Winter

SIO 2025 Operations - Area and Energy Sources

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	340.00	Space	3.06	136,000.00	0
Research & Development	95.00	1000sqft	2.18	95,000.00	0
University/College (4Yr)	274.00	Student	1.16	64,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2025
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	559.06	CH4 Intensity (lb/MWhr)	0	N2O Intensity (lb/MWhr)	0

1.3 User Entered Comments & Non-Default Data

SIO 2025 Operations - Area and Energy Sources - San Diego County, Winter

Project Characteristics - CO2 is presented in CO2e and based on projected CO2e intensity per RPS for SDG&E.

Land Use - Based on LRDP Buildout Database.

Construction Phase - Operational run only.

Off-road Equipment - Operational run only.

Off-road Equipment - Operational run only.

Trips and VMT - Operational run only.

Architectural Coating - Operational run only.

Vehicle Trips - Mobile sources calculated separately.

Consumer Products - San Diego County specific general category EF.

Energy Use -

Water And Wastewater - Water use calculated separately.

Solid Waste - Solid waste calculated separately.

Area Mitigation - SDAPCD Rule 67.0.1

Energy Mitigation - UC Direct Services Energy Unit

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	79,500.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	238,500.00	0.00
tblArchitecturalCoating	ConstArea_Parking	8,160.00	0.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	100
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	PhaseEndDate	8/22/2019	7/25/2019
tblConstructionPhase	PhaseEndDate	7/25/2019	6/27/2019

SIO 2025 Operations - Area and Energy Sources - San Diego County, Winter

tblConsumerProducts	ROG_EF	2.14E-05	1.6463E-05
tblLandUse	LandUseSquareFeet	50,360.51	64,000.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	720.49	559.06
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblSolidWaste	SolidWasteGenerationRate	7.22	0.00
tblSolidWaste	SolidWasteGenerationRate	50.00	0.00
tblTripsAndVMT	WorkerTripNumber	23.00	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	1.30	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	WD_TR	8.11	0.00
tblVehicleTrips	WD_TR	1.71	0.00
tblWater	IndoorWaterUseRate	46,710,924.98	0.00
tblWater	IndoorWaterUseRate	586,661.40	0.00
tblWater	OutdoorWaterUseRate	917,598.60	0.00

2.0 Emissions Summary

SIO 2025 Operations - Area and Energy Sources - San Diego County, Winter

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

[illegible]

Mitigated Construction

[illegible][illegible]

SIO 2025 Operations - Area and Energy Sources - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.7079	6.5000e-004	0.0722	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1552	0.1552	4.0000e-004		0.1653
Energy	0.1012	0.9197	0.7725	5.5200e-003		0.0699	0.0699		0.0699	0.0699		1,103.613 2	1,103.613 2	0.0212	0.0202	1,110.171 4
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
Total	3.8090	0.9203	0.8447	5.5300e-003	0.0000	0.0702	0.0702	0.0000	0.0702	0.0702		1,103.768 4	1,103.768 4	0.0216	0.0202	1,110.336 7

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.1022	6.5000e-004	0.0722	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1552	0.1552	4.0000e-004		0.1653
Energy	0.1012	0.9197	0.7725	5.5200e-003		0.0699	0.0699		0.0699	0.0699		1,103.613 2	1,103.613 2	0.0212	0.0202	1,110.171 4
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
Total	3.2033	0.9203	0.8447	5.5300e-003	0.0000	0.0702	0.0702	0.0000	0.0702	0.0702		1,103.768 4	1,103.768 4	0.0216	0.0202	1,110.336 7

SIO 2025 Operations - Area and Energy Sources - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	15.90	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	Paving	Paving	6/28/2019	6/27/2019	5	0	
2	Architectural Coating	Architectural Coating	7/26/2019	7/25/2019	5	0	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 0****Acres of Paving: 3.06****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
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Pavers	0	8.00	130	0.42
Paving	Rollers	0	8.00	80	0.38
Paving	Paving Equipment	0	8.00	132	0.36

Trips and VMT

SIO 2025 Operations - Area and Energy Sources - San Diego County, Winter

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
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Paving - 2019

Unmitigated Construction On-Site

[illegible]

SIO 2025 Operations - Area and Energy Sources - San Diego County, Winter

3.2 Paving - 2019

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

SIO 2025 Operations - Area and Energy Sources - San Diego County, Winter

3.2 Paving - 2019

Mitigated Construction Off-Site

[illegible]

3.3 Architectural Coating - 2019

Unmitigated Construction On-Site

[illegible]

SIO 2025 Operations - Area and Energy Sources - San Diego County, Winter

3.3 Architectural Coating - 2019

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

SIO 2025 Operations - Area and Energy Sources - San Diego County, Winter

3.3 Architectural Coating - 2019**Mitigated Construction Off-Site**

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

SIO 2025 Operations - Area and Energy Sources - San Diego County, Winter

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

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		
Research & Development	0.00	0.00	0.00		
University/College (4Yr)	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	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
University/College (4Yr)	9.50	7.30	7.30	6.40	88.60	5.00	91	9	0

4.4 Fleet Mix

SIO 2025 Operations - Area and Energy Sources - San Diego County, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking Structure	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
Research & Development	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950
University/College (4Yr)	0.609162	0.038894	0.178600	0.101308	0.013823	0.005356	0.016956	0.024628	0.001928	0.001823	0.005807	0.000764	0.000950

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1012	0.9197	0.7725	5.5200e-003		0.0699	0.0699		0.0699	0.0699		1,103.6132	1,103.6132	0.0212	0.0202	1,110.1714
NaturalGas Unmitigated	0.1012	0.9197	0.7725	5.5200e-003		0.0699	0.0699		0.0699	0.0699		1,103.6132	1,103.6132	0.0212	0.0202	1,110.1714

SIO 2025 Operations - Area and Energy Sources - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
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
Research & Development	3008.77	0.0325	0.2950	0.2478	1.7700e-003		0.0224	0.0224		0.0224	0.0224		353.9726	353.9726	6.7800e-003	6.4900e-003	356.0761
University/College (4Yr)	6371.95	0.0687	0.6247	0.5248	3.7500e-003		0.0475	0.0475		0.0475	0.0475		749.6406	749.6406	0.0144	0.0137	754.0954
Total		0.1012	0.9197	0.7725	5.5200e-003		0.0699	0.0699		0.0699	0.0699		1,103.6132	1,103.6132	0.0212	0.0202	1,110.1714

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
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
Research & Development	3.00877	0.0325	0.2950	0.2478	1.7700e-003		0.0224	0.0224		0.0224	0.0224		353.9726	353.9726	6.7800e-003	6.4900e-003	356.0761
University/College (4Yr)	6.37195	0.0687	0.6247	0.5248	3.7500e-003		0.0475	0.0475		0.0475	0.0475		749.6406	749.6406	0.0144	0.0137	754.0954
Total		0.1012	0.9197	0.7725	5.5200e-003		0.0699	0.0699		0.0699	0.0699		1,103.6132	1,103.6132	0.0212	0.0202	1,110.1714

6.0 Area Detail

SIO 2025 Operations - Area and Energy Sources - San Diego County, Winter

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.1022	6.5000e-004	0.0722	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1552	0.1552	4.0000e-004		0.1653
Unmitigated	3.7079	6.5000e-004	0.0722	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1552	0.1552	4.0000e-004		0.1653

SIO 2025 Operations - Area and Energy Sources - San Diego County, Winter

6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.0355					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.6658					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.6500e-003	6.5000e-004	0.0722	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1552	0.1552	4.0000e-004		0.1653
Total	3.7079	6.5000e-004	0.0722	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1552	0.1552	4.0000e-004		0.1653

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4297					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.6658					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.6500e-003	6.5000e-004	0.0722	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1552	0.1552	4.0000e-004		0.1653
Total	3.1022	6.5000e-004	0.0722	1.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		0.1552	0.1552	4.0000e-004		0.1653

7.0 Water Detail

SIO 2025 Operations - Area and Energy Sources - San Diego County, Winter

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

East Campus 2035 Operations - Area and Energy Sources

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	3,800.00	Space	34.20	1,520,000.00	0
Apartments Mid Rise	1,980.00	Dwelling Unit	52.11	800,000.00	1980
Research & Development	520.00	1000sqft	11.94	520,000.00	0
Medical Office Building	180.00	1000sqft	4.13	180,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2035
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	496.5	CH4 Intensity (lb/MW hr)	0	N2O Intensity (lb/MW hr)	0

1.3 User Entered Comments & Non-Default Data

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

Project Characteristics - CO2 is presented in CO2e and based on projected CO2e intensity per RPS for SDG&E.

Land Use - Based on LRDP Buildout Database.

Construction Phase - Operational run only.

Off-road Equipment - Operational run only.

Off-road Equipment - Operational run only.

Trips and VMT - Operational run only.

Architectural Coating - Operational run only.

Vehicle Trips - Mobile sources calculated separately.

Woodstoves - Assumes no woodstoves or fireplaces.

Consumer Products - San Diego County specific general category EF.

Energy Use -

Water And Wastewater - Water use calculated separately.

Solid Waste - Solid waste calculated separately.

Area Mitigation - SDAPCD Rule 67.0.1

Energy Mitigation - UC Direct Services Energy Unit

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	350,000.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,050,000.00	0.00
tblArchitecturalCoating	ConstArea_Parking	91,200.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	540,000.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	1,620,000.00	0.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	100
tblConstructionPhase	NumDays	220.00	0.00

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	PhaseEndDate	5/25/2034	7/21/2033
tblConstructionPhase	PhaseEndDate	7/21/2033	9/16/2032
tblConsumerProducts	ROG_EF	2.14E-05	1.6463E-05
tblFireplaces	NumberGas	1,089.00	0.00
tblFireplaces	NumberWood	693.00	0.00
tblLandUse	LandUseSquareFeet	1,980,000.00	800,000.00
tblLandUse	Population	5,663.00	1,980.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	720.49	496.5
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblSolidWaste	SolidWasteGenerationRate	910.80	0.00
tblSolidWaste	SolidWasteGenerationRate	1,944.00	0.00
tblSolidWaste	SolidWasteGenerationRate	39.52	0.00
tblTripsAndVMT	WorkerTripNumber	458.00	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	8.96	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	1.55	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	36.13	0.00

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

tblVehicleTrips	WD_TR	8.11	0.00
tblWater	IndoorWaterUseRate	129,004,970.73	0.00
tblWater	IndoorWaterUseRate	22,586,496.76	0.00
tblWater	IndoorWaterUseRate	255,680,852.55	0.00
tblWater	OutdoorWaterUseRate	81,329,220.68	0.00
tblWater	OutdoorWaterUseRate	4,302,189.86	0.00
tblWoodstoves	NumberCatalytic	99.00	0.00
tblWoodstoves	NumberNoncatalytic	99.00	0.00

2.0 Emissions Summary

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

[illegible]

Mitigated Construction

[illegible][illegible]

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	41.7330	1.8821	163.2352	8.6600e-003		0.9075	0.9075		0.9075	0.9075	0.0000	295.1184	295.1184	0.2825	0.0000	302.1818
Energy	0.7196	6.3045	3.7566	0.0393		0.4972	0.4972		0.4972	0.4972		7,849.8969	7,849.8969	0.1505	0.1439	7,896.5449
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
Total	42.4526	8.1866	166.9917	0.0479	0.0000	1.4047	1.4047	0.0000	1.4047	1.4047	0.0000	8,145.0153	8,145.0153	0.4330	0.1439	8,198.7267

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	34.9519	1.8821	163.2352	8.6600e-003		0.9075	0.9075		0.9075	0.9075	0.0000	295.1184	295.1184	0.2825	0.0000	302.1818
Energy	0.7196	6.3045	3.7566	0.0393		0.4972	0.4972		0.4972	0.4972		7,849.8969	7,849.8969	0.1505	0.1439	7,896.5449
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
Total	35.6715	8.1866	166.9917	0.0479	0.0000	1.4047	1.4047	0.0000	1.4047	1.4047	0.0000	8,145.0153	8,145.0153	0.4330	0.1439	8,198.7267

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	15.97	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	Paving	Paving	9/17/2032	9/16/2032	5	0	
2	Architectural Coating	Architectural Coating	7/22/2033	7/21/2033	5	0	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 0****Acres of Paving: 34.2****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
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Pavers	0	8.00	130	0.42
Paving	Rollers	0	8.00	80	0.38
Paving	Paving Equipment	0	8.00	132	0.36

Trips and VMT

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

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
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Paving - 2032

Unmitigated Construction On-Site

[illegible]

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

3.2 Paving - 2032

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

3.2 Paving - 2032

Mitigated Construction Off-Site

[illegible]

3.3 Architectural Coating - 2033

Unmitigated Construction On-Site

[illegible]

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

3.3 Architectural Coating - 2033

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

3.3 Architectural Coating - 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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
Medical Office Building	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

4.4 Fleet Mix

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
Enclosed Parking Structure	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
Medical Office Building	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
Research & Development	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7196	6.3045	3.7566	0.0393		0.4972	0.4972		0.4972	0.4972		7,849.8969	7,849.8969	0.1505	0.1439	7,896.5449
NaturalGas Unmitigated	0.7196	6.3045	3.7566	0.0393		0.4972	0.4972		0.4972	0.4972		7,849.8969	7,849.8969	0.1505	0.1439	7,896.5449

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	40298.4	0.4346	3.7138	1.5803	0.0237		0.3003	0.3003		0.3003	0.3003		4,740.9848	4,740.9848	0.0909	0.0869	4,769.1581
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
Medical Office Building	9956.71	0.1074	0.9762	0.8200	5.8600e-003		0.0742	0.0742		0.0742	0.0742		1,171.3779	1,171.3779	0.0225	0.0215	1,178.3388
Research & Development	16469	0.1776	1.6146	1.3563	9.6900e-003		0.1227	0.1227		0.1227	0.1227		1,937.5343	1,937.5343	0.0371	0.0355	1,949.0480
Total		0.7196	6.3045	3.7566	0.0393		0.4972	0.4972		0.4972	0.4972		7,849.8969	7,849.8969	0.1505	0.1439	7,896.5449

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	40.2984	0.4346	3.7138	1.5803	0.0237		0.3003	0.3003		0.3003	0.3003		4,740.9848	4,740.9848	0.0909	0.0869	4,769.1581
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
Medical Office Building	9.95671	0.1074	0.9762	0.8200	5.8600e-003		0.0742	0.0742		0.0742	0.0742		1,171.3779	1,171.3779	0.0225	0.0215	1,178.3388
Research & Development	16.469	0.1776	1.6146	1.3563	9.6900e-003		0.1227	0.1227		0.1227	0.1227		1,937.5343	1,937.5343	0.0371	0.0355	1,949.0480
Total		0.7196	6.3045	3.7566	0.0393		0.4972	0.4972		0.4972	0.4972		7,849.8969	7,849.8969	0.1505	0.1439	7,896.5449

6.0 Area Detail**6.1 Mitigation Measures Area**

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	34.9519	1.8821	163.2352	8.6600e-003		0.9075	0.9075		0.9075	0.9075	0.0000	295.1184	295.1184	0.2825	0.0000	302.1818
Unmitigated	41.7330	1.8821	163.2352	8.6600e-003		0.9075	0.9075		0.9075	0.9075	0.0000	295.1184	295.1184	0.2825	0.0000	302.1818

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	11.5913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	25.2329					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.9088	1.8821	163.2352	8.6600e-003		0.9075	0.9075		0.9075	0.9075		295.1184	295.1184	0.2825		302.1818
Total	41.7330	1.8821	163.2352	8.6600e-003		0.9075	0.9075		0.9075	0.9075	0.0000	295.1184	295.1184	0.2825	0.0000	302.1818

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	4.8102					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	25.2329					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.9088	1.8821	163.2352	8.6600e-003		0.9075	0.9075		0.9075	0.9075		295.1184	295.1184	0.2825		302.1818
Total	34.9519	1.8821	163.2352	8.6600e-003		0.9075	0.9075		0.9075	0.9075	0.0000	295.1184	295.1184	0.2825	0.0000	302.1818

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

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

10.0 Stationary Equipment

East Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

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

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

West Campus 2035 Operations - Area and Energy Sources

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	1,750.00	Space	15.75	700,000.00	0
High Turnover (Sit Down Restaurant)	29.50	1000sqft	0.68	29,500.00	0
General Office Building	500.00	1000sqft	11.48	500,000.00	0
Apartments Mid Rise	1,290.00	Dwelling Unit	33.95	250,000.00	1290
Research & Development	515.00	1000sqft	11.82	515,000.00	0
General Light Industry	40.00	1000sqft	0.92	40,000.00	0
University/College (4Yr)	5,724.00	Student	24.15	720,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2035
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	496.5	CH4 Intensity (lb/MWhr)	0	N2O Intensity (lb/MWhr)	0

1.3 User Entered Comments & Non-Default Data

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

Project Characteristics - CO2 is presented in CO2e and based on projected CO2e intensity per RPS for SDG&E.

Land Use - Based on LRDP Buildout Database.

Construction Phase - Operational run only.

Off-road Equipment - Operational run only.

Off-road Equipment - Operational run only.

Trips and VMT - Operational run only.

Architectural Coating - Operational run only.

Vehicle Trips - Mobile sources calculated separately.

Woodstoves - Assumes no woodstoves or fireplaces.

Consumer Products - San Diego County specific general category EF.

Energy Use -

Water And Wastewater - Water use calculated separately.

Solid Waste - Solid waste calculated separately.

Area Mitigation - SDAPCD Rule 67.0.1

Energy Mitigation - UC Direct Services Energy Unit

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	902,250.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	2,706,750.00	0.00
tblArchitecturalCoating	ConstArea_Parking	42,000.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	168,750.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	506,250.00	0.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	100
tblConstructionPhase	NumDays	110.00	0.00

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

tblConstructionPhase	NumDays	110.00	0.00
tblConstructionPhase	PhaseEndDate	5/28/2026	12/25/2025
tblConstructionPhase	PhaseEndDate	12/25/2025	7/24/2025
tblConsumerProducts	ROG_EF	2.14E-05	1.6463E-05
tblFireplaces	NumberGas	709.50	0.00
tblFireplaces	NumberWood	451.50	0.00
tblLandUse	LandUseSquareFeet	1,290,000.00	250,000.00
tblLandUse	LandUseSquareFeet	1,052,056.71	720,000.00
tblLandUse	Population	3,689.00	1,290.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	720.49	496.5
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblSolidWaste	SolidWasteGenerationRate	593.40	0.00
tblSolidWaste	SolidWasteGenerationRate	49.60	0.00
tblSolidWaste	SolidWasteGenerationRate	465.00	0.00
tblSolidWaste	SolidWasteGenerationRate	351.05	0.00
tblSolidWaste	SolidWasteGenerationRate	39.14	0.00
tblSolidWaste	SolidWasteGenerationRate	1,044.63	0.00
tblTripsAndVMT	WorkerTripNumber	376.00	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	158.37	0.00

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	1.30	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	131.84	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	127.15	0.00
tblVehicleTrips	WD_TR	8.11	0.00
tblVehicleTrips	WD_TR	1.71	0.00
tblWater	IndoorWaterUseRate	84,048,693.05	0.00
tblWater	IndoorWaterUseRate	9,250,000.00	0.00
tblWater	IndoorWaterUseRate	88,866,874.00	0.00
tblWater	IndoorWaterUseRate	8,954,244.52	0.00
tblWater	IndoorWaterUseRate	253,222,382.81	0.00
tblWater	IndoorWaterUseRate	12,255,656.40	0.00
tblWater	OutdoorWaterUseRate	52,987,219.53	0.00
tblWater	OutdoorWaterUseRate	54,466,793.74	0.00
tblWater	OutdoorWaterUseRate	571,547.52	0.00
tblWater	OutdoorWaterUseRate	19,169,103.60	0.00
tblWoodstoves	NumberCatalytic	64.50	0.00
tblWoodstoves	NumberNoncatalytic	64.50	0.00

2.0 Emissions Summary

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

[illegible]

Mitigated Construction

[illegible][illegible]

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	51.0551	1.2314	106.9214	5.6900e-003		0.5933	0.5933		0.5933	0.5933	0.0000	193.5055	193.5055	0.1873	0.0000	198.1867
Energy	1.6960	15.2640	11.8189	0.0925		1.1718	1.1718		1.1718	1.1718		18,502.1385	18,502.1385	0.3546	0.3392	18,612.0874
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
Total	52.7512	16.4954	118.7403	0.0982	0.0000	1.7651	1.7651	0.0000	1.7651	1.7651	0.0000	18,695.6440	18,695.6440	0.5419	0.3392	18,810.2742

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	42.8950	1.2314	106.9214	5.6900e-003		0.5933	0.5933		0.5933	0.5933	0.0000	193.5055	193.5055	0.1873	0.0000	198.1867
Energy	1.6960	15.2640	11.8189	0.0925		1.1718	1.1718		1.1718	1.1718		18,502.1385	18,502.1385	0.3546	0.3392	18,612.0874
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
Total	44.5910	16.4954	118.7403	0.0982	0.0000	1.7651	1.7651	0.0000	1.7651	1.7651	0.0000	18,695.6440	18,695.6440	0.5419	0.3392	18,810.2742

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	15.47	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	Paving	Paving	7/25/2025	7/24/2025	5	0	
2	Architectural Coating	Architectural Coating	12/26/2025	12/25/2025	5	0	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 0****Acres of Paving: 15.75****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
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Pavers	0	8.00	130	0.42
Paving	Rollers	0	8.00	80	0.38
Paving	Paving Equipment	0	8.00	132	0.36

Trips and VMT

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

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
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Paving - 2025

Unmitigated Construction On-Site

[illegible]

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

3.2 Paving - 2025

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

3.2 Paving - 2025

Mitigated Construction Off-Site

[illegible]

3.3 Architectural Coating - 2025

Unmitigated Construction On-Site

[illegible]

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

3.3 Architectural Coating - 2025

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

3.3 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	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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**

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartment Mid Rise	0.00	0.00	0.00		
Enclosed Parking Structure	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
University/College (4Yr)	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
University/College (4Yr)	9.50	7.30	7.30	6.40	88.60	5.00	91	9	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
Enclosed Parking Structure	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
General Light Industry	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
General Office Building	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
High Turnover (Sit Down Restaurant)	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
Research & Development	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
University/College (4Yr)	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.6960	15.2640	11.8189	0.0925		1.1718	1.1718		1.1718	1.1718		18,502.1385	18,502.1385	0.3546	0.3392	18,612.0874
NaturalGas Unmitigated	1.6960	15.2640	11.8189	0.0925		1.1718	1.1718		1.1718	1.1718		18,502.1385	18,502.1385	0.3546	0.3392	18,612.0874

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	26255	0.2831	2.4196	1.0296	0.0154		0.1956	0.1956		0.1956	0.1956		3,088.8234	3,088.8234	0.0592	0.0566	3,107.1787
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
General Light Industry	1266.85	0.0137	0.1242	0.1043	7.5000e-004		9.4400e-003	9.4400e-003		9.4400e-003	9.4400e-003		149.0411	149.0411	2.8600e-003	2.7300e-003	149.9268
General Office Building	27657.5	0.2983	2.7115	2.2777	0.0163		0.2061	0.2061		0.2061	0.2061		3,253.8276	3,253.8276	0.0624	0.0597	3,273.1634
High Turnover (Sit Down Restaurant)	14093.7	0.1520	1.3817	1.1607	8.2900e-003		0.1050	0.1050		0.1050	0.1050		1,658.0854	1,658.0854	0.0318	0.0304	1,667.9386
Research & Development	16310.7	0.1759	1.5991	1.3432	9.5900e-003		0.1215	0.1215		0.1215	0.1215		1,918.9041	1,918.9041	0.0368	0.0352	1,930.3072
University/College (4Yr)	71684.4	0.7731	7.0279	5.9034	0.0422		0.5341	0.5341		0.5341	0.5341		8,433.4569	8,433.4569	0.1616	0.1546	8,483.5727
Total		1.6960	15.2640	11.8189	0.0925		1.1718	1.1718		1.1718	1.1718		18,502.1385	18,502.1385	0.3546	0.3392	18,612.0874

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	26.255	0.2831	2.4196	1.0296	0.0154		0.1956	0.1956		0.1956	0.1956		3,088.8234	3,088.8234	0.0592	0.0566	3,107.1787
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
General Light Industry	1.26685	0.0137	0.1242	0.1043	7.5000e-004		9.4400e-003	9.4400e-003		9.4400e-003	9.4400e-003		149.0411	149.0411	2.8600e-003	2.7300e-003	149.9268
General Office Building	27.6575	0.2983	2.7115	2.2777	0.0163		0.2061	0.2061		0.2061	0.2061		3,253.8276	3,253.8276	0.0624	0.0597	3,273.1634
High Turnover (Sit Down Restaurant)	14.0937	0.1520	1.3817	1.1607	8.2900e-003		0.1050	0.1050		0.1050	0.1050		1,658.0854	1,658.0854	0.0318	0.0304	1,667.9386
Research & Development	16.3107	0.1759	1.5991	1.3432	9.5900e-003		0.1215	0.1215		0.1215	0.1215		1,918.9041	1,918.9041	0.0368	0.0352	1,930.3072
University/College (4Yr)	71.6844	0.7731	7.0279	5.9034	0.0422		0.5341	0.5341		0.5341	0.5341		8,433.4569	8,433.4569	0.1616	0.1546	8,483.5727
Total		1.6960	15.2640	11.8189	0.0925		1.1718	1.1718		1.1718	1.1718		18,502.1385	18,502.1385	0.3546	0.3392	18,612.0874

6.0 Area Detail**6.1 Mitigation Measures Area**

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	42.8950	1.2314	106.9214	5.6900e-003		0.5933	0.5933		0.5933	0.5933	0.0000	193.5055	193.5055	0.1873	0.0000	198.1867
Unmitigated	51.0551	1.2314	106.9214	5.6900e-003		0.5933	0.5933		0.5933	0.5933	0.0000	193.5055	193.5055	0.1873	0.0000	198.1867

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	13.7336					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	34.0712					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.2504	1.2314	106.9214	5.6900e-003		0.5933	0.5933		0.5933	0.5933		193.5055	193.5055	0.1873		198.1867
Total	51.0551	1.2314	106.9214	5.6900e-003		0.5933	0.5933		0.5933	0.5933	0.0000	193.5055	193.5055	0.1873	0.0000	198.1867

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	5.5734					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	34.0712					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.2504	1.2314	106.9214	5.6900e-003		0.5933	0.5933		0.5933	0.5933		193.5055	193.5055	0.1873		198.1867
Total	42.8950	1.2314	106.9214	5.6900e-003		0.5933	0.5933		0.5933	0.5933	0.0000	193.5055	193.5055	0.1873	0.0000	198.1867

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

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

10.0 Stationary Equipment

West Campus 2035 Operations - Area and Energy Sources - San Diego County, Winter

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

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

SIO 2035 Operations - Area and Energy Sources

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	145.00	1000sqft	3.33	145,000.00	0
Apartment Mid Rise	800.00	Dwelling Unit	21.05	670,000.00	800
University/College (4Yr)	276.00	Student	1.16	150,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2035
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	496.5	CH4 Intensity (lb/MWhr)	0	N2O Intensity (lb/MWhr)	0

1.3 User Entered Comments & Non-Default Data

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

Project Characteristics - CO2 is presented in CO2e and based on projected CO2e intensity per RPS for SDG&E.

Land Use - Based on LRDP Buildout Database.

Construction Phase - Operational run only.

Off-road Equipment - Operational run only.

Off-road Equipment - Operational run only.

Trips and VMT - Operational run only.

Architectural Coating - Operational run only.

Vehicle Trips - Mobile sources calculated separately.

Woodstoves - Assumes no woodstoves or fireplaces.

Consumer Products - San Diego County specific general category EF.

Energy Use -

Water And Wastewater - Water use calculated separately.

Solid Waste - Solid waste calculated separately.

Area Mitigation - SDAPCD Rule 67.0.1

Energy Mitigation - UC Direct Services Energy Unit

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	147,500.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	442,500.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	452,250.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	1,356,750.00	0.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	100
tblConstructionPhase	NumDays	35.00	0.00
tblConstructionPhase	NumDays	35.00	0.00

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

tblConstructionPhase	PhaseEndDate	9/24/2020	8/6/2020
tblConstructionPhase	PhaseEndDate	8/6/2020	6/18/2020
tblConsumerProducts	ROG_EF	2.14E-05	1.6463E-05
tblFireplaces	NumberGas	440.00	0.00
tblFireplaces	NumberWood	280.00	0.00
tblLandUse	LandUseSquareFeet	800,000.00	670,000.00
tblLandUse	LandUseSquareFeet	50,728.10	150,000.00
tblLandUse	Population	2,288.00	800.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	720.49	496.5
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblSolidWaste	SolidWasteGenerationRate	368.00	0.00
tblSolidWaste	SolidWasteGenerationRate	11.02	0.00
tblSolidWaste	SolidWasteGenerationRate	50.37	0.00
tblTripsAndVMT	WorkerTripNumber	137.00	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	ST_TR	1.30	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	8.11	0.00
tblVehicleTrips	WD_TR	1.71	0.00

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

tblWater	IndoorWaterUseRate	52,123,220.50	0.00
tblWater	IndoorWaterUseRate	71,295,622.34	0.00
tblWater	IndoorWaterUseRate	590,943.60	0.00
tblWater	OutdoorWaterUseRate	32,860,291.18	0.00
tblWater	OutdoorWaterUseRate	924,296.40	0.00
tblWoodstoves	NumberCatalytic	40.00	0.00
tblWoodstoves	NumberNoncatalytic	40.00	0.00

2.0 Emissions Summary

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

[illegible]

Mitigated Construction

[illegible][illegible]

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	25.4732	0.7592	65.8118	3.4900e-003		0.3662	0.3662		0.3662	0.3662	0.0000	118.9340	118.9340	0.1134	0.0000	121.7682
Energy	0.3862	3.4149	2.2466	0.0211		0.2668	0.2668		0.2668	0.2668		4,212.7936	4,212.7936	0.0808	0.0772	4,237.8281
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
Total	25.8594	4.1741	68.0584	0.0246	0.0000	0.6330	0.6330	0.0000	0.6330	0.6330	0.0000	4,331.7275	4,331.7275	0.1941	0.0772	4,359.5963

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	20.9036	0.7592	65.8118	3.4900e-003		0.3662	0.3662		0.3662	0.3662	0.0000	118.9340	118.9340	0.1134	0.0000	121.7682
Energy	0.3862	3.4149	2.2466	0.0211		0.2668	0.2668		0.2668	0.2668		4,212.7936	4,212.7936	0.0808	0.0772	4,237.8281
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
Total	21.2897	4.1741	68.0584	0.0246	0.0000	0.6330	0.6330	0.0000	0.6330	0.6330	0.0000	4,331.7275	4,331.7275	0.1941	0.0772	4,359.5963

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	17.67	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	Paving	Paving	6/19/2020	6/18/2020	5	0	
2	Architectural Coating	Architectural Coating	8/7/2020	8/6/2020	5	0	

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
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Pavers	0	8.00	130	0.42
Paving	Rollers	0	8.00	80	0.38
Paving	Paving Equipment	0	8.00	132	0.36

Trips and VMT

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

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
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Paving - 2020

Unmitigated Construction On-Site

[illegible]

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

3.2 Paving - 2020

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

3.2 Paving - 2020

Mitigated Construction Off-Site

[illegible]

3.3 Architectural Coating - 2020

Unmitigated Construction On-Site

[illegible]

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

3.3 Architectural Coating - 2020

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

3.3 Architectural Coating - 2020**Mitigated Construction Off-Site**

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

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
University/College (4Yr)	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
University/College (4Yr)	9.50	7.30	7.30	6.40	88.60	5.00	91	9	0

4.4 Fleet Mix

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
Research & Development	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709
University/College (4Yr)	0.617626	0.036451	0.176904	0.096837	0.011340	0.005282	0.018425	0.026503	0.001944	0.001632	0.005548	0.000800	0.000709

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.3862	3.4149	2.2466	0.0211		0.2668	0.2668		0.2668	0.2668		4,212.7936	4,212.7936	0.0808	0.0772	4,237.8281
NaturalGas Unmitigated	0.3862	3.4149	2.2466	0.0211		0.2668	0.2668		0.2668	0.2668		4,212.7936	4,212.7936	0.0808	0.0772	4,237.8281

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16282.2	0.1756	1.5005	0.6385	9.5800e-003		0.1213	0.1213		0.1213	0.1213		1,915.5494	1,915.5494	0.0367	0.0351	1,926.9326
Research & Development	4592.33	0.0495	0.4502	0.3782	2.7000e-003		0.0342	0.0342		0.0342	0.0342		540.2740	540.2740	0.0104	9.9100e-003	543.4846
University/College (4Yr)	14934.2	0.1611	1.4641	1.2299	8.7800e-003		0.1113	0.1113		0.1113	0.1113		1,756.9702	1,756.9702	0.0337	0.0322	1,767.4110
Total		0.3862	3.4149	2.2466	0.0211		0.2668	0.2668		0.2668	0.2668		4,212.7936	4,212.7936	0.0808	0.0772	4,237.8281

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16.2822	0.1756	1.5005	0.6385	9.5800e-003		0.1213	0.1213		0.1213	0.1213		1,915.5494	1,915.5494	0.0367	0.0351	1,926.9326
Research & Development	4.59233	0.0495	0.4502	0.3782	2.7000e-003		0.0342	0.0342		0.0342	0.0342		540.2740	540.2740	0.0104	9.9100e-003	543.4846
University/College (4Yr)	14.9342	0.1611	1.4641	1.2299	8.7800e-003		0.1113	0.1113		0.1113	0.1113		1,756.9702	1,756.9702	0.0337	0.0322	1,767.4110
Total		0.3862	3.4149	2.2466	0.0211		0.2668	0.2668		0.2668	0.2668		4,212.7936	4,212.7936	0.0808	0.0772	4,237.8281

6.0 Area Detail

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	20.9036	0.7592	65.8118	3.4900e-003		0.3662	0.3662		0.3662	0.3662	0.0000	118.9340	118.9340	0.1134	0.0000	121.7682
Unmitigated	25.4732	0.7592	65.8118	3.4900e-003		0.3662	0.3662		0.3662	0.3662	0.0000	118.9340	118.9340	0.1134	0.0000	121.7682

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	7.6160					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	15.8868					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.9704	0.7592	65.8118	3.4900e-003		0.3662	0.3662		0.3662	0.3662		118.9340	118.9340	0.1134		121.7682
Total	25.4732	0.7592	65.8118	3.4900e-003		0.3662	0.3662		0.3662	0.3662	0.0000	118.9340	118.9340	0.1134	0.0000	121.7682

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.0464					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	15.8868					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.9704	0.7592	65.8118	3.4900e-003		0.3662	0.3662		0.3662	0.3662		118.9340	118.9340	0.1134		121.7682
Total	20.9036	0.7592	65.8118	3.4900e-003		0.3662	0.3662		0.3662	0.3662	0.0000	118.9340	118.9340	0.1134	0.0000	121.7682

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

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

10.0 Stationary Equipment

SIO 2035 Operations - Area and Energy Sources - San Diego County, Winter

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

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

UC San Diego Existing Operations - Area Sources

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	10,486.16	1000sqft	240.73	10,486,156.00	0
Apartment Mid Rise	19,805.00	Dwelling Unit	521.18	6,629,866.00	19805
Research & Development	662.26	1000sqft	15.20	662,264.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2018
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	565.91	CH4 Intensity (lb/MWhr)	0	N2O Intensity (lb/MWhr)	0

1.3 User Entered Comments & Non-Default Data

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

Project Characteristics - CO2 is presented in CO2e and based on current CO2e intensity per RPS for SDG&E.

Land Use - Research and Development to account for existing and near-term non housing square footage. Existing and planned beds from LRDP Housing Plan.

Construction Phase - Operations run only.

Off-road Equipment - Operations run only.

Off-road Equipment - Operations run only.

Trips and VMT - Operations run only.

Architectural Coating - Operations run only.

Vehicle Trips - Mobile sources calculated separately.

Woodstoves - Assumes no woodstoves or fireplaces.

Consumer Products - San Diego County specific general category EF.

Energy Use - Energy emissions calculated separately.

Water And Wastewater - Water use calculated separately.

Solid Waste - Solid waste calculated separately.

Area Mitigation - SDAPCD Rule 67.0.1

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	5,574,210.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	16,722,630.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	4,475,160.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	13,425,479.00	0.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	100
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	100
tblConstructionPhase	NumDays	880.00	0.00
tblConstructionPhase	NumDays	880.00	0.00
tblConstructionPhase	PhaseEndDate	5/7/2082	12/22/2075

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

tblConstructionPhase	PhaseEndDate	12/22/2078	8/8/2075
tblConstructionPhase	PhaseStartDate	12/23/2078	12/23/2075
tblConsumerProducts	ROG_EF	2.14E-05	1.6463E-05
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	209.39	0.00
tblEnergyUse	T24E	1.21	0.00
tblEnergyUse	T24NG	3,248.74	0.00
tblEnergyUse	T24NG	4.31	0.00
tblFireplaces	NumberGas	10,892.75	0.00
tblFireplaces	NumberWood	6,931.75	0.00
tblLandUse	LandUseSquareFeet	10,486,200.00	10,486,156.00
tblLandUse	LandUseSquareFeet	19,805,000.00	6,629,866.00
tblLandUse	Population	56,642.00	19,805.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	720.49	565.91
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblSolidWaste	SolidWasteGenerationRate	9,110.30	0.00
tblSolidWaste	SolidWasteGenerationRate	847.21	0.00

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

tblTripsAndVMT	WorkerTripNumber	3,565.00	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	1.90	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	1.11	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	8.11	0.00
tblWater	IndoorWaterUseRate	1,290,375,477.43	0.00
tblWater	IndoorWaterUseRate	5,481,649,970.40	0.00
tblWater	OutdoorWaterUseRate	813,497,583.60	0.00
tblWoodstoves	NumberCatalytic	990.25	0.00
tblWoodstoves	NumberNoncatalytic	990.25	0.00

2.0 Emissions Summary

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

[illegible]

Mitigated Construction

[illegible][illegible]

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	471.1316	19.1097	1,646.646 5	0.0864		8.9850	8.9850		8.9850	8.9850	0.0000	2,944.518 2	2,944.518 2	2.9224	0.0000	3,017.577 4
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
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
Total	471.1316	19.1097	1,646.646 5	0.0864	0.0000	8.9850	8.9850	0.0000	8.9850	8.9850	0.0000	2,944.518 2	2,944.518 2	2.9224	0.0000	3,017.577 4

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	394.5635	19.1097	1,646.646 5	0.0864		8.9850	8.9850		8.9850	8.9850	0.0000	2,944.518 2	2,944.518 2	2.9224	0.0000	3,017.577 4
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
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
Total	394.5635	19.1097	1,646.646 5	0.0864	0.0000	8.9850	8.9850	0.0000	8.9850	8.9850	0.0000	2,944.518 2	2,944.518 2	2.9224	0.0000	3,017.577 4

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	16.25	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	Paving	Paving	8/9/2075	8/8/2075	5	0	
2	Architectural Coating	Architectural Coating	12/23/2075	12/22/2075	5	0	

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
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Pavers	0	8.00	130	0.42
Paving	Rollers	0	8.00	80	0.38
Paving	Paving Equipment	0	8.00	132	0.36

Trips and VMT

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

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
Paving	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Paving - 2075

Unmitigated Construction On-Site

[illegible]

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

3.2 Paving - 2075

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

3.2 Paving - 2075

Mitigated Construction Off-Site

[illegible]

3.3 Architectural Coating - 2075

Unmitigated Construction On-Site

[illegible]

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

3.3 Architectural Coating - 2075

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

3.3 Architectural Coating - 2075**Mitigated Construction Off-Site**

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

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartment Mid Rise	0.00	0.00	0.00		
Research & Development	0.00	0.00	0.00		
Research & Development	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
Apartment Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

4.4 Fleet Mix

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452
Research & Development	0.574135	0.045525	0.189369	0.116519	0.019283	0.005646	0.014833	0.022073	0.001871	0.002173	0.006385	0.000739	0.001452

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	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
Research & Development	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	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	lb/day										lb/day					
Apartments Mid Rise	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
Research & Development	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	394.5635	19.1097	1,646.646 5	0.0864		8.9850	8.9850		8.9850	8.9850	0.0000	2,944.518 2	2,944.518 2	2.9224	0.0000	3,017.577 4
Unmitigated	471.1316	19.1097	1,646.646 5	0.0864		8.9850	8.9850		8.9850	8.9850	0.0000	2,944.518 2	2,944.518 2	2.9224	0.0000	3,017.577 4

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

6.2 Area by SubCategory**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	127.6135					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	292.6839					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	50.8341	19.1097	1,646.6465	0.0864		8.9850	8.9850		8.9850	8.9850		2,944.5182	2,944.5182	2.9224		3,017.5774
Total	471.1316	19.1097	1,646.6465	0.0864		8.9850	8.9850		8.9850	8.9850	0.0000	2,944.5182	2,944.5182	2.9224	0.0000	3,017.5774

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	51.0454					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	292.6839					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	50.8341	19.1097	1,646.6465	0.0864		8.9850	8.9850		8.9850	8.9850		2,944.5182	2,944.5182	2.9224		3,017.5774
Total	394.5635	19.1097	1,646.6465	0.0864		8.9850	8.9850		8.9850	8.9850	0.0000	2,944.5182	2,944.5182	2.9224	0.0000	3,017.5774

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

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

10.0 Stationary Equipment

UC San Diego Existing Operations - Area Sources - San Diego County, Winter

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

UC San Diego Stationary Sources Summary
Criteria Pollutants

Existing	Emissions (lbs/day)					
	NOx	CO	SOx	PM10	PM2.5	VOC
Generators	33.12	10.84	1.36	1.62	1.62	2.03
Turbines	25.92	0.48	21.30	43.98	43.98	13.99
Crematory	0.47	0.10	0.00	0.00	0.00	0.01
Small Combustion Sources	65.45	54.98	0.39	4.97	4.97	3.60
Boilers	16.46	10.97	0.89	11.29	11.29	8.17
Total Stationary Source Emissions	141.42	77.37	23.94	61.87	61.87	27.81

Future (2025)	Emissions (lbs/day)					
	NOx	CO	SOx	PM10	PM2.5	VOC
Generators	53.58	32.30	1.36	1.86	1.86	3.19
Turbines	25.92	0.48	21.30	43.98	43.98	13.99
Crematory	0.66	0.14	0.00	0.00	0.00	0.02
Small Combustion Sources	83.13	69.83	0.50	6.32	6.32	4.57
Boilers	16.46	10.97	0.89	11.29	11.29	8.17
Total Stationary Source Emissions	179.75	113.72	24.05	63.45	63.45	29.94

Future (2035)	Emissions (lbs/day)					
	NOx	CO	SOx	PM10	PM2.5	VOC
Generators	52.77	31.49	1.36	21.27	21.27	3.15
Turbines	25.92	0.48	21.30	43.98	43.98	13.99
Crematory	0.85	0.19	0.01	0.00	0.00	0.02
Small Combustion Sources	96.87	81.37	0.59	7.36	7.36	5.33
Boilers	16.46	10.97	0.89	11.29	11.29	8.17
Total Stationary Source Emissions	192.87	124.49	24.13	83.91	83.91	30.66

GHG Emissions
UC San Diego Stationary Sources Summary

GHG Emissions	MT CO ₂ e/year
Existing	
Generators	53.68
Turbines	119,041.38
Crematory	27.80
Small Combustion Sources	13,029.44
Boilers	29,573.73
Total Stationary Source Emissions	161,726.03

GHG Emissions without GHG Reduction Actions

	MT CO ₂ e/year
Future (2025)	
Generators	58.04
Turbines	119,041.38
Crematory	38.92
Small Combustion Sources	16,547.38
Boilers	29,573.73
Total Stationary Source Emissions	165,259.47

GHG Emissions without GHG Reduction Actions

	MT CO ₂ e/year
Future (2035)	
Generators	57.88
Turbines	119,041.38
Crematory	50.04
Small Combustion Sources	19,283.57
Boilers	29,573.73
Total Stationary Source Emissions	168,006.61

GHG Emissions w/ GHG Reduction Actions	MT CO ₂ e/year
2025 Scenario	
Generators	58.04
Turbines	71,653.57
Crematory	38.92
Small Combustion Sources	16,547.38
Boilers	29,573.73
Total Stationary Source Emissions	117,871.66

GHG Emissions w/ GHG Reduction Actions	MT CO ₂ e/year
2035 Scenario	
Generators	57.88
Turbines	71,653.57
Crematory	50.04
Small Combustion Sources	19,283.57
Boilers	29,573.73
Total Stationary Source Emissions	120,618.80

Possible MM-GHG-3 Scenario: 100% Biogas	MT CO ₂ e/year
2035 Scenario	
Generators	57.88
Turbines	571.86
Crematory	50.04
Small Combustion Sources	19,283.57
Boilers	29,573.73
Total Stationary Source Emissions	49,537.08

Net Change (2025)	Emissions (lbs/day)					
	NOx	CO	SOx	PM10	PM2.5	VOC
Generators	20.47	21.47	0.00	0.24	0.24	1.16
Turbines	-	-	-	-	-	-
Crematory	0.19	0.04	0.00	0.00	0.00	0.01
Small Combustion Sources	17.67	14.85	0.11	1.34	1.34	0.97
Boilers	0.00	0.00	0.00	0.00	0.00	0.00
Total Stationary Source Emissions	38.33	36.35	0.11	1.58	1.58	2.13

Net Change (2035)	Emissions (lbs/day)					
	NOx	CO	SOx	PM10	PM2.5	VOC
Generators	19.65	20.65	0.00	19.65	19.65	1.11
Turbines	-	-	-	-	-	-
Crematory	0.38	0.08	0.00	0.00	0.00	0.01
Small Combustion Sources	31.42	26.39	0.19	2.39	2.39	1.73
Boilers	0.00	0.00	0.00	0.00	0.00	0.00
Total Stationary Source Emissions	51.45	47.12	0.19	22.04	22.04	2.85

	MT CO ₂ e/year
Net Change (2025)	
Generators	4.37
Turbines	(47,387.81)
Crematory	11.12
Small Combustion Sources	3,517.95
Boilers	-
Total Stationary Source Emissions	(43,854.37)

	MT CO ₂ e/year
Net Change (2035)	
Generators	4.20
Turbines	(47,387.81)
Crematory	22.24
Small Combustion Sources	6,254.13
Boilers	-
Total Stationary Source Emissions	(41,107.24)

Existing Generators						Emissions (lbs/day)							lbs CO2e/year	MT CO2e/year
Map Number	Generator - Location	Permit	2015 Existing Fuel Use (gal/year)	HP	Device ID	Peak Day Fuel Usage (gal/day)	NOx	CO	SOx	PM10	CO2e	VOC		
1	Gilman Parking	975498	2.7	68	1	0.027	0.016366	0.003526	0.001076	0.00115	6.068637	0.001406	60.86	0.03
2	Pharmaceutical Sciences	983691	97.9	2175	2	0.979	0.43061	0.114381	0.006796	0.012111	22.20331	0.010671	2206.87	1.00
3	Rita Atkinson (HSGH #1)	989201	17.3	398	1	0.173	0.104866	0.02259	0.006896	0.007372	3.899788	0.009012	389.98	0.18
4	Center for Molecular Medicine	972351	21.9	890	2	0.219	0.096326	0.025587	0.00152	0.002709	4.966828	0.002387	493.67	0.22
5	Center for Molecular Medicine	972352	668.6	890	2	6.686	2.940813	0.781153	0.04641	0.08271	151.6357	0.072877	1507.67	6.84
6	Molecular Biology Building	972341	21.3	536	1	0.213	0.129113	0.027813	0.00849	0.009076	8.801473	0.011095	480.15	0.22
8	Drama Theater/Rehearsal Studio	960494	2.4	50	1	0.024	0.014548	0.003134	0.000957	0.001023	0.541011	0.00125	54.10	0.02
9	Keeling Apartments (Reveille)	877	86.5	1141	2	0.865	0.380467	0.101062	0.006004	0.010701	19.61784	0.009429	1949.89	0.88
10	Natural Sciences	976883	53.4	2174	2	0.534	0.234878	0.062389	0.003707	0.006606	12.1109	0.005821	1203.75	0.55
11	Pacific Hall	972347	111.9	1232	2	1.119	0.492188	0.130737	0.007767	0.013843	25.37845	0.012197	2522.46	1.14
12	Chemistry Research Building (SRB)	976415	7.6	347	1	0.076	0.040608	0.009924	0.003029	0.003238	1.713202	0.003959	171.32	0.08
13	North Campus Housing #1 (Village West)	987446	34.8	550	1	0.348	0.210945	0.054442	0.013872	0.014828	7.844661	0.018127	784.47	0.36
14	ERC Pump Station Upgrade	987516	13.5	158	1	0.135	0.081832	0.017628	0.005381	0.005752	3.043187	0.007032	304.32	0.14
15	ERC Café Ventanas	979277	13.1	166	1	0.131	0.079407	0.017106	0.005222	0.005582	2.953019	0.006824	295.30	0.13
16	North Campus Housing #2 (Village East)	988085	31.6	685	2	0.316	0.138991	0.03692	0.002193	0.003909	7.166747	0.003444	712.33	0.32
17	TPC/S Node J	983817	9.4	390	1	0.094	0.056979	0.012274	0.003747	0.004005	2.11896	0.004896	211.90	0.10
18	Hopkins Garage	983815	108	2922	2	1.08	0.475034	0.126181	0.007497	0.01338	24.49395	0.011772	2434.55	1.10
19	Central University Library	972343	19.6	830	2	0.196	0.08621	0.0229	0.00136	0.002425	4.445198	0.002136	441.83	0.20
20	ENG Building 1	972339	9.8	535	1	0.098	0.059404	0.012797	0.003906	0.004176	2.209129	0.005105	220.91	0.10
21	Powell Focht Bioengineering	977380	30.2	823	2	0.302	0.132834	0.035284	0.002096	0.003736	6.849233	0.003292	680.77	0.31
22	Cal IT-2	980924	38.1	1114	2	0.381	0.167581	0.044514	0.002645	0.004713	8.64092	0.004153	858.86	0.39
23	Warren Apts (College Apts)	972348	13.4	150	1	0.134	0.081226	0.017498	0.005341	0.00571	3.020645	0.00698	302.06	0.14
24	EBU-3B	981264	8.4	317	1	0.084	0.050918	0.010969	0.003348	0.003579	1.893539	0.004376	189.35	0.09
25	ENG Building 2	972349	28.9	890	2	0.289	0.127116	0.033765	0.002006	0.003575	6.554399	0.00315	651.47	0.30
26	CMRR Node "B"	983850	3.5	158	1	0.036	0.021822	0.004701	0.001435	0.001534	0.811517	0.001875	81.15	0.04
27	Price Center Expansion (SERF)	985269	34.2	1502	2	0.342	0.150427	0.039957	0.002374	0.004231	7.756416	0.003728	770.94	0.35
28	Structural and Materials Engineering	1185	33.9	1490	2	0.339	0.149108	0.039607	0.002353	0.004194	7.688378	0.003695	764.18	0.35
29	CSC Building Comp - D	972346	1.8	100	1	0.018	0.010911	0.00235	0.000717	0.000767	0.405758	0.000938	40.58	0.02
30	Environmental Management Facility	972354	15.7	449	1	0.157	0.095168	0.020501	0.006258	0.00669	3.593114	0.008178	353.91	0.16
31	Biofield Lab	972345	3.6	100	1	0.036	0.021822	0.004701	0.001435	0.001534	0.811517	0.001875	81.15	0.04
32	East Campus Parking Structure	1035	7.3	237	1	0.073	0.04425	0.009532	0.00291	0.003111	1.645575	0.003803	164.56	0.07
35	North Campus Parking	975499	4.4	102	1	0.044	0.026671	0.005745	0.001754	0.001875	0.991854	0.002292	99.19	0.04
36	NOAA	982612	1	211	1	0.01	0.006062	0.001306	0.000399	0.000426	0.225421	0.000521	22.54	0.01
37	T43 (MPL Shop) - Benthic Lab	960488	5.6	230	1	0.056	0.033945	0.007312	0.002232	0.002386	1.262359	0.002917	126.24	0.06
38	Vaughn Hall (Endurance Hall)	972849	21.5	605	2	0.215	0.094567	0.025119	0.001492	0.00266	4.87611	0.002344	484.66	0.22
39	Campus Security	982217	10.2	395	1	0.102	0.061829	0.013319	0.004066	0.004346	2.299297	0.005313	229.93	0.10
40	Stein Clinical Sciences Building	972344	96.3	587	1	0.963	0.583735	0.125748	0.038386	0.041034	21.79807	0.050163	2170.81	0.98
41	RADY School of Management	984277	11.2	364	1	0.112	0.06789	0.014625	0.004464	0.004772	2.524718	0.005834	252.47	0.11
42	Recreational Intermural Athletic Ctr (RIMAC)	972350	20.4	1447	2	0.204	0.089729	0.023834	0.001416	0.002524	4.626634	0.002224	459.86	0.21
43	New Birch (Birch Aquarium at Scripps)	972355	14.8	749	2	0.148	0.065097	0.017291	0.001027	0.001831	3.395678	0.001613	333.62	0.15
44	EAST CAMPUS CENTRAL UTILITIES PLANT #1	978480	142.6	1480	2	1.426	0.627221	0.166606	0.009898	0.017641	32.34108	0.015543	3214.51	1.46
45	EAST CAMPUS CENTRAL UTILITIES PLANT #2	978745	142.6	1501	2	1.426	0.627221	0.166606	0.009898	0.017641	32.34108	0.015543	3214.51	1.46
46	EAST CAMPUS CENTRAL UTILITIES PLANT #3	2240	126	2206	2	1.26	0.554206	0.147211	0.008746	0.015587	28.57627	0.013734	2840.31	1.29
47	EAST CAMPUS CENTRAL UTILITIES PLANT #4	2241	89	2206	2	0.89	0.391463	0.103982	0.006178	0.01101	20.18483	0.009701	2006.25	0.91
48	Campus Ambulatory Care	972340	1.8	86	1	0.018	0.010911	0.00235	0.000717	0.000767	0.405758	0.000938	40.58	0.02
49	Central Utilities #1	972353	81.9	2168	2	0.819	0.360234	0.095687	0.005685	0.010132	18.57458	0.008927	1846.20	0.84
50	Central Utilities #2	972338	79.8	2168	2	0.798	0.350997	0.093234	0.005539	0.009872	18.0983	0.008698	1798.86	0.82
51	Central Utilities #3	977348	95	2534	2	0.95	0.417854	0.110992	0.006594	0.011752	21.5456	0.010355	2141.50	0.97
52	MCCP #1	2091	47.8	3634	0.478	0.210247	0.058847	0.003318	0.005913	10.84084	0.00521	1077.51	0.49	
53	MCCP #2	2092	52.9	3634	0.529	0.232679	0.061895	0.003672	0.006544	11.9975	0.005766	1192.48	0.54	
54	MCCP #3	2090	57.1	3634	0.571	0.251152	0.066712	0.003963	0.007064	12.95004	0.006224	1287.16	0.58	
55	MCCP #4	2089	56.0	3634	0.56	0.246314	0.065427	0.003887	0.006928	12.70056	0.006104	1262.36	0.57	
56	OPP						1.882937	1.882937	0	0.021726	2.31	0.101389	0.00	0.38
57	MRI						1.882937	1.882937	0	0.021726	2.31	0.101389	0.00	0.38
58	E-SHOP APCD-1596	1596	3.3	433	1	0.033	0.020003	0.004309	0.001315	0.001406	0.74389	0.001719	74.39	0.03
59	E-SHOP APCD-1597	1597	1382.5	314	1	13.825	8.380208	1.80526	0.551079	0.589085	31.6449	0.720144	31164.49	14.14
60	E-SHOP APCD-1598	1598	12.3	314	1	0.123	0.074558	0.016061	0.004903	0.005241	2.772682	0.006407	277.27	0.13
61	E-SHOP APCD-1599	1599	6.2	314	1	0.062	0.037582	0.008096	0.002471	0.002642	1.397612	0.00323	139.76	0.06
62	E-SHOP APCD-1600	1600	728.1	314	1	7.281	4.413475	0.950749	0.290229	0.310244	164.1292	0.379267	16412.92	7.44
63	Scholarider Hall (Portable)	1595	84.5	256	1	0.845	0.512208	0.11034	0.033683	0.036006	19.0481	0.040016	1904.81	0.86
64	WHISPER WATT (B&V YARD)	863	62.1	237	1	0.621	0.376427	0.08109	0.024754	0.026461	13.99866	0.032348	1399.87	0.63
Total							31.15515	10.1943	1.275258	1.525083	1174.424	1.913025	116651.00	53.68
Adjusted for NR							33.11792	10.83654	1.355599	1.621163	1248.413	2.033546	124000.0172	57.05972143
						Device ID								
CUP Mobile Whisper Watt 150		1250	179.1	26	1	1.791	1.085639	0.233868	0.071391	0.076315	40.37295	0.093293	4037.30	1.83
CSC E-Shop Whisper Watt 220		1251	8.4	314	1	0.084	0.050918	0.010969	0.003348	0.003579	1.893539	0.004376	189.35	0.09

UC San Diego New Generators

Future Generators - 2025

						Emissions (g/day)				Emissions (lb/day)							MT CO2e/year	
Campus	Number of Engines	BHP	BKW	Potential Daily Hrs. Operated (Hrs/Engine)	Load Factor	PM	ROG	NOx	CO	PM10	PM2.5	ROG	NOx	CO	CO2	CH4		CO2e
SIO	2	450	335.6	0.3	0.73	2.9565	27.594	59.13	512.46	0.006518	0.006518	0.060833	0.130357	1.129762	0.50	0.03	1.39	0.23
East Campus	4	1500	1118.5	0.3	0.73	39.42	183.96	3416.4	3416.4	0.086905	0.086905	0.405556	7.531746	7.531746	3.33	0.21	9.25	1.53
West Campus	12	850	633.8	0.3	0.73	67.014	312.732	5807.88	5807.88	0.147738	0.147738	0.689444	12.80397	12.80397	5.66	0.36	15.73	2.60
						Total Emissions				0.241161	0.241161	1.155833	20.46607	21.46548	9.49	0.60	26.37	4.37

Notes: Number, size, and operational hours consistent with assumptions in the HRA.

Future Generators - 2035

						Emissions (g/day)				Emissions (lb/day)							MT CO2e/year
Campus	Number of Engines	BHP	BkW	Potential Daily Hrs. Operated (Hrs/Engine)	Load Factor	PM	ROG	NOx	CO	PM10	PM2.5	ROG	NOx	CO	CO2	CH4	
SIO	2	450	335.6	0.3	0.73	2.9565	27.594	59.13	512.46	0.006518	0.006518	0.060833	0.130357	1.129762	0.50	0.03	1.39
East Campus	3	1500	1118.5	0.3	0.73	29.565	137.97	2562.3	2562.3	0.065179	0.065179	0.304167	5.64881	5.64881	2.50	0.16	6.94
West Campus	13	850	633.8	0.3	0.73	72.5985	338.793	6291.87	6291.87	0.160005	0.160005	0.746898	13.87097	13.87097	6.14	0.39	17.04
						Total Emissions				0.231746	0.231746	1.111898	19.65013	20.64954	9.13	0.58	25.37

Notes: Number, size, and operational hours consistent with assumptions in the HRA.

2018 LRDP Total	36

CalEEMod CO2 Emergency Generator Emission Factors			
Low HP	High HP	CO2 lb/hp-hr	CH4 lb/hp-hr
300	600	1.15	0.073
750	9999	1.15	0.073

GWP		
CO2	CH4	N2O
1	28	265

Source: IPCC 2013

2204.62 lbs/MT
453.592 g/lb

Emission Factors (g/bhp-hr) <560 kWh			
Tier 4 PM	Tier 4 ROG	Tier 4 NOX	Tier 4 CO
0.015	0.14	0.3	2.6

Emission Factors (g/bhp-hr) >560 kWh			
Tier 4 PM	Tier 4 ROG	Tier 4 NOX	Tier 4 CO
0.03	0.14	2.6	2.6

1 lb 453.6 grams

UC San Diego Turbine Emissions

Existing						Emission Factors ^{1,2}					Emissions (lbs/day)					CO ₂ e (MT/year)
Turbine	Permit	Average Existing Fuel Use (lb/hr)	Average Heat Input (MMBtu/hr) ¹	Work Hrs per day	Heat Input per day (MMBtu/day)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/MMBtu)	SO _x (lb/MMBtu)	PM (lb/MMBtu)	NO _x	CO	VOC	SO _x	PM	
South Turbine	974480	6,041.00	138.81	24	3,331.44	0.49	0.01	2.10E-03	0.003196	6.60E-03	11.76	0.24	7.00	10.65	21.99	-
North Turbine	974481	6,043.00	138.84	24	3,332.16	0.59	0.01	2.10E-03	0.003196	6.60E-03	14.16	0.24	7.00	10.65	21.99	-
Source: ¹ SDAPCD Source Tests 2016 for heat input and NO _x and CO emission factors; ² EPA AP-42 Section 3.1; Tables 3.1-2a and 3.1-2b for VOC, SO _x , PM											25.92	0.48	13.99	21.30	43.98	119,041.38

Future Emissions		
Year	Percent Increase	Turbine
2025	100%	South Turbine
		North Turbine
		Total
2035	100%	South Turbine
		North Turbine
		Total

Emissions (lbs/day)					CO ₂ e (MT/year)
NO _x	CO	VOC	SO _x	PM	
11.76	0.24	7.00	10.65	21.99	-
14.16	0.24	7.00	10.65	21.99	-
25.92	0.48	13.99	21.30	43.98	71,653.57
11.76	0.24	7.00	10.65	21.99	-
14.16	0.24	7.00	10.65	21.99	-
25.92	0.48	13.99	21.30	43.98	71,653.57

GHG - GWP	
CO ₂	1
CH ₄	28
N ₂ O	265

2204.62 lbs/MT

MM-GHG-3: Possible Scenario 100% Biogas	
2035	571.86

UC San Diego Boiler Emissions

Existing

Existing			Emissions (lbs/day)										MT CO ₂ e/year
Boiler	Heat Input (MMBtu/hr)	Work Hrs per Day	Heat Input per Day (MMBtu/day)	NO _x	CO	VOC	SO _x	PM	CO ₂	N ₂ O	CH ₄	CO ₂ e	
Central Utilities Boiler B-2	61.244	24	1469.856	2.88	1.92	1.43	0.16	1.98	31196.09	0.17	0.60	31,256.93	5,174.94
Central Utilities Boiler B-3	74.42	24	1786.08	3.50	2.33	1.74	0.19	2.40	37907.61	0.20	0.73	37,981.53	6,288.27
Central Utilities Boiler B-4	113.46	24	2723.04	5.34	3.56	2.65	0.29	3.66	57793.56	0.31	1.11	57,906.26	9,587.04
Medical Center Boiler 1	24.491	24	587.784	1.15	0.77	0.57	0.06	0.79	12475.08	0.07	0.24	12,499.40	2,069.42
Medical Center Boiler 2	24.491	24	587.784	1.15	0.77	0.57	0.06	0.79	12475.08	0.07	0.24	12,499.40	2,069.42
Medical Center Boiler 3	24.491	24	587.784	1.15	0.77	0.57	0.06	0.79	12475.08	0.07	0.24	12,499.40	2,069.42
Morres Cancer Center Boiler 1	6.2	24	148.8	0.29	0.19	0.14	0.02	0.20	3158.12	0.02	0.06	3,164.28	523.88
Morres Cancer Center Boiler 2	6.2	24	148.8	0.29	0.19	0.14	0.02	0.20	3158.12	0.02	0.06	3,164.28	523.88
Morres Cancer Therm Heater 1	7.5	24	180	0.35	0.24	0.18	0.02	0.24	3820.30	0.02	0.07	3,827.75	633.73
Morres Cancer Therm Heater 2	7.5	24	180	0.35	0.24	0.18	0.02	0.24	3820.30	0.02	0.07	3,827.75	633.73
Total Emissions				16.46	10.97	8.17	0.89	11.29	178279.33	0.95	3.42	178,626.98	29,573.73

Future Emissions

Future Emissions			Emissions (lbs/day)										MT CO ₂ e/year
Year	Percent Increase	Turbine	NO _x	CO	VOC	SO _x	PM	CO ₂	N ₂ O	CH ₄	CO ₂ e		
2025	100%	Central Utilities Boiler B-2	2.880	1.920	1.430	0.156	1.976	31196.095	0.166	0.598	31,256.93	5,174.94	
		Central Utilities Boiler B-3	3.500	2.333	1.737	0.190	2.401	37907.605	0.202	0.727	37,981.53	6,288.27	
		Central Utilities Boiler B-4	5.335	3.557	2.649	0.289	3.660	57793.562	0.308	1.108	57,906.26	9,587.04	
		Medical Center Boiler 1	1.152	0.768	0.572	0.062	0.790	12475.076	0.067	0.239	12,499.40	2,069.42	
		Medical Center Boiler 2	1.152	0.768	0.572	0.062	0.790	12475.076	0.067	0.239	12,499.40	2,069.42	
		Medical Center Boiler 3	1.152	0.768	0.572	0.062	0.790	12475.076	0.067	0.239	12,499.40	2,069.42	
		Morres Cancer Center Boiler 1	0.292	0.194	0.145	0.016	0.200	3158.118	0.017	0.061	3,164.28	523.88	
		Morres Cancer Center Boiler 2	0.292	0.194	0.145	0.016	0.200	3158.118	0.017	0.061	3,164.28	523.88	
		Morres Cancer Therm Heater 1	0.353	0.235	0.175	0.019	0.242	3820.304	0.020	0.073	3,827.75	633.73	
		Morres Cancer Therm Heater 2	0.353	0.235	0.175	0.019	0.242	3820.304	0.020	0.073	3,827.75	633.73	
Total			16.459	10.972	8.171	0.891	11.291	178279.335	0.951	3.417	178,626.98	29,573.73	
2035	100%	Central Utilities Boiler B-2	2.880	1.920	1.430	0.156	1.976	31196.095	0.166	0.598	31,256.93	5,174.94	
		Central Utilities Boiler B-3	3.500	2.333	1.737	0.190	2.401	37907.605	0.202	0.727	37,981.53	6,288.27	
		Central Utilities Boiler B-4	5.335	3.557	2.649	0.289	3.660	57793.562	0.308	1.108	57,906.26	9,587.04	
		Medical Center Boiler 1	1.152	0.768	0.572	0.062	0.790	12475.076	0.067	0.239	12,499.40	2,069.42	
		Medical Center Boiler 2	1.152	0.768	0.572	0.062	0.790	12475.076	0.067	0.239	12,499.40	2,069.42	
		Medical Center Boiler 3	1.152	0.768	0.572	0.062	0.790	12475.076	0.067	0.239	12,499.40	2,069.42	
		Morres Cancer Center Boiler 1	0.292	0.194	0.145	0.016	0.200	3158.118	0.017	0.061	3,164.28	523.88	
		Morres Cancer Center Boiler 2	0.292	0.194	0.145	0.016	0.200	3158.118	0.017	0.061	3,164.28	523.88	
		Morres Cancer Therm Heater 1	0.353	0.235	0.175	0.019	0.242	3820.304	0.020	0.073	3,827.75	633.73	
		Morres Cancer Therm Heater 2	0.353	0.235	0.175	0.019	0.242	3820.304	0.020	0.073	3,827.75	633.73	
Total			16.459	10.972	8.171	0.891	11.291	178279.335	0.951	3.417	178,626.98	29,573.73	

Emission Factors							
NO _x	CO	VOC (lb/MMBtu)	SO _x (lb/MMBtu)	PM (lb/MMBtu)	CO ₂ (lb/MMBtu)	N ₂ O (lb/MMBtu)	CH ₄ (lb/MMBtu)
0.12000	8.00E-02	9.73E-04	0.00010612	1.34E-03	21.22	0.00011319	0.000406792

VOC, SO_x, PM based on Tables 1.4-1 and 1.4-2

Small Combustion Sources Emissions

Existing Emissions				Emission Factors (lb/mmcf)									Emissions (lb/day)						Emissions (MT/year)			MT CO2e/year
Small Combustion Sources	Existing Fuel Use (mmcf/yr)	Existing Fuel Use (mmcf/day)	Work Hrs per Day	NOx	CO	SOx	PM10	PM2.5	VOC	CO2	N2O	CH4	NOx	CO	SOx	PM10	PM2.5	VOC	CO2	N2O	CH4	
	239	0.654544582	12	100	84	0.6	7.6	7.6	5.5	120,000	0.64	2.3	65.45446	54.98174	0.392727	4.974539	4.974539	3.599995	13,004.08	0.07	0.25	13,029.44

Future Emissions			Emissions (lbs/day)							MT CO2e/year
Year	Percent Increase	Small Combustion Sources		NO _x	CO	SO _x	PM10	PM2.5	VOC	
2025	127%			83.12716	69.82682	0.498763	6.317664	6.317664	4.571994	16,547.38
2035	148%			96.8726	81.37298	0.581236	7.362317	7.362317	5.327993	19,283.57

UC San Diego Crematory Emissions
Criteria Air Pollutants

Existing	Fuel Use (mmcf/year)	Work Days Per Week	Work Days per Year	Charges Per Year	Average Charge Weight (lbs)	Charges (tons/year)	Emission Factors (lbs/mmscf)				Emission Factor (lbs/ton charged)	Emissions (lbs/year)				Emissions (lbs/year)
							ROG	NOx	CO	SOx		PM10	ROG	NOx	CO	
Crematory	0.51	3	108	112	321.02	17.97712	2.8	100	21	0.6	6	1.424466019	50.8737864	10.68349515	0.305242718	0.05393136
												Emissions (lbs/day)				Emissions (lbs/day)
												ROG	NOx	CO	SOx	PM10
												0.01319	0.47105	0.09892	0.00283	0.00050

Future (2025)	Fuel Use (mmcf/year)	Work Days Per Week	Work Days per Year	Charges Per Year	Average Charge Weight (lbs)	Charges (tons/year)	Emission Factors (lbs/mmscf)				Emission Factor (lbs/ton charged)	Emissions (lbs/year)				Emissions (lbs/year)
							ROG	NOx	CO	SOx		PM10	ROG	NOx	CO	
Crematory	0.71	3	108	112	321.02	25.167968	2.8	100	21	0.6	6	1.99	71.22	14.96	0.43	0.075503904
												Emissions (lbs/day)				Emissions (lbs/day)
												ROG	NOx	CO	SOx	PM10
												0.01847	0.65948	0.13849	0.00396	0.00070

Future (2035)	Fuel Use (mmcf/year)	Work Days Per Week	Work Days per Year	Charges Per Year	Average Charge Weight (lbs)	Charges (tons/year)	Emission Factors (lbs/mmscf)				Emission Factor (lbs/ton charged)	Emissions (lbs/year)				Emissions (lbs/year)
							ROG	NOx	CO	SOx		PM10	ROG	NOx	CO	
Crematory	0.92	3	108	112	321.02	32.358816	2.8	100	21	0.6	6	2.56	91.57	19.23	0.55	0.097076448
Notes: 2015 Fuel usage obtained from UCSD Equipment Group - Monthly Natural Gas Billing. Charges per year and weight per charge obtained from personal communication with Sam Petersen (01/30/2018). Consistent with the Health Risk Analysis, future emissions for the crematory under the 2018 LRDP are based on estimated future burn rates. Emission factors obtained from SDAPCD Crematory & Incinerator Operations (2013): https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Toxics_Program/APCD_inciner1.pdf												Emissions (lbs/day)				Emissions (lbs/day)
												ROG	NOx	CO	SOx	PM10
												0.02374	0.84790	0.17806	0.00509	0.00090

Notes: 2015 Fuel usage obtained from UCSD Equipment Group - Monthly Natural Gas Billing. Charges per year and weight per charge obtained from personal communication with Sam Petersen (01/30/2018).

Consistent with the Health Risk Analysis, future emissions for the crematory under the 2018 LRDP are based on estimated future burn rates.

Emission factors obtained from SDAPCD Crematory & Incinerator Operations (2013): https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Toxics_Program/APCD_inciner1.pdf

UC San Diego Crematory Emissions
GHG Emissions

Existing	Fuel Use (therms/year)	Natural Gas Emission Factor (kg/MMBtu)	Existing GHG Emissions (MT CO2e)
Crematory	524.00	53.0567	27.80

2025	Fuel Use (therms/year)	Natural Gas Emission Factor (kg/MMBtu)	Existing GHG Emissions (MT CO2e)
Crematory	733.60	53.0567	38.92

2035	Fuel Use (therms/year)	Natural Gas Emission Factor (kg/MMBtu)	Existing GHG Emissions (MT CO2e)
Crematory	943.20	53.0567	50.04

Notes:

2015 Fuel usage obtained from UCSD Equipment Group - Monthly Natural Gas Billing. Charges per year and weight per charge obtained from personal communication with Sam Petersen (01/30/2018).

Consistent with the Health Risk Analysis, future emissions for the crematory under the 2018 LRDP are based on estimated future burn rates.

Emission factors obtained from SDAPCD Crematory & Incinerator Operations (2013): https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Toxics_Program/APCD_inciner1.pdf

Data Source: UCSD Equipment Group GM - Monthly Natural Gas Billing

Jan 15	Feb 15	Mar 15	Apr 15	May 15	June 15	July 15	Aug 15	Sept 15	Oct 15	Nov 15	Dec 15	Total Therms Per Year
434	223	733	287	575	454	464	589	532	398	286	265	5,240.00
												10,300

therms/mmcf
10 therms/MMBtu

Mobile Source Emissions

Existing and Near Term - 2015

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
	lbs/day									
East Campus	68.3205	278.8692	843.3405	1.9045	143.738	3.2637	147.0017	38.4487	3.0933	41.542
West Campus	208.2368	849.9771	2,570.45	5.8049	438.105	9.9477	448.0527	117.1894	9.4281	126.6175
SIO	26.4286	107.8756	326.2315	0.7367	55.6025	1.2625	56.865	14.8732	1.1966	16.0698
Totals	302.9859	1236.722	3740.025	8.4461	637.4455	14.4739	651.9194	170.5113	13.718	184.2293

CO2e
MT/year
22,883
69,745
8,852
101,480

Existing and Near Term - 2018

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
	lbs/day									
East Campus	49.6108	216.0262	610.3397	1.7607	143.6243	2.1282	145.7525	38.3985	2.0065	40.405
West Campus	151.2108	658.4354	1,860.28	5.3664	437.7586	6.4865	444.2452	117.0363	6.1158	123.1521
SIO	19.1911	83.566	236.0992	0.6811	55.5586	0.8233	56.3818	14.8538	0.7762	15.63
Totals	220.0127	958.0276	2706.719	7.8082	636.9415	9.438	646.3795	170.2886	8.8985	179.1871

CO2e
MT/year
21,238
64,733
8,216
94,186

2025

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
	lbs/day									
East Campus	39.2728	158.525	477.2391	1.7993	183.7862	1.4244	185.2106	49.1094	1.3249	50.4342
West Campus	89.0835	359.5861	1,082.53	4.0813	416.8867	3.2309	420.1176	111.396	3.0052	114.4012
SIO	13.3837	54.0232	162.6368	0.6132	62.6319	0.4854	63.1173	16.7358	0.4515	17.1873
Totals	141.74	572.1343	1722.409	6.4938	663.3048	5.1407	668.4455	177.2412	4.7816	182.0227

CO2e
MT/year
21,875
49,619
7,455
78,948

2035

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
	lbs/day									
East Campus	33.1075	153.0704	412.0137	1.7967	221.416	0.9232	222.3392	59.1549	0.8582	60.0132
West Campus	70.2822	324.9451	874.6422	3.8141	470.0324	1.9598	471.9922	125.5769	1.8219	127.3988
SIO	10.0586	46.5051	125.176	0.5459	67.2696	0.2805	67.55	17.9722	0.2608	18.2329
Totals	113.4483	524.5206	1411.832	6.1567	758.718	3.1635	761.8814	202.704	2.9409	205.6449

CO2e
MT/year
22,007
46,717
6,686
75,410

Unmitigated Construction Summary

2025

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
	lbs/day									
East Campus/La Jolla	59.59	210.61	147.63	0.30	35.03	9.95	44.98	15.72	9.23	24.95
West Campus	48.56	216.26	158.54	0.34	37.60	10.01	47.61	16.42	9.28	25.70
SIO	11.63	93.97	57.65	0.10	11.47	5.02	16.49	5.68	4.70	10.38
Totals	119.78	520.84	363.82	0.74	84.10	24.98	109.08	37.82	23.21	61.02
Threshold	137	250	550	250			100			55

CO2e	Average GHG Emissions
MT/year	
3,652.04	2,086.88
4,070.69	2,326.11
1,218.50	696.29
8,941.23	5,109.27

2035

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
	lbs/day									
East Campus/La Jolla	29.48	106.61	113.65	0.28	34.14	4.12	38.26	15.49	3.81	19.30
West Campus	31.73	105.90	111.20	0.27	33.12	4.11	37.23	15.21	3.81	19.02
SIO	20.13	84.92	90.16	0.19	27.17	3.58	30.75	13.97	3.31	17.28
Totals	81.34	297.44	315.01	0.73	94.42	11.81	106.24	44.67	10.94	55.60
Threshold	137.00	250.00	550.00	250.00			100.00			55.00
Maximum Daily	119.7842	520.8402	363.8197	0.7449	94.4228	24.9814	109.081	44.6658	23.2052	61.0228

CO2e	Average GHG Emissions
MT/year	
3,272.67	1,309.07
3,155.24	1,262.10
2,153.12	861.25
8,581.03	3,432.41

Mitigated Construction Summary

Notes: Mitigation only includes MM-AQ-1

2025

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
	lbs/day									
East Campus/La Jolla	44.81	88.65	154.89	0.30	20.20	9.95	30.15	8.26	9.23	17.49
West Campus	33.78	94.30	165.80	0.34	22.82	10.01	32.82	8.97	9.28	18.25
SIO	3.62	36.46	61.46	0.10	5.55	5.02	10.57	2.66	4.70	7.36
Totals	82.21	219.41	382.14	0.74	48.57	24.98	73.55	19.89	23.21	43.10
Threshold	137.00	250.00	550.00	250.00			100.00			55.00

2035

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
	lbs/day									
East Campus/La Jolla	22.77	79.04	138.88	0.28	19.31	4.12	23.43	8.03	3.81	11.84
West Campus	25.03	78.34	136.43	0.27	18.27	4.11	22.39	7.75	3.81	11.56
SIO	14.31	61.04	109.44	0.19	13.57	3.58	17.14	6.64	3.31	9.96
Totals	62.11	218.42	384.74	0.73	51.15	11.81	62.97	22.42	10.94	33.36
Threshold	137.00	250.00	550.00	250.00			100.00			55.00

Maximum Daily	82.21	219.41	384.74	0.74	51.15	24.98	73.55	22.42	23.21	43.10

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Mitigated Overlap										
2035 Scenario Construction	62.11	218.4203	384.7434	0.7314	51.153	11.8123	62.97	22.4241	10.9357	33.36
2025 Operational	(2.71)	(595.89)	(1,379.64)	(1.67)			23.23			4.49
Total	59.39	-377.47	-994.90	-0.94			86.19			37.85

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Unmitigated Overlap										
2035 Scenario Construction	81.34	297.44	315.01	0.73			106.24			55.60
2025 Operational	(2.71)	(595.89)	(1,379.64)	(1.67)			23.23	-	-	4.49
Total	78.62	-298.45	-1064.63	-0.94			129.46			60.09

Unmitigated Construction Summary

2025

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
lbs/day										
East Campus/La Jolla	59.59	210.61	147.63	0.30	35.03	9.95	44.98	15.72	9.23	24.95
West Campus	48.56	216.26	158.54	0.34	37.60	10.01	47.61	16.42	9.28	25.70
SIO	11.63	93.97	57.65	0.10	11.47	5.02	16.49	5.68	4.70	10.38
Totals	119.78	520.84	363.82	0.74	84.10	24.98	109.08	37.82	23.21	61.02
Threshold	137	250	550	250			100			55

CO2e	Average GHG Emissions
MT/year	
3,652.04	2,086.88
4,070.69	2,326.11
1,218.50	696.29
8,941.23	5,109.27

2035

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
lbs/day										
East Campus/La Jolla	29.48	106.61	113.65	0.28	34.14	4.12	38.26	15.49	3.81	19.30
West Campus	31.73	105.90	111.20	0.27	33.12	4.11	37.23	15.21	3.81	19.02
SIO	20.13	84.92	90.16	0.19	27.17	3.58	30.75	13.97	3.31	17.28
Totals	81.34	297.44	315.01	0.73	94.42	11.81	106.24	44.67	10.94	55.60
Threshold	137.00	250.00	550.00	250.00			100.00			55.00
Maximum Daily Emissions	119.7842	520.8402	363.8197	0.7449	94.4228	24.9814	109.081	44.6658	23.2052	61.0228

CO2e	Average GHG Emissions
MT/year	
3,272.67	1,309.07
3,155.24	1,262.10
2,153.12	861.25
8,581.03	3,432.41

Mitigated Construction Summary

Notes: Mitigation includes MM-AQ-1 + MM-AQ-2

2025

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
lbs/day										
East Campus/La Jolla	44.81	88.65	154.89	0.30	20.20	0.55	20.75	8.26	0.54	8.80
West Campus	33.78	94.30	165.80	0.34	22.82	0.60	23.42	8.97	0.59	9.56
SIO	3.62	36.46	61.46	0.10	5.55	0.29	5.85	2.66	0.29	2.95
Totals	82.21	219.41	382.14	0.74	48.57	1.45	50.02	19.89	1.42	21.31
Threshold	137.00	250.00	550.00	250.00			100.00			55.00

2035

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
lbs/day										
East Campus/La Jolla	22.77	79.04	138.88	0.28	19.31	0.40	19.72	8.03	0.40	8.43
West Campus	25.03	78.34	136.43	0.27	18.27	0.40	18.67	7.75	0.39	8.14
SIO	14.31	61.04	109.44	0.19	13.57	0.32	13.88	6.64	0.31	6.96
Totals	62.11	218.42	384.74	0.73	51.15	1.12	52.27	22.42	1.11	23.53
Threshold	137.00	250.00	550.00	250.00			100.00			55.00

Maximum Daily Emissions	82.21	219.41	384.74	0.74	51.15	1.45	52.27	22.42	1.42	23.53

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Mitigated Overlap										
2035 Scenario Construction	62.11	218.4203	384.7434	0.7314	51.153	1.116	52.269	22.4241	1.1079	23.5319
2025 Operational	(2.71)	(595.89)	(1,379.64)	(1.67)			23.23			4.49
Total	59.39	-377.47	-994.90	-0.94			75.50			28.03

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Unmitigated Overlap										
2035 Scenario Construction	81.34	297.44	315.01	0.73			106.24			55.60
2025 Operational	(2.71)	(595.89)	(1,379.64)	(1.67)			23.23	-	-	4.49
Total	78.62	-298.45	-1064.63	-0.94			129.46			60.09

Area + Energy Sources
UNMITIGATED

2025

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
lbs/day										
East Campus	87.1415	10.7067	244.6149	0.0624	0	1.9623	1.9623	0	1.9623	1.9623
Area	86.2297	2.7662	240.2078	0.0127	0	1.3323	1.3323	0	1.3323	1.3323
Energy	0.9118	7.9405	4.4071	0.0497	0	0.63	0.63	0	0.63	0.63
West Campus	65.4473	18.7438	356.17	0.1099	0	3.083	3.083	0	3.083	3.083
Area	63.7697	3.9954	347.0442	0.0184	0	1.9239	1.9239	0	1.9239	1.9239
Energy	1.6776	14.7484	9.1236	0.0915	0	1.1591	1.1591	0	1.1591	1.1591
SIO	3.8091	0.92035	0.8447	0.00553	0	0.07016	0.07016	0	0.07016	0.07016
Area	3.7079	6.50E-04	0.0722	1.00E-05	0	2.60E-04	2.60E-04	0	2.60E-04	2.60E-04
Energy	0.1012	0.9197	0.7725	5.52E-03	0	0.0699	0.0699	0	0.0699	0.0699
Totals	156.3979	30.37085	601.6274	0.17783	0	5.11546	5.11546	0	5.11546	5.11546

CO2e
MT/year
7,444.13
36.2034
7407.9294
10,662.04
52.32
10,609.71
723.67
0.01
723.66
18,829.84

Energy Source Breakdown

Electricity	5,751.33
Natural Gas	1,656.60
Electricity	7,561.69
Natural Gas	3,048.02
Electricity	539.86
Natural Gas	183.80

2035

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
lbs/day										
East Campus	42.4526	8.1866	166.9918	0.04796	0	1.4047	1.4047	0	1.4047	1.4047
Area	41.733	1.8821	163.2352	8.66E-03	0	0.9075	0.9075	0	0.9075	0.9075
Energy	0.7196	6.3045	3.7566	0.0393	0	0.4972	0.4972	0	0.4972	0.4972
West Campus	52.7511	16.4954	118.74	0.09819	0	1.7651	1.7651	0	1.7651	1.7651
Area	51.0551	1.2314	106.9214	5.69E-03	0	0.5933	0.5933	0	0.5933	0.5933
Energy	1.696	15.264	11.8189	0.0925	0	1.1718	1.1718	0	1.1718	1.1718
SIO	25.8594	4.1741	68.0584	0.02459	0	0.633	0.633	0	0.633	0.633
Area	25.4732	0.7592	65.8118	3.49E-03	0	0.3662	0.3662	0	0.3662	0.3662
Energy	0.3862	3.4149	2.2466	0.0211	0	0.2668	0.2668	0	0.2668	0.2668
Totals	121.0631	28.8561	353.7905	0.17074	0	3.8028	3.8028	0	3.8028	3.8028

CO2e
MT/year
6,577
24.6721
6552.1462
9,404
16
9,388
2,004
9.942
1994.5187
17,985

Electricity	5,244.78
Natural Gas	1,307.36
Electricity	6,306.44
Natural Gas	3,081.44
Electricity	1,292.90
Natural Gas	701.62

Area + Energy Sources

MITIGATED - Contains GHG Reduction Action B (100 percent carbon neutral electricity)

Existing and Near Term - 2018

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
	lbs/day									
Area Sources Total	394.5635	19.1097	1646.65	0.0864	0	8.985	8.985	0	8.985	8.985

CO2e
MT/year
246.375

2025

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
	lbs/day									
East Campus	71.6331	10.7067	244.6149	0.0624	0	1.9623	1.9623	0	1.9623	1.9623
Area	70.7213	2.7662	240.2078	0.0127	0	1.3323	1.3323	0	1.3323	1.3323
Energy	0.9118	7.9405	4.4071	0.0497	0	0.63	0.63	0	0.63	0.63
West Campus	55.3243	18.7438	356.17	0.1099	0	3.083	3.083	0	3.083	3.083
Area	53.6467	3.9954	347.0442	0.0184	0	1.9239	1.9239	0	1.9239	1.9239
Energy	1.6776	14.7484	9.1236	0.0915	0	1.1591	1.1591	0	1.1591	1.1591
SIO	3.2034	0.92035	0.8447	0.00553	0	0.07016	0.07016	0	0.07016	0.07016
Area	3.1022	6.50E-04	0.0722	1.00E-05	0	2.60E-04	2.60E-04	0	2.60E-04	2.60E-04
Energy	0.1012	0.9197	0.7725	5.52E-03	0	0.0699	0.0699	0	0.0699	0.0699
Totals	130.1608	30.37085	601.6274	0.17783	0	5.11546	5.11546	0	5.11546	5.11546

CO2e
MT/year
1,693
36.20
1,656.60
3,100.35
52.32
3,048.02
183.81
0.01
183.80
4,976.97

East Campus - Science Research Park (P3) Electricity GHG Emissions
Electricity
1,125.26 MT CO2e

2035

	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
	lbs/day									
East Campus	35.6715	8.1866	166.9918	0.04796	0	1.4047	1.4047	0	1.4047	1.4047
Area	34.9519	1.8821	163.2352	8.66E-03	0	0.9075	0.9075	0	0.9075	0.9075
Energy	0.7196	6.3045	3.7566	0.0393	0	0.4972	0.4972	0	0.4972	0.4972
West Campus	44.591	16.4954	118.74	0.09819	0	1.7651	1.7651	0	1.7651	1.7651
Area	42.895	1.2314	106.9214	5.69E-03	0	0.5933	0.5933	0	0.5933	0.5933
Energy	1.696	15.264	11.8189	0.0925	0	1.1718	1.1718	0	1.1718	1.1718
SIO	21.2898	4.1741	68.0584	0.02459	0	0.633	0.633	0	0.633	0.633
Area	20.9036	0.7592	65.8118	3.49E-03	0	0.3662	0.3662	0	0.3662	0.3662
Energy	0.3862	3.4149	2.2466	0.0211	0	0.2668	0.2668	0	0.2668	0.2668
Totals	101.5523	28.8561	353.7905	0.17074	0	3.8028	3.8028	0	3.8028	3.8028

CO2e
MT/year
1,332.03
24.67
1,307.36
3,097.62
16.18
3,081.44
711.56
9.94
701.62
5,141.22

East Campus - Science Research Park (P3) Electricity GHG Emissions
Electricity
1362.737 MT CO2e

Combustion and Chemical Emission Calculations

Toxic Air Contaminant Emission Factors Under Existing Conditions

CAS	Pollutant ID	Boilers ² lb/MMscf	COGEN ³ lb/MMBtu	COGEN ³ lb/MMscf	Crematory ⁴ lb/ton charged
106990	1,3-Butadiene		4.30E-07	4.39E-04	
75070	Acetaldehyde		4.00E-05	4.08E-02	1.50E-03
107028	Acrolein		6.40E-06	6.53E-03	
7440382	Arsenic compounds	2.00E-04			5.80E-04
71432	Benzene	2.10E-03	1.20E-05	1.22E-02	7.20E-04
7440417	Beryllium compounds	1.20E-05			2.00E-05
7440439	Cadmium compounds	1.10E-03			1.60E-04
18540299	Chromium (VI) compounds	5.60E-05			1.90E-04
7440508	Copper	8.50E-04			4.00E-04
106467	p-Dichlorobenzene	1.20E-03			
100414	Ethyl benzene		3.20E-05	3.26E-02	
50000	Formaldehyde	7.50E-02	7.10E-04	7.24E-01	4.00E-04
110543	n-Hexane	1.8			
7647010	Hydrochloric acid				8.60E-01
7664393	Hydrofluoric acid				7.80E-03
7439921	Lead compounds				9.80E-04
7439965	Manganese compounds	3.80E-04			
7439976	Mercury (elemental)	2.60E-04			4.88E-03
91203	Naphthalene	6.10E-04	1.30E-06	1.33E-03	
7440020	Nickel compounds	2.10E-03			5.70E-04
75569	Propylene oxide		2.90E-05	2.96E-02	
7782492	Selenium compounds	2.40E-05			6.50E-04
108883	Toluene	3.40E-03	1.30E-04	1.33E-01	9.90E-03
7440622	Vanadium	2.30E-03			
1330207	Xylenes (mixed)		6.40E-05	6.53E-02	2.80E-03
7440666	Zinc	2.90E-02			5.20E-04

Central Utilities 2015 Fuel Usage and Crematory 2015 Usage

Source	Rated Size MMscf/hr	2015 Fuel Usage mmscf
COGEN_1	0.153	1083
COGEN_2	0.153	1083
CUPBOIL2	0.052	65.8
CUPBOIL3	0.063	65.8
CUPBOIL4	0.096	65.8
Source	Rated Size ¹ tons/hr	2015 Usage ⁵ tons/year
CREMATORY	0.054	18.0
lb/charge ⁵		321.02
Btu/scf ¹		1,030
therm/btu		99,976

Medical Campus 2016 Fuel Usage

Source	Rated Size MMscf/hr	2016 Fuel Usage mmscf
MCCP1	0.025	198.9
MCCP2	0.025	198.9
MCCP3	0.025	198.9
MCC_B1	0.006	50.3
MCC_B2	0.006	50.3
MCC_TFH1	0.008	60.9
MCC_TFH2	0.008	60.9

Central Utilities COGEN Turbines
Toxic Air Contaminant Emission Rates Under Existing Conditions

Toxic Air Contaminants	Emission Factors	Central Utilities COGEN Turbine 1 Emissions		Central Utilities COGEN Turbine 2 Emissions	
	lb/MMBtu	lb/hour	lb/year	lb/hour	lb/year
1,3-Butadiene	4.39E-04	6.71E-05	4.75E-01	6.71E-05	4.75E-01
Acetaldehyde	4.08E-02	6.25E-03	4.42E+01	6.25E-03	4.42E+01
Acrolein	6.53E-03	9.99E-04	7.07E+00	9.99E-04	7.07E+00
Benzene	1.22E-02	1.87E-03	1.33E+01	1.87E-03	1.33E+01
Ethyl benzene	3.26E-02	5.00E-03	3.54E+01	5.00E-03	3.54E+01
Formaldehyde	7.24E-01	1.11E-01	7.85E+02	1.11E-01	7.85E+02
Naphthalene	1.33E-03	2.03E-04	1.44E+00	2.03E-04	1.44E+00
Propylene oxide	2.96E-02	4.53E-03	3.20E+01	4.53E-03	3.20E+01
Toluene	1.33E-01	2.03E-02	1.44E+02	2.03E-02	1.44E+02
Xylenes (mixed)	6.53E-02	9.99E-03	7.07E+01	9.99E-03	7.07E+01

Central Utilities COGEN Turbines
Toxic Air Contaminant Emission Rates for Adjust Baseline Conditions

Toxic Air Contaminants	Scaling Factor	Central Utilities COGEN Turbine 1 Adjusted Baseline Emissions		Central Utilities COGEN Turbine 2 Adjusted Baseline Emissions	
	%	lb/hour	lb/year	lb/hour	lb/year
1,3-Butadiene	122	5.80E-01	8.19E-05	5.80E-01	8.19E-05
Acetaldehyde	122	5.39E+01	7.62E-03	5.39E+01	7.62E-03
Acrolein	122	8.63E+00	1.22E-03	8.63E+00	1.22E-03
Benzene	122	1.62E+01	2.29E-03	1.62E+01	2.29E-03
Ethyl benzene	122	4.31E+01	6.10E-03	4.31E+01	6.10E-03
Formaldehyde	122	9.57E+02	1.35E-01	9.57E+02	1.35E-01
Naphthalene	122	1.75E+00	2.48E-04	1.75E+00	2.48E-04
Propylene oxide	122	3.91E+01	5.52E-03	3.91E+01	5.52E-03
Toluene	122	1.75E+02	2.48E-02	1.75E+02	2.48E-02
Xylenes (mixed)	122	8.63E+01	1.22E-02	8.63E+01	1.22E-02

Central Utilities COGEN Turbines
Toxic Air Contaminant Emission Rates Under Future 2025-2034 Conditions

Toxic Air Contaminants	Scaling Factor	Central Utilities COGEN Turbine 1 2025-2034 Emissions		Central Utilities COGEN Turbine 2 2025-2034 Emissions	
		lb/hour	lb/year	lb/hour	lb/year
1,3-Butadiene	100	5.80E-01	8.19E-05	5.80E-01	8.19E-05
Acetaldehyde	100	5.39E+01	7.62E-03	5.39E+01	7.62E-03
Acrolein	100	8.63E+00	1.22E-03	8.63E+00	1.22E-03
Benzene	100	1.62E+01	2.29E-03	1.62E+01	2.29E-03
Ethyl benzene	100	4.31E+01	6.10E-03	4.31E+01	6.10E-03
Formaldehyde	100	9.57E+02	1.35E-01	9.57E+02	1.35E-01
Naphthalene	100	1.75E+00	2.48E-04	1.75E+00	2.48E-04
Propylene oxide	100	3.91E+01	5.52E-03	3.91E+01	5.52E-03
Toluene	100	1.75E+02	2.48E-02	1.75E+02	2.48E-02
Xylenes (mixed)	100	8.63E+01	1.22E-02	8.63E+01	1.22E-02

Central Utilities COGEN Turbines
Toxic Air Contaminant Emission Rates Under Future 2035+ Conditions

Toxic Air Contaminants	Scaling Factor	Central Utilities COGEN Turbine 1 2035+ Emissions		Central Utilities COGEN Turbine 2 2035+ Emissions	
		lb/hour	lb/year	lb/hour	lb/year
1,3-Butadiene	100	5.80E-01	8.19E-05	5.80E-01	8.19E-05
Acetaldehyde	100	5.39E+01	7.62E-03	5.39E+01	7.62E-03
Acrolein	100	8.63E+00	1.22E-03	8.63E+00	1.22E-03
Benzene	100	1.62E+01	2.29E-03	1.62E+01	2.29E-03
Ethyl benzene	100	4.31E+01	6.10E-03	4.31E+01	6.10E-03
Formaldehyde	100	9.57E+02	1.35E-01	9.57E+02	1.35E-01
Naphthalene	100	1.75E+00	2.48E-04	1.75E+00	2.48E-04
Propylene oxide	100	3.91E+01	5.52E-03	3.91E+01	5.52E-03
Toluene	100	1.75E+02	2.48E-02	1.75E+02	2.48E-02
Xylenes (mixed)	100	8.63E+01	1.22E-02	8.63E+01	1.22E-02

Central Utilities Boilers
Toxic Air Contaminant Emission Rates Under Existing Conditions

Toxic Air Contaminants	Emission Factors	Central Utilities Boiler 2 Existing Emissions		Central Utilities Boiler 3 Existing Emissions		Central Utilities Boiler 4 Existing Emissions	
	lb/MMBtu	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Arsenic compounds	2.00E-04	1.61E-02	1.26E-05	1.61E-02	1.53E-05	1.61E-02	2.34E-05
Benzene	2.10E-03	1.69E-01	1.32E-04	1.69E-01	1.61E-04	1.69E-01	2.45E-04
Beryllium compounds	1.20E-05	9.64E-04	7.57E-07	9.64E-04	9.20E-07	9.64E-04	1.40E-06
Cadmium compounds	1.10E-03	8.84E-02	6.94E-05	8.84E-02	8.43E-05	8.84E-02	1.29E-04
Chromium (VI) compounds	5.60E-05	4.50E-03	3.53E-06	4.50E-03	4.29E-06	4.50E-03	6.54E-06
Copper	8.50E-04	6.83E-02	5.36E-05	6.83E-02	6.52E-05	6.83E-02	9.93E-05
p-Dichlorobenzene	1.20E-03	9.64E-02	7.57E-05	9.64E-02	9.20E-05	9.64E-02	1.40E-04
Formaldehyde	7.50E-02	6.02E+00	4.73E-03	6.02E+00	5.75E-03	6.02E+00	8.76E-03
n-Hexane	1.80E+00	1.45E+02	1.14E-01	1.45E+02	1.38E-01	1.45E+02	2.10E-01
Manganese compounds	3.80E-04	3.05E-02	2.40E-05	3.05E-02	2.91E-05	3.05E-02	4.44E-05
Mercury (elemental)	2.60E-04	2.09E-02	1.64E-05	2.09E-02	1.99E-05	2.09E-02	3.04E-05
Naphthalene	6.10E-04	4.90E-02	3.85E-05	4.90E-02	4.68E-05	4.90E-02	7.13E-05
Nickel compounds	2.10E-03	1.69E-01	1.32E-04	1.69E-01	1.61E-04	1.69E-01	2.45E-04
Selenium compounds	2.40E-05	1.93E-03	1.51E-06	1.93E-03	1.84E-06	1.93E-03	2.80E-06
Toluene	3.40E-03	2.73E-01	2.14E-04	2.73E-01	2.61E-04	2.73E-01	3.97E-04
Vanadium	2.30E-03	1.85E-01	1.45E-04	1.85E-01	1.76E-04	1.85E-01	2.69E-04
Zinc	2.90E-02	2.33E+00	1.83E-03	2.33E+00	2.22E-03	2.33E+00	3.39E-03

Central Utilities Boilers

Toxic Air Contaminant Emission Rates for Adjusted Baseline Conditions

Toxic Air Contaminants	Scaling Factor	Central Utilities Boiler 2 Adjusted Baseline Emissions		Central Utilities Boiler 3 Adjusted Baseline Emissions		Central Utilities Boiler 4 Adjusted Baseline Emissions	
	%	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Arsenic compounds	122	1.96E-02	1.54E-05	1.96E-02	1.87E-05	1.96E-02	2.85E-05
Benzene	122	2.06E-01	1.62E-04	2.06E-01	1.96E-04	2.06E-01	2.99E-04
Beryllium compounds	122	1.18E-03	9.24E-07	1.18E-03	1.12E-06	1.18E-03	1.71E-06
Cadmium compounds	122	1.08E-01	8.47E-05	1.08E-01	1.03E-04	1.08E-01	1.57E-04
Chromium (VI) compounds	122	5.49E-03	4.31E-06	5.49E-03	5.24E-06	5.49E-03	7.98E-06
Copper	122	8.33E-02	6.54E-05	8.33E-02	7.95E-05	8.33E-02	1.21E-04
p-Dichlorobenzene	122	1.18E-01	9.24E-05	1.18E-01	1.12E-04	1.18E-01	1.71E-04
Formaldehyde	122	7.35E+00	5.77E-03	7.35E+00	7.01E-03	7.35E+00	1.07E-02
n-Hexane	122	1.76E+02	1.39E-01	1.76E+02	1.68E-01	1.76E+02	2.57E-01
Manganese compounds	122	3.72E-02	2.92E-05	3.72E-02	3.55E-05	3.72E-02	5.42E-05
Mercury (elemental)	122	2.55E-02	2.00E-05	2.55E-02	2.43E-05	2.55E-02	3.71E-05
Naphthalene	122	5.98E-02	4.69E-05	5.98E-02	5.70E-05	5.98E-02	8.70E-05
Nickel compounds	122	2.06E-01	1.62E-04	2.06E-01	1.96E-04	2.06E-01	2.99E-04
Selenium compounds	122	2.35E-03	1.85E-06	2.35E-03	2.24E-06	2.35E-03	3.42E-06
Toluene	122	3.33E-01	2.62E-04	3.33E-01	3.18E-04	3.33E-01	4.85E-04
Vanadium	122	2.25E-01	1.77E-04	2.25E-01	2.15E-04	2.25E-01	3.28E-04
Zinc	122	2.84E+00	2.23E-03	2.84E+00	2.71E-03	2.84E+00	4.13E-03

Central Utilities Boilers
Toxic Air Contaminant Emission Rates Under Future 2025-2034 Conditions

Toxic Air Contaminants	Scaling Factor	Central Utilities Boiler 2 2025-2034 Emissions		Central Utilities Boiler 3 2025-2034 Emissions		Central Utilities Boiler 4 2025-2034 Emissions	
	%	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Arsenic compounds	100	1.96E-02	1.54E-05	1.96E-02	1.87E-05	1.96E-02	2.85E-05
Benzene	100	2.06E-01	1.62E-04	2.06E-01	1.96E-04	2.06E-01	2.99E-04
Beryllium compounds	100	1.18E-03	9.24E-07	1.18E-03	1.12E-06	1.18E-03	1.71E-06
Cadmium compounds	100	1.08E-01	8.47E-05	1.08E-01	1.03E-04	1.08E-01	1.57E-04
Chromium (VI) compounds	100	5.49E-03	4.31E-06	5.49E-03	5.24E-06	5.49E-03	7.98E-06
Copper	100	8.33E-02	6.54E-05	8.33E-02	7.95E-05	8.33E-02	1.21E-04
p-Dichlorobenzene	100	1.18E-01	9.24E-05	1.18E-01	1.12E-04	1.18E-01	1.71E-04
Formaldehyde	100	7.35E+00	5.77E-03	7.35E+00	7.01E-03	7.35E+00	1.07E-02
n-Hexane	100	1.76E+02	1.39E-01	1.76E+02	1.68E-01	1.76E+02	2.57E-01
Manganese compounds	100	3.72E-02	2.92E-05	3.72E-02	3.55E-05	3.72E-02	5.42E-05
Mercury (elemental)	100	2.55E-02	2.00E-05	2.55E-02	2.43E-05	2.55E-02	3.71E-05
Naphthalene	100	5.98E-02	4.69E-05	5.98E-02	5.70E-05	5.98E-02	8.70E-05
Nickel compounds	100	2.06E-01	1.62E-04	2.06E-01	1.96E-04	2.06E-01	2.99E-04
Selenium compounds	100	2.35E-03	1.85E-06	2.35E-03	2.24E-06	2.35E-03	3.42E-06
Toluene	100	3.33E-01	2.62E-04	3.33E-01	3.18E-04	3.33E-01	4.85E-04
Vanadium	100	2.25E-01	1.77E-04	2.25E-01	2.15E-04	2.25E-01	3.28E-04
Zinc	100	2.84E+00	2.23E-03	2.84E+00	2.71E-03	2.84E+00	4.13E-03

Central Utilities Boilers
Toxic Air Contaminant Emission Rates Under Future 2035+ Conditions

Toxic Air Contaminants	Scaling Factor	Central Utilities Boiler 2 2035+ Emissions		Central Utilities Boiler 3 2035+ Emissions		Central Utilities Boiler 4 2035+ Emissions	
	%	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Arsenic compounds	100	1.96E-02	1.54E-05	1.96E-02	1.87E-05	1.96E-02	2.85E-05
Benzene	100	2.06E-01	1.62E-04	2.06E-01	1.96E-04	2.06E-01	2.99E-04
Beryllium compounds	100	1.18E-03	9.24E-07	1.18E-03	1.12E-06	1.18E-03	1.71E-06
Cadmium compounds	100	1.08E-01	8.47E-05	1.08E-01	1.03E-04	1.08E-01	1.57E-04
Chromium (VI) compounds	100	5.49E-03	4.31E-06	5.49E-03	5.24E-06	5.49E-03	7.98E-06
Copper	100	8.33E-02	6.54E-05	8.33E-02	7.95E-05	8.33E-02	1.21E-04
p-Dichlorobenzene	100	1.18E-01	9.24E-05	1.18E-01	1.12E-04	1.18E-01	1.71E-04
Formaldehyde	100	7.35E+00	5.77E-03	7.35E+00	7.01E-03	7.35E+00	1.07E-02
n-Hexane	100	1.76E+02	1.39E-01	1.76E+02	1.68E-01	1.76E+02	2.57E-01
Manganese compounds	100	3.72E-02	2.92E-05	3.72E-02	3.55E-05	3.72E-02	5.42E-05
Mercury (elemental)	100	2.55E-02	2.00E-05	2.55E-02	2.43E-05	2.55E-02	3.71E-05
Naphthalene	100	5.98E-02	4.69E-05	5.98E-02	5.70E-05	5.98E-02	8.70E-05
Nickel compounds	100	2.06E-01	1.62E-04	2.06E-01	1.96E-04	2.06E-01	2.99E-04
Selenium compounds	100	2.35E-03	1.85E-06	2.35E-03	2.24E-06	2.35E-03	3.42E-06
Toluene	100	3.33E-01	2.62E-04	3.33E-01	3.18E-04	3.33E-01	4.85E-04
Vanadium	100	2.25E-01	1.77E-04	2.25E-01	2.15E-04	2.25E-01	3.28E-04
Zinc	100	2.84E+00	2.23E-03	2.84E+00	2.71E-03	2.84E+00	4.13E-03

Crematory
Toxic Air Contaminant Emission Rates Under Existing and Future Conditions

Toxic Air Contaminants	Emission Factors	Crematory Existing Emissions		Scaling Factor	Crematory 2025-2034 Emissions		Scaling Factor	Crematory 2035+ Emissions	
	lb/ton charged	lb/hour	lb/year		lb/hour	lb/year		lb/hour	lb/year
Acetaldehyde	1.50E-03	8.17E-05	2.70E-02	140	1.14E-04	3.78E-02	180	1.47E-04	4.85E-02
Arsenic compounds	5.80E-04	3.16E-05	1.04E-02	140	4.42E-05	1.46E-02	180	5.68E-05	1.88E-02
Benzene	7.20E-04	3.92E-05	1.29E-02	140	5.49E-05	1.81E-02	180	7.06E-05	2.33E-02
Beryllium compounds	2.00E-05	1.09E-06	3.60E-04	140	1.52E-06	5.03E-04	180	1.96E-06	6.47E-04
Cadmium compounds	1.60E-04	8.71E-06	2.88E-03	140	1.22E-05	4.03E-03	180	1.57E-05	5.18E-03
Chromium (VI) compounds	1.90E-04	1.03E-05	3.42E-03	140	1.45E-05	4.78E-03	180	1.86E-05	6.15E-03
Copper	4.00E-04	2.18E-05	7.19E-03	140	3.05E-05	1.01E-02	180	3.92E-05	1.29E-02
Formaldehyde	4.00E-04	2.18E-05	7.19E-03	140	3.05E-05	1.01E-02	180	3.92E-05	1.29E-02
Hydrochloric acid	8.60E-01	4.68E-02	1.55E+01	140	6.56E-02	2.16E+01	180	8.43E-02	2.78E+01
Hydrofluoric acid	7.80E-03	4.25E-04	1.40E-01	140	5.95E-04	1.96E-01	180	7.64E-04	2.52E-01
Lead compounds	9.80E-04	5.34E-05	1.76E-02	140	7.47E-05	2.47E-02	180	9.60E-05	3.17E-02
Mercury (elemental)	4.88E-03	2.66E-04	8.77E-02	140	3.72E-04	1.23E-01	180	4.78E-04	1.58E-01
Nickel compounds	5.70E-04	3.10E-05	1.02E-02	140	4.35E-05	1.43E-02	180	5.59E-05	1.84E-02
Selenium compounds	6.50E-04	3.54E-05	1.17E-02	140	4.95E-05	1.64E-02	180	6.37E-05	2.10E-02
Toluene	9.90E-03	5.39E-04	1.78E-01	140	7.55E-04	2.49E-01	180	9.70E-04	3.20E-01
Xylenes (mixed)	2.80E-03	1.52E-04	5.03E-02	140	2.13E-04	7.05E-02	180	2.74E-04	9.06E-02
Zinc	5.20E-04	2.83E-05	9.35E-03	140	3.96E-05	1.31E-02	180	5.10E-05	1.68E-02

Emergency Generators
Toxic Air Contaminant Emission Rates Under Existing Conditions

Existing Diesel Engines - AP-42				
Size (hp)	Size Class¹	PM10 EF (lb/gal)	PM2.5 EF (lb/gal)	Source
HP<11	1	4.35E-02	4.35E-02	AP-42 Section 3.3, Table 3.3-1 ²
11≤HP<25	2	4.35E-02	4.35E-02	AP-42 Section 3.3, Table 3.3-1 ²
25≤HP<50	3	4.35E-02	4.35E-02	AP-42 Section 3.3, Table 3.3-1 ²
50≤HP<100	4	4.35E-02	4.35E-02	AP-42 Section 3.3, Table 3.3-1 ²
100≤HP<175	5	4.35E-02	4.35E-02	AP-42 Section 3.3, Table 3.3-1 ²
175≤HP<300	6	4.35E-02	4.35E-02	AP-42 Section 3.3, Table 3.3-1 ²
300≤HP<600	7	4.35E-02	4.35E-02	AP-42 Section 3.3, Table 3.3-1 ²
600≤HP<750	8	7.85E-03	7.62E-03	AP-42 Section 3.4, Table 3.4-2
HP≥750	9	7.85E-03	7.62E-03	AP-42 Section 3.4, Table 3.4-2
1. Used only to split engines into the EPA Tier 1-3 Nonroad Diesel Engine size categories, no regulatory basis.				
2. Added condensable particulates from AP-42 Section 3.4, Table 3.4-2 to calculate total particulates.				

Existing Emergency Generators Particulate Matter Emission Rates

Permit ID	Generator Location	Campus	Model ID	HP	Size Class ¹	2015 Fuel Use (gallons/yr)	2015 Peak Fuel Use (gallons/day) ²	2015 Total Hours Operated (Hrs)	2015 Actual Operational (hp-hrs)	ST PM ₁₀ Emissions (lb/day)	ST PM _{2.5} Emissions (lb/day)	Annual PM ₁₀ Emissions (tpy)	Annual PM _{2.5} Emissions (tpy)
960488	T 43 (MPL SHOP)-BENTHIC LAB	SIO	EMGEN37	230	6	5.6	0.056	5.3	366	2.44E-03	2.44E-03	1.22E-04	1.22E-04
960494	DRAMA THEATER/REHEARSAL STUDIO (FORUM)	WEST	EMGEN8	50	4	2.4	0.024	5.3	80	1.04E-03	1.04E-03	5.22E-05	5.22E-05
972338	CENTRAL UTILITIES #2	WEST	EMGEN45	2168	9	79.8	0.798	7.6	4943	6.27E-03	6.08E-03	3.13E-04	3.04E-04
972339	ENG BUILDING 1	WEST	EMGEN20	535	7	9.8	0.098	3.9	626	4.27E-03	4.27E-03	2.13E-04	2.13E-04
972340	CAMPUS AMBULATORY CARE	WEST	EMGEN48	86	4	1.8	0.018	3.0	77	7.84E-04	7.84E-04	3.92E-05	3.92E-05
972341	MOLECULAR BIOLOGY BLDG	WEST	EMGEN6	536	7	21.3	0.213	8.4	1351	9.27E-03	9.27E-03	4.64E-04	4.64E-04
972343	CENTRAL UNIVERSITY LIBRARY	WEST	EMGEN19	830	9	19.6	0.196	5.1	1270	1.54E-03	1.49E-03	7.69E-05	7.47E-05
972344	CLINICAL SCIENCES BLDG	WEST	EMGEN40	587	7	96.3	0.963	8.0	2642	4.19E-02	4.19E-02	2.10E-03	2.10E-03
972345	BIO FIELD LAB	WEST	EMGEN31	100	5	3.6	0.036	5.4	162	1.57E-03	1.57E-03	7.84E-05	7.84E-05
972346	CAMPUS SERV COMP D	WEST	EMGEN29	100	5	1.8	0.018	2.8	84	7.84E-04	7.84E-04	3.92E-05	3.92E-05
972347	PACIFIC HALL	WEST	EMGEN11	1232	9	111.9	1.119	6.9	3758	8.79E-03	8.53E-03	4.39E-04	4.26E-04
972348	WARREN APTS (COLLEGE APTS)	WEST	EMGEN23	150	5	13.4	0.134	15.4	693	5.83E-03	5.83E-03	2.92E-04	2.92E-04
972349	ENG BUILDING 2	WEST	EMGEN25	890	9	28.9	0.289	7.0	1869	2.27E-03	2.20E-03	1.13E-04	1.10E-04
972350	RECREATIONAL INTRAMURAL ATHLETIC CTR	WEST	EMGEN42	1447	9	20.4	0.204	3.0	1302	1.60E-03	1.55E-03	8.01E-05	7.77E-05
972351	CENTER FOR MOLELUCAR MEDICINE-EAST	WEST	EMGEN5A	890	9	21.9	0.219	5.3	1415	1.72E-03	1.67E-03	8.60E-05	8.34E-05
972352	CENTER FOR MOLELUCAR MEDICINE-EAST	WEST	EMGEN5B	890	9	668.6	6.686	21.5	15459	5.25E-02	5.09E-02	2.62E-03	2.55E-03
972353	CENTRAL UTILITIES #1	WEST	EMGEN44	2168	9	81.9	0.819	7.8	5073	6.43E-03	6.24E-03	3.22E-04	3.12E-04
972354	ENVIRONMENTAL MANAGEMENT FACILITY	WEST	EMGEN30	449	7	15.7	0.157	7.3	983	6.83E-03	6.83E-03	3.42E-04	3.42E-04
972849	ENDURANCE HALL	SIO	EMGEN38	605	8	21.5	0.215	7.6	1379	1.69E-03	1.64E-03	8.44E-05	8.19E-05
975498	GILMAN PARKING STRUCTURE	WEST	EMGEN1	68	4	2.7	0.027	5.0	102	1.18E-03	1.18E-03	5.88E-05	5.88E-05
975499	NORTH CAMPUS PARKING	WEST	EMGEN35	102	5	4.4	0.044	6.5	199	1.92E-03	1.92E-03	9.58E-05	9.58E-05
976415	CHEMISTRY RESEARCH BLDG	WEST	EMGEN12	347	7	7.6	0.076	4.7	489	3.31E-03	3.31E-03	1.65E-04	1.65E-04
976883	NATURAL SCIENCES	WEST	EMGEN10	2174	9	53.4	0.534	6.0	3913	4.19E-03	4.07E-03	2.10E-04	2.03E-04
977348	CENTRAL UTILITIES #3	WEST	EMGEN46	2534	9	95.0	0.950	7.0	5321	7.46E-03	7.24E-03	3.73E-04	3.62E-04
Permit	Generator Location	Campus	Model ID	HP	Size	2015 Fuel	2015	2015	2015	ST PM₁₀	ST PM_{2.5}	Annual	Annual

ID				Class ¹		Use (gallons/yr)	Peak Fuel Use (gallons/ day) ²	Total Hours Operate d (Hrs)	Actual Operation al (hp-hrs)	Emissions (lb/day)	Emissions (lb/day)	PM ₁₀ Emissions (tpy)	PM _{2.5} Emissions (tpy)
977380	POWELL FOCHT BIOENGINEERING	WEST	EMGEN21	823	9	30.2	0.302	7.0	1728	2.37E-03	2.30E-03	1.19E-04	1.15E-04
978745	EAST CAMPUS CENTRAL UTILITIES #2	EAST	ECCUP2	1501	9	142.6	1.426	20.0	9006	1.12E-02	1.09E-02	5.60E-04	5.43E-04
978480	EAST CAMPUS CENTRAL UTILITIES #1	EAST	ECCUP1	1480	9	142.6	1.426	20.0	8880	1.12E-02	1.09E-02	5.60E-04	5.43E-04
979227	ERC CASA VENTANAS	WEST	EMGEN15	166	5	13.1	0.131	16.2	807	5.70E-03	5.70E-03	2.85E-04	2.85E-04
980924	CAL-IT2	WEST	EMGEN22	1114	9	38.1	0.381	7.0	2339	2.99E-03	2.90E-03	1.50E-04	1.45E-04
981264	EBU-3B	WEST	EMGEN24	317	7	8.4	0.084	5.0	476	3.66E-03	3.66E-03	1.83E-04	1.83E-04
982217	CAMPUS SECURITY	WEST	EMGEN39	395	7	10.2	0.102	5.5	652	4.44E-03	4.44E-03	2.22E-04	2.22E-04
983691	PHARMACUEUTICAL SCIENCES	WEST	EMGEN2	2175	9	97.9	0.979	11.0	7178	7.69E-03	7.46E-03	3.84E-04	3.73E-04
983815	HOPPKINS GARAGE	WEST	EMGEN18	2922	9	108.0	1.080	8.0	7013	8.48E-03	8.23E-03	4.24E-04	4.11E-04
983817	TPC/S NODE 'J'	WEST	EMGEN17	390	7	9.4	0.094	4.6	538	4.09E-03	4.09E-03	2.05E-04	2.05E-04
983850	CMRR NODE 'B'	WEST	EMGEN26	158	5	3.6	0.036	4.5	213	1.57E-03	1.57E-03	7.84E-05	7.84E-05
984277	RADY SCHOOL OF MANAGEMENT	WEST	EMGEN41	364	7	11.2	0.112	6.5	710	4.88E-03	4.88E-03	2.44E-04	2.44E-04
985269	PRICE CENTER	WEST	EMGEN27	1502	9	34.2	0.342	4.8	2163	2.69E-03	2.61E-03	1.34E-04	1.30E-04
987446	North Campus Housing #1	WEST	EMGEN13	550	7	34.8	0.348	12.9	2129	1.51E-02	1.51E-02	7.57E-04	7.57E-04
987516	ERC Pump Station Upgrade	WEST	EMGEN14	158	5	13.5	0.135	16.5	782	5.88E-03	5.88E-03	2.94E-04	2.94E-04
988085	North Campus Housing #2	WEST	EMGEN16	685	8	31.6	0.316	11.7	2404	2.48E-03	2.41E-03	1.24E-04	1.20E-04
989201	Rita Atkinson (HSGH #1)	WEST	EMGEN3	398	7	17.3	0.173	8.9	1063	7.53E-03	7.53E-03	3.77E-04	3.77E-04
877	Keeling Apartments (Revelle)	WEST	EMGEN9	1141	9	86.5	0.865	17.2	5888	6.79E-03	6.59E-03	3.40E-04	3.30E-04
1185	Structural and Materials Engineering	WEST	EMGEN28	1490	9	33.9	0.339	5.3	2369	2.66E-03	2.58E-03	1.33E-04	1.29E-04
1035	East Campus Parking Structure	EAST	EMGEN34	237	6	7.3	0.073	6.2	441	3.18E-03	3.18E-03	1.59E-04	1.59E-04
2240	EAST CAMPUS CENTRAL UTILITIES #3	EAST	UCCUP3	2206	9	126.0	1.260	14.0	9265	9.89E-03	9.60E-03	4.95E-04	4.80E-04
2241	EAST CAMPUS CENTRAL UTILITIES #4	EAST	UCCUP4	2206	9	89.0	0.890	9.9	6552	6.99E-03	6.78E-03	3.49E-04	3.39E-04
982812	NOAA	SIO	EMGEN36	211	6	1.0	0.010	0.8	51	4.35E-04	4.35E-04	2.18E-05	2.18E-05
2091	MCCP #1	EAST	EMGEN50	3634	9	47.8	0.478	17.0	6178	3.75E-03	3.64E-03	1.88E-04	1.82E-04
2092	MCCP #2	EAST	EMGEN51	3634	9	52.9	0.529	18.9	6868	4.15E-03	4.03E-03	2.08E-04	2.02E-04
2090	MCCP #3	EAST	EMGEN52	3634	9	57.1	0.571	20.4	7413	4.48E-03	4.35E-03	2.24E-04	2.18E-04
2089	MCCP #4	EAST	EMGEN53	3634	9	56.0	0.560	20.0	7268	4.40E-03	4.27E-03	2.20E-04	2.13E-04

Permit ID	Generator Location	Campus	Model ID	HP	Size Class ¹	2015 Fuel Use (gallons/yr)	2015 Peak Fuel Use (gallons/day) ²	2015 Total Hours Operated (Hrs)	2015 Actual Operational (hp-hrs)	ST PM ₁₀ Emissions (lb/day)	ST PM _{2.5} Emissions (lb/day)	Annual PM ₁₀ Emissions (tpy)	Annual PM _{2.5} Emissions (tpy)
N/A	OPP	EAST	EMGEN54	1500	9	Actual Data Not Available - Estimated Emissions Based on Calculations Used for a Future Generator							
N/A	MRI	EAST	EMGEN55	1500	9	Actual Data Not Available - Estimated Emissions Based on Calculations Used for a Future Generator							
1596	E-SHOP APCD-1596	WEST	EMGEN56	433	7	3.3	0.033	2.0	260	1.44E-03	1.44E-03	7.18E-05	7.18E-05
1597	E-SHOP APCD-1597	WEST	EMGEN57	314	7	1382.5	13.825	15.9	36006	6.02E-01	6.02E-01	3.01E-02	3.01E-02
1598	E-SHOP APCD-1598	WEST	EMGEN58	314	7	12.3	0.123	9.9	933	5.35E-03	5.35E-03	2.68E-04	2.68E-04
1599	E-SHOP APCD-1599	WEST	EMGEN59	314	7	6.2	0.062	5.0	471	2.70E-03	2.70E-03	1.35E-04	1.35E-04
1600	E-SHOP APCD-1600	WEST	EMGEN60	314	7	728.1	7.281	1.2	18513	3.17E-01	3.17E-01	1.58E-02	1.58E-02
1595	Scholander Hall (Portable)	SIO	EMGEN61	256	6	84.6	0.846	2.1	2568	3.68E-02	3.68E-02	1.84E-03	1.84E-03
863	WHISPER WATT (69KV YARD)	EAST	EMGEN62	237	6	62.1	0.621	26.0	26	2.70E-02	2.70E-02	1.35E-03	1.35E-03
972355	New Birch	SIO	EMGEN43	749	8	14.8	0.148	4.0	899	1.16E-03	1.13E-03	5.81E-05	5.64E-05

1. Used only to split engines into the EPA Tier 1-3 Non-road Diesel Engine size categories, no regulatory basis.
2. It was assumed that a peak day diesel fuel consumption would be 1% of diesel annual fuel uses (follows methodology in 2004 LRDP).

New Future Emergency Generators Particulate Matter Emission Rates

Area of Campus where Generators are Located	Number of Engines	Model ID	BHP	BkW	EPA Tier 4 PM g/bkW-hr ¹	Potential Daily Hrs. Operated (Hrs/engine) ²	Potential Ann. Hrs. Operated (Hrs/engine) ³	Potential Operational (hp-hrs/engine/yr)	ST PM ₁₀ Emissions (lb/day/engine)	ST PM _{2.5} Emissions (lb/day/engine)	Annual PM ₁₀ Emissions (tpy/engine)	Annual PM _{2.5} Emissions (tpy/engine)
SIO	4	F_GEN55-58	450	335.6	0.02	0.3	26.0	11700	3.85E-03	3.85E-03	1.92E-04	1.92E-04
Campus East	5	F_GEN50-54	1500	1118.5	0.03	0.3	26.0	39000	1.92E-02	1.92E-02	9.62E-04	9.62E-04
Campus West	36	F_GEN59-95	850	633.8	0.03	0.3	26.0	22100	1.09E-02	1.09E-02	5.45E-04	5.45E-04

1. PM emission rate (includes condensables) used for PM₁₀ and PM_{2.5}.
2. It was assumed that a peak day operation would be 1% of annual operation (follows methodology in Appendix B of 2004 LRDP EIR, Air Quality Technical Report and Health Risk Assessment)
3. New units were expected to operate the full 26 hours for testing and maintenance.

Location of Laboratory and Environmental Management Facility (EMF) Model Sources

Model ID	Source Description	Model ID	Source Description
VENT1	Sanford Consortium for Regenerative Medicine	VENT35	Structural and Materials Engineering Building
VENT2	Social Sciences Building	VENT36	Center for Memory and Recording Research
VENT3	Social Science Research Building (Chemistry Research)	VENT37	Powell Structural Systems Laboratory
VENT4	Cognitive Science Building	VENT38	Engineering Building Unit I
VENT5	Applied Physics and Mathematics	VENT39	Powell-Focht Bioengineering Hall
VENT6	Mandler Hall	VENT40	Atkinson Hall
VENT7	McGill Hall	VENT41	Engineering Building Unit II
VENT8	Biology Building - Muir	VENT42	Campus Services Complex - Shops
VENT9	Natatorium	VENT43	Campus Services Complex - Fleet Services Building
VENT10	Pacific Hall	VENT44	Environmental Management Facility
VENT11	Natural Sciences Building	VENT45	Biology Field Station - Storage and Restroom
VENT12	Urey Hall	VENT46	Preuss School - Building C
VENT13	Bonner Hall	VENT47	Altman Clinical Translational Research Institute
VENT14	Mayer Hall	VENT48	Shiley Eye Center
VENT15	York Hall	VENT49	Hamilton Glaucoma and Jacobs Retina Center
VENT16	Central Utilities Plant	VENT50	Moore's Cancer Center
VENT17	Joan & Irwin Jacobs Center for La Jolla Playhouse	VENT51	MESOM
VENT18	Mandell Weiss Theatre Shop	VENT52	Keck Oceanographic and Atmospheric Research - 1
VENT19	George Palade Laboratories for Cellular & Molecular (West)	VENT53	Keck Oceanographic and Atmospheric Research - 3
VENT20	Cellular and Molecular Medicine East	VENT54	Fred N. Spiess Hall
VENT21	Leichtag Family Foundation Biomedical Research Bld	VENT55	Nierenberg Hall
VENT22	Biomedical Sciences Building	VENT56	IGPP 4000 - Revelle Laboratory
VENT23	W. M. Keck Building	VENT57	IGPP - Munk Laboratory
VENT24	Skaggs Pharmaceutical Sciences Building	VENT58	Hubbs Hall
VENT25	Biomedical Research Facility II	VENT59	Deep Sea Drilling West
VENT26	Medical Education and Telemedicine Center	VENT60	Birch Aquarium at Scripps
VENT27	School of Medicine Building 4 (IMG Clinic)	VENT61	Scholander Hall
VENT28	Stein Clinical Research Building	VENT62	Kaplan Lab
VENT29	303 University Center	VENT63	Ritter Hall
VENT30	Student Health and Wellness Center	VENT64	Sverdrup Hall
VENT31	Science and Engineering Research Facility	VENT65	Center for Neural Circuits and Behavior (Molecular Genetics)
VENT32	Powell Structural Components/Composites Lab	VENT66	Vaughan Hall, T. Wayland
VENT33	High Bay Physics Laboratory	VENT67	Medical Teaching Facility
VENT34	Visual Arts Facility - Building 1	VENT68	Marine Sciences Development Center - Building C

Adjusted Baseline Emission Calculations for Laboratories and EMF

Chemical	VENT1		VENT2		VENT3		VENT4		VENT5		VENT6	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	1.08E-02	1.83E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.88E-04	8.25E-01	0.00E+00	0.00E+00
Acrylamide	1.25E-04	2.11E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	2.13E-04	3.60E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	1.25E-03	2.11E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	1.67E-02	2.83E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.48E-03	5.88E+00	1.02E-03	1.73E+00	0.00E+00	0.00E+00
Dimethylformamide	6.29E-04	1.06E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.46E-06	5.85E-03	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.38E-05	4.02E-02	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethanol	1.56E+00	2.63E+03	1.28E-03	2.16E+00	0.00E+00	0.00E+00	3.23E-01	5.47E+02	3.14E-02	5.32E+01	3.79E-01	6.40E+02
Ethyl Acetate	1.61E-03	2.72E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.13E-05	3.60E-02	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.64E-03	4.46E+00	0.00E+00	0.00E+00
Ethyl Ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	1.56E+00	2.63E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	1.57E-02	2.66E+01	4.17E-05	7.05E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.03E-03	1.74E+00	0.00E+00	0.00E+00
n-Hexane	8.53E-04	1.44E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.43E-04	1.43E+00	0.00E+00	0.00E+00
Hydrazine	1.37E-05	2.32E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	4.04E-02	6.84E+01	0.00E+00	0.00E+00	2.08E-04	3.51E-01	8.40E-03	1.42E+01	8.91E-03	1.51E+01	9.84E-03	1.66E+01
Hydrofluoric Acid	3.05E-04	5.16E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Iodine-125	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	5.11E-02	8.64E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.83E-02	3.09E+01	1.24E-02	2.10E+01
Methyl Alcohol	1.81E-01	3.06E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.58E-02	7.74E+01	0.00E+00	0.00E+00
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrahydrofuran	2.47E-04	4.18E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	1.57E-03	2.65E+00	1.74E-05	2.95E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.29E-04	7.26E-01	0.00E+00	0.00E+00
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	4.81E-05	8.13E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-03	2.43E+00	0.00E+00	0.00E+00
Xylenes (mixed)	3.12E-03	5.28E+00	3.57E-05	6.04E-02	0.00E+00	0.00E+00	6.49E-04	1.10E+00	8.79E-04	1.49E+00	7.60E-04	1.29E+00

Adjusted Baseline Emission Calculations for Laboratories and EMF

Chemical	VENT7		VENT8		VENT9		VENT10		VENT11		VENT12	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	0.00E+00	0.00E+00	5.89E-03	9.96E+00	0.00E+00	0.00E+00	3.52E-02	5.96E+01	1.81E-02	3.05E+01	2.20E-02	3.72E+01
Acrylamide	0.00E+00	0.00E+00	6.78E-05	1.15E-01	0.00E+00	0.00E+00	4.22E-05	7.14E-02	2.08E-04	3.52E-01	2.63E-05	4.45E-02
Ammonia	0.00E+00	0.00E+00	8.44E-01	1.43E+03	0.00E+00	0.00E+00	3.22E-01	5.44E+02	2.59E+00	4.38E+03	2.01E-01	3.39E+02
Benzene	0.00E+00	0.00E+00	1.15E-04	1.95E-01	0.00E+00	0.00E+00	6.27E-03	1.06E+01	3.54E-04	5.99E-01	3.91E-03	6.61E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.97E-04	1.01E+00	0.00E+00	0.00E+00	3.72E-04	6.29E-01
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	6.79E-04	1.15E+00	0.00E+00	0.00E+00	5.59E-04	9.45E-01	2.08E-03	3.52E+00	3.49E-04	5.89E-01
Chloroform	0.00E+00	0.00E+00	9.09E-03	1.54E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.79E-02	4.71E+01	0.00E+00	0.00E+00
Dimethylformamide	0.00E+00	0.00E+00	3.42E-04	5.78E-01	0.00E+00	0.00E+00	1.53E-03	2.59E+00	1.05E-03	1.77E+00	9.55E-04	1.61E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.28E-03	1.23E+01	6.62E-04	1.12E+00	4.54E-03	7.68E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.85E-05	1.16E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.69E-04	2.86E-01	0.00E+00	0.00E+00	1.06E-04	1.79E-01
Ethylene Oxide	0.00E+00	0.00E+00	8.44E-01	1.43E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.59E+00	4.38E+03	0.00E+00	0.00E+00
Formaldehyde	7.79E-04	1.32E+00	8.54E-03	1.44E+01	0.00E+00	0.00E+00	2.61E-04	4.41E-01	2.62E-02	4.43E+01	1.62E-04	2.75E-01
n-Hexane	0.00E+00	0.00E+00	4.63E-04	7.83E-01	0.00E+00	0.00E+00	4.88E-04	8.25E-01	1.42E-03	2.40E+00	3.04E-04	5.15E-01
Hydrazine	0.00E+00	0.00E+00	7.44E-06	1.26E-02	0.00E+00	0.00E+00	3.30E-05	5.58E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	6.77E-03	1.14E+01	2.19E-02	3.71E+01	3.44E-03	5.82E+00	2.63E-03	4.45E+00	6.73E-02	1.14E+02	1.64E-03	2.78E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.90E-06	1.51E-02	0.00E+00	0.00E+00	5.55E-06	9.39E-03
Isopropanol	1.39E-02	2.35E+01	2.77E-02	4.69E+01	0.00E+00	0.00E+00	1.03E-02	1.73E+01	8.50E-02	1.44E+02	6.39E-03	1.08E+01
Methyl Alcohol	0.00E+00	0.00E+00	9.83E-02	1.66E+02	0.00E+00	0.00E+00	3.22E-01	5.44E+02	3.02E-01	5.10E+02	2.01E-01	3.39E+02
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.11E-04	1.37E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.99E-01	5.06E+02	4.17E-03	7.05E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.74E-04	4.63E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	0.00E+00	8.51E-04	1.44E+00	0.00E+00	0.00E+00	2.15E-02	3.64E+01	2.61E-03	4.41E+00	1.34E-02	2.27E+01
Trichloroethylene	0.00E+00	0.00E+00	6.86E-05	1.16E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.82E-03	3.08E+00	4.43E-04	7.49E-01	1.14E-03	1.92E+00
1,1,1-Trichloroethane	0.00E+00	0.00E+00	2.61E-05	4.41E-02	0.00E+00	0.00E+00	5.90E-05	9.98E-02	8.00E-05	1.35E-01	3.68E-05	6.22E-02
Xylenes (mixed)	6.68E-04	1.13E+00	1.70E-03	2.87E+00	0.00E+00	0.00E+00	7.51E-04	1.27E+00	5.20E-03	8.79E+00	4.69E-04	7.92E-01

Adjusted Baseline Emission Calculations for Laboratories and EMF

Chemical	VENT13		VENT14		VENT15		VENT16		VENT17		VENT18	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	7.10E-03	1.20E+01	0.00E+00	0.00E+00	2.05E-02	3.47E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrylamide	8.18E-05	1.38E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	1.02E+00	1.72E+03	0.00E+00	0.00E+00	1.87E-01	3.17E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.08E-02	3.53E+01
Benzene	1.39E-04	2.36E-01	0.00E+00	0.00E+00	3.65E-03	6.17E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	4.10E-05	6.94E-02	3.48E-04	5.87E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	5.44E-04	9.20E-01	3.25E-04	5.50E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	1.10E-02	1.85E+01	0.00E+00	0.00E+00	4.43E-02	7.49E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylformamide	4.12E-04	6.97E-01	0.00E+00	0.00E+00	8.91E-04	1.51E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	3.66E-04	6.19E-01	2.86E-03	4.84E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	1.03E-02	1.74E+01	0.00E+00	0.00E+00	1.52E-04	2.56E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
n-Hexane	5.59E-04	9.45E-01	9.13E-04	1.54E+00	2.84E-04	4.80E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	2.65E-02	4.48E+01	9.65E-03	1.63E+01	1.53E-03	2.59E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	2.02E-03	3.42E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	3.35E-02	5.66E+01	1.98E-02	3.35E+01	5.97E-03	1.01E+01	8.95E-04	1.51E+00	0.00E+00	0.00E+00	8.32E-03	1.41E+01
Methyl Alcohol	1.19E-01	2.01E+02	4.96E-02	8.39E+01	1.87E-01	3.17E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	1.03E-03	1.74E+00	4.65E-04	7.87E-01	1.25E-02	2.12E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.95E-04	3.31E-01
Trichloroethylene	0.00E+00	0.00E+00	4.42E-04	7.47E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-03	1.79E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	3.15E-05	5.32E-02	0.00E+00	0.00E+00	3.43E-05	5.81E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes (mixed)	2.05E-03	3.46E+00	9.52E-04	1.61E+00	4.37E-04	7.39E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Adjusted Baseline Emission Calculations for Laboratories and EMF

Chemical	VENT19		VENT20		VENT21		VENT22		VENT23		VENT24	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	5.22E-03	8.83E+00	6.31E-03	1.07E+01	1.24E-02	2.09E+01	1.50E-02	2.53E+01	0.00E+00	0.00E+00	8.88E-03	1.50E+01
Acrylamide	6.01E-05	1.02E-01	7.26E-05	1.23E-01	1.42E-04	2.41E-01	1.73E-04	2.92E-01	0.00E+00	0.00E+00	1.02E-04	1.73E-01
Ammonia	0.00E+00	0.00E+00	9.04E-01	1.53E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E+00	2.15E+03
Benzene	1.02E-04	1.73E-01	0.00E+00	0.00E+00	2.42E-04	4.10E-01	2.94E-04	4.97E-01	0.00E+00	0.00E+00	1.74E-04	2.95E-01
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.41E-05	2.38E-02
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	6.02E-04	1.02E+00	0.00E+00	0.00E+00	1.42E-03	2.41E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-03	1.73E+00
Chloroform	8.06E-03	1.36E+01	9.73E-03	1.65E+01	1.91E-02	3.22E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylformamide	3.03E-04	5.12E-01	3.66E-04	6.19E-01	7.17E-04	1.21E+00	8.69E-04	1.47E+00	0.00E+00	0.00E+00	5.15E-04	8.72E-01
1,4-Dioxane	1.91E-04	3.24E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.49E-04	9.29E-01	0.00E+00	0.00E+00	3.26E-04	5.51E-01
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethanol	7.49E-01	1.27E+03	9.04E-01	1.53E+03	1.77E+00	3.00E+03	2.15E+00	3.63E+03	0.00E+00	0.00E+00	1.27E+00	2.15E+03
Ethyl Acetate	7.74E-04	1.31E+00	9.35E-04	1.58E+00	1.83E-03	3.10E+00	2.22E-03	3.76E+00	0.00E+00	0.00E+00	1.32E-03	2.23E+00
Ethylene Dibromide	7.49E-01	1.27E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E+00	2.15E+03
Ethylene Dichloride	2.69E-04	4.55E-01	0.00E+00	0.00E+00	6.37E-04	1.08E+00	7.72E-04	1.31E+00	0.00E+00	0.00E+00	4.58E-04	7.74E-01
Ethyl Ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.87E-04	1.50E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	7.49E-01	1.27E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.15E+00	3.63E+03	0.00E+00	0.00E+00	1.27E+00	2.15E+03
Formaldehyde	7.57E-03	1.28E+01	9.14E-03	1.55E+01	1.79E-02	3.03E+01	2.17E-02	3.67E+01	1.81E-03	3.07E+00	1.29E-02	2.18E+01
n-Hexane	4.11E-04	6.94E-01	4.96E-04	8.38E-01	9.71E-04	1.64E+00	1.18E-03	1.99E+00	0.00E+00	0.00E+00	6.98E-04	1.18E+00
Hydrazine	6.60E-06	1.12E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.12E-05	1.90E-02
Hydrochloric Acid	1.95E-02	3.29E+01	2.35E-02	3.98E+01	4.61E-02	7.79E+01	5.59E-02	9.44E+01	0.00E+00	0.00E+00	3.31E-02	5.60E+01
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Iodine-125	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E-08	4.83E-05	1.89E-08	5.86E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	2.46E-02	4.16E+01	2.97E-02	5.02E+01	5.82E-02	9.83E+01	7.05E-02	1.19E+02	0.00E+00	0.00E+00	4.18E-02	7.07E+01
Methyl Alcohol	8.72E-02	1.47E+02	1.05E-01	1.78E+02	2.06E-01	3.49E+02	2.50E-01	4.23E+02	0.00E+00	0.00E+00	1.48E-01	2.51E+02
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-01	1.75E+02
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrahydrofuran	1.19E-04	2.01E-01	1.44E-04	2.43E-01	2.81E-04	4.76E-01	3.41E-04	5.77E-01	0.00E+00	0.00E+00	2.02E-04	3.42E-01
Toluene	7.55E-04	1.28E+00	9.11E-04	1.54E+00	1.79E-03	3.02E+00	2.17E-03	3.66E+00	0.00E+00	0.00E+00	1.28E-03	2.17E+00
Trichloroethylene	6.09E-05	1.03E-01	0.00E+00	0.00E+00	1.44E-04	2.44E-01	1.75E-04	2.95E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	1.55E-04	2.62E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	2.31E-05	3.91E-02	2.79E-05	4.72E-02	5.47E-05	9.25E-02	6.64E-05	1.12E-01	0.00E+00	0.00E+00	3.94E-05	6.65E-02
Xylenes (mixed)	1.50E-03	2.54E+00	1.82E-03	3.07E+00	3.56E-03	6.01E+00	4.31E-03	7.29E+00	0.00E+00	0.00E+00	2.56E-03	4.32E+00

Adjusted Baseline Emission Calculations for Laboratories and EMF

Chemical	VENT25		VENT26		VENT27		VENT28		VENT29		VENT30	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	1.74E-02	2.95E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.65E-03	1.12E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrylamide	2.01E-04	3.39E-01	0.00E+00	0.00E+00	1.55E-06	2.62E-03	7.66E-05	1.29E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	2.50E+00	4.23E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	3.42E-04	5.78E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	2.01E-03	3.40E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.66E-04	1.30E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	2.69E-02	4.55E+01	0.00E+00	0.00E+00	2.08E-04	3.51E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylformamide	1.01E-03	1.71E+00	0.00E+00	0.00E+00	7.81E-06	1.32E-02	3.86E-04	6.53E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.44E-04	4.13E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	8.98E-04	1.52E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.43E-04	5.80E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	2.50E+00	4.23E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.54E-01	1.61E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	2.53E-02	4.27E+01	3.32E-03	5.61E+00	1.95E-04	3.30E-01	9.64E-03	1.63E+01	0.00E+00	0.00E+00	3.04E-05	5.14E-02
n-Hexane	1.37E-03	2.32E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.23E-04	8.84E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.41E-06	1.42E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	6.50E-02	1.10E+02	0.00E+00	0.00E+00	5.01E-04	8.48E-01	2.48E-02	4.19E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	8.20E-02	1.39E+02	1.08E-02	1.82E+01	6.33E-04	1.07E+00	3.13E-02	5.29E+01	8.83E-03	1.49E+01	5.41E-04	9.15E-01
Methyl Alcohol	2.91E-01	4.92E+02	0.00E+00	0.00E+00	2.25E-03	3.80E+00	1.11E-01	1.88E+02	0.00E+00	0.00E+00	1.36E-03	2.29E+00
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	2.52E-03	4.26E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.61E-04	1.63E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	7.72E-05	1.31E-01	0.00E+00	0.00E+00	5.96E-07	1.01E-03	2.95E-05	4.98E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes (mixed)	5.02E-03	8.48E+00	0.00E+00	0.00E+00	3.87E-05	6.55E-02	1.91E-03	3.24E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Adjusted Baseline Emission Calculations for Laboratories and EMF

Chemical	VENT31		VENT32		VENT33		VENT34		VENT35		VENT36	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	6.05E-04	1.02E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.28E-03	2.17E+00	2.37E-04	4.01E-01
Acrylamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	5.68E-02	9.60E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-01	2.03E+02	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.01E-04	3.39E-01	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.95E-05	1.68E-01	1.84E-05	3.11E-02
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.32E-03	2.23E+00	0.00E+00	0.00E+00
Chloroform	1.27E-03	2.14E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.69E-03	4.54E+00	0.00E+00	0.00E+00
Dimethylformamide	4.29E-06	7.26E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.09E-06	1.54E-02	1.68E-06	2.84E-03
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.24E-05	1.06E-01	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	3.27E-03	5.54E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.93E-03	1.17E+01	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	1.27E-03	2.15E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.70E-03	4.56E+00	0.00E+00	0.00E+00
n-Hexane	1.05E-03	1.77E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.21E-03	3.74E+00	4.10E-04	6.93E-01
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	1.11E-02	1.87E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.34E-02	3.96E+01	4.33E-03	7.33E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.91E-03	8.30E+00	0.00E+00	0.00E+00
Isopropanol	2.27E-02	3.83E+01	0.00E+00	0.00E+00	8.64E-03	1.46E+01	0.00E+00	0.00E+00	4.80E-02	8.12E+01	8.89E-03	1.50E+01
Methyl Alcohol	5.68E-02	9.60E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-01	2.03E+02	2.23E-02	3.76E+01
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.34E-04	2.27E-01	0.00E+00	0.00E+00
Toluene	5.33E-04	9.01E-01	1.33E-04	2.25E-01	2.03E-04	3.43E-01	0.00E+00	0.00E+00	1.13E-03	1.91E+00	2.09E-04	3.53E-01
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.07E-03	1.81E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.77E-03	6.37E+00	0.00E+00	0.00E+00
Xylenes (mixed)	1.09E-03	1.84E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-04	2.21E-01	2.31E-03	3.90E+00	0.00E+00	0.00E+00

Adjusted Baseline Emission Calculations for Laboratories and EMF

Chemical	VENT37		VENT38		VENT39		VENT40		VENT41		VENT42	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	0.00E+00	0.00E+00	3.82E-02	6.46E+01	6.22E-03	1.05E+01	0.00E+00	0.00E+00	6.16E-04	1.04E+00	0.00E+00	0.00E+00
Acrylamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.17E-05	1.21E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.61E-02	1.46E+02	5.78E-02	9.78E+01	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.22E-04	2.06E-01	0.00E+00	0.00E+00	9.65E-05	1.63E-01	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.13E-05	1.21E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.17E-04	1.21E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	0.00E+00	0.00E+00	8.25E-02	1.40E+02	9.61E-03	1.62E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylformamide	0.00E+00	0.00E+00	1.66E-03	2.81E+00	3.61E-04	6.11E-01	0.00E+00	0.00E+00	4.37E-06	7.39E-03	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.21E-04	5.43E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.93E-01	1.51E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.02E-03	1.53E+01	0.00E+00	0.00E+00	1.30E-03	2.19E+00	0.00E+00	0.00E+00
n-Hexane	0.00E+00	0.00E+00	5.29E-04	8.95E-01	4.89E-04	8.28E-01	0.00E+00	0.00E+00	1.06E-03	1.80E+00	0.00E+00	0.00E+00
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.87E-06	1.33E-02	0.00E+00	0.00E+00	7.74E-07	1.31E-03	0.00E+00	0.00E+00
Hydrochloric Acid	0.00E+00	0.00E+00	2.86E-03	4.83E+00	2.32E-02	3.92E+01	1.68E-02	2.84E+01	1.13E-02	1.90E+01	0.00E+00	0.00E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	9.66E-06	1.63E-02	1.75E-04	2.96E-01	3.51E-03	5.94E+00	2.36E-03	3.99E+00	0.00E+00	0.00E+00
Isopropanol	8.92E-03	1.51E+01	1.11E-02	1.88E+01	2.93E-02	4.96E+01	3.44E-02	5.81E+01	2.31E-02	3.90E+01	0.00E+00	0.00E+00
Methyl Alcohol	0.00E+00	0.00E+00	3.49E-01	5.90E+02	1.04E-01	1.76E+02	8.61E-02	1.46E+02	5.78E-02	9.78E+01	0.00E+00	0.00E+00
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.35E-05	5.67E-02
Toluene	2.10E-04	3.54E-01	2.34E-02	3.95E+01	9.00E-04	1.52E+00	8.08E-04	1.37E+00	5.42E-04	9.17E-01	2.81E-04	4.76E-01
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.67E-04	4.52E-01
Triethylamine	0.00E+00	0.00E+00	1.98E-03	3.34E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.76E-05	4.66E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes (mixed)	0.00E+00	0.00E+00	8.15E-04	1.38E+00	1.79E-03	3.03E+00	1.65E-03	2.80E+00	1.11E-03	1.88E+00	0.00E+00	0.00E+00

Adjusted Baseline Emission Calculations for Laboratories and EMF

Chemical	VENT43		VENT44		VENT45		VENT46		VENT47		VENT48	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.74E-03	1.65E+01	1.07E-03	1.81E+00
Acrylamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.12E-04	1.90E-01	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-02	1.78E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-02	2.54E+01	0.00E+00	0.00E+00
Dimethylformamide	0.00E+00	0.00E+00	2.06E-08	3.48E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.65E-04	9.56E-01	6.20E-05	1.05E-01
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.41E-02	2.39E+01	1.55E-03	2.62E+00
n-Hexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.66E-04	1.29E+00	0.00E+00	0.00E+00
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.05E-03	3.46E+00	3.63E-02	6.14E+01	3.98E-03	6.74E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.20E-03	7.10E+00	4.58E-02	7.75E+01	5.03E-03	8.50E+00
Methyl Alcohol	0.00E+00	0.00E+00	2.72E-04	4.60E-01	4.83E-03	8.17E+00	1.05E-02	1.78E+01	1.63E-01	2.75E+02	1.78E-02	3.02E+01
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	8.52E-05	1.44E-01	2.55E-06	4.32E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.41E-03	2.38E+00	1.54E-04	2.61E-01
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.73E-06	8.00E-03
Xylenes (mixed)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.80E-03	4.74E+00	3.08E-04	5.20E-01

Adjusted Baseline Emission Calculations for Laboratories and EMF

Chemical	VENT49		VENT50		VENT51		VENT52		VENT53		VENT54	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	9.40E-04	1.59E+00	1.12E-02	1.90E+01	2.29E-04	3.87E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrylamide	0.00E+00	0.00E+00	1.29E-04	2.19E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	1.61E+00	2.72E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	2.20E-04	3.72E-01	3.58E-05	6.06E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-05	2.34E-02
Bromine and Compounds	0.00E+00	0.00E+00	1.78E-05	3.01E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	1.29E-03	2.19E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	1.45E-03	2.45E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylformamide	5.46E-05	9.23E-02	6.51E-04	1.10E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	4.12E-04	6.96E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	6.74E-07	1.14E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	0.00E+00	0.00E+00	5.79E-04	9.79E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	1.61E+00	2.72E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	1.36E-03	2.31E+00	1.63E-02	2.75E+01	4.82E-04	8.14E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-03	1.73E+00
n-Hexane	0.00E+00	0.00E+00	8.83E-04	1.49E+00	3.95E-04	6.69E-01	1.88E-04	3.19E-01	9.34E-05	1.58E-01	5.55E-05	9.39E-02
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	3.50E-03	5.93E+00	4.18E-02	7.08E+01	4.18E-03	7.07E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.63E-03	4.45E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	4.43E-03	7.48E+00	5.28E-02	8.94E+01	8.58E-03	1.45E+01	4.09E-03	6.91E+00	2.03E-03	3.43E+00	3.32E-03	5.62E+00
Methyl Alcohol	1.57E-02	2.66E+01	1.87E-01	3.17E+02	2.15E-02	3.63E+01	0.00E+00	0.00E+00	5.08E-03	8.59E+00	1.18E-02	1.99E+01
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	0.00E+00	1.62E-03	2.74E+00	2.01E-04	3.41E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-04	1.73E-01
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	4.17E-06	7.04E-03	4.97E-05	8.41E-02	6.73E-04	1.14E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes (mixed)	2.71E-04	4.58E-01	3.23E-03	5.46E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Adjusted Baseline Emission Calculations for Laboratories and EMF

Chemical	VENT55		VENT56		VENT57		VENT58		VENT59		VENT60	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.28E-03	8.93E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrylamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.08E-05	1.03E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	2.09E-02	3.53E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	3.48E-05	5.89E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-04	1.75E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylformamide	1.58E-06	2.67E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.07E-04	5.18E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E-04	3.28E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.72E-04	4.61E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.58E-01	1.28E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.66E-03	1.30E+01	0.00E+00	0.00E+00	4.02E-04	6.81E-01
n-Hexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.15E-04	7.02E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.68E-06	1.13E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.97E-02	3.33E+01	2.91E-03	4.92E+00	1.03E-03	1.75E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-04	2.51E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	8.33E-03	1.41E+01	2.13E-03	3.60E+00	1.26E-02	2.14E+01	2.49E-02	4.21E+01	0.00E+00	0.00E+00	1.31E-03	2.21E+00
Methyl Alcohol	2.09E-02	3.53E+01	5.34E-03	9.03E+00	0.00E+00	0.00E+00	8.82E-02	1.49E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	0.00E+00	5.01E-05	8.47E-02	0.00E+00	0.00E+00	7.64E-04	1.29E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.34E-05	3.96E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes (mixed)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E-03	2.57E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Adjusted Baseline Emission Calculations for Laboratories and EMF

Chemical	VENT61		VENT62		VENT63		VENT64		VENT65		VENT66	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	1.62E-03	2.74E+00	1.11E-03	1.88E+00	0.00E+00	0.00E+00	4.60E-04	7.78E-01	1.83E-03	3.10E+00	4.51E-03	7.63E+00
Acrylamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.11E-05	3.57E-02	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	1.60E-01	2.70E+02	0.00E+00	0.00E+00	4.32E-02	7.30E+01	0.00E+00	0.00E+00	6.47E-01	1.09E+03
Benzene	3.18E-05	5.37E-02	2.18E-05	3.69E-02	0.00E+00	0.00E+00	7.20E-05	1.22E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	1.87E-04	3.16E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.73E-04	8.01E-01	0.00E+00	0.00E+00	5.20E-04	8.79E-01
Chloroform	2.50E-03	4.23E+00	1.72E-03	2.91E+00	4.10E-03	6.93E+00	0.00E+00	0.00E+00	2.83E-03	4.79E+00	6.96E-03	1.18E+01
Dimethylformamide	9.40E-05	1.59E-01	6.46E-05	1.09E-01	0.00E+00	0.00E+00	3.26E-06	5.52E-03	0.00E+00	0.00E+00	2.62E-04	4.43E-01
1,4-Dioxane	5.94E-05	1.01E-01	4.09E-05	6.91E-02	0.00E+00	0.00E+00	2.24E-05	3.79E-02	0.00E+00	0.00E+00	1.65E-04	2.80E-01
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	8.35E-05	1.41E-01	5.74E-05	9.71E-02	0.00E+00	0.00E+00	2.49E-03	4.21E+00	0.00E+00	0.00E+00	2.33E-04	3.93E-01
Ethylene Oxide	2.32E-01	3.93E+02	1.60E-01	2.70E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.47E-01	1.09E+03
Formaldehyde	2.35E-03	3.97E+00	1.62E-03	2.73E+00	3.85E-03	6.51E+00	9.67E-04	1.64E+00	2.66E-03	4.50E+00	6.54E-03	1.11E+01
n-Hexane	1.27E-04	2.15E-01	8.76E-05	1.48E-01	0.00E+00	0.00E+00	7.94E-04	1.34E+00	0.00E+00	0.00E+00	3.55E-04	6.00E-01
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	6.04E-03	1.02E+01	4.15E-03	7.02E+00	9.90E-03	1.67E+01	8.40E-03	1.42E+01	6.84E-03	1.16E+01	1.68E-02	2.84E+01
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.76E-03	2.98E+00	0.00E+00	0.00E+00	1.27E-04	2.15E-01
Isopropanol	7.63E-03	1.29E+01	5.24E-03	8.87E+00	1.25E-02	2.11E+01	1.72E-02	2.91E+01	8.63E-03	1.46E+01	2.12E-02	3.59E+01
Methyl Alcohol	2.71E-02	4.58E+01	1.86E-02	3.15E+01	4.44E-02	7.50E+01	4.32E-02	7.30E+01	3.06E-02	5.18E+01	7.53E-02	1.27E+02
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	2.34E-04	3.96E-01	1.61E-04	2.72E-01	3.84E-04	6.49E-01	4.05E-04	6.85E-01	2.65E-04	4.48E-01	6.52E-04	1.10E+00
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.26E-05	8.89E-02
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-04	1.87E-01
1,1,1-Trichloroethane	7.18E-06	1.21E-02	4.94E-06	8.35E-03	0.00E+00	0.00E+00	1.35E-03	2.29E+00	8.13E-06	1.37E-02	2.00E-05	3.38E-02
Xylenes (mixed)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.29E-04	1.40E+00	5.28E-04	8.93E-01	1.30E-03	2.20E+00

Adjusted Baseline Emission Calculations for Laboratories and EMF

Chemical	VENT67		VENT68	
	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	5.63E-03	9.53E+00	0.00E+00	0.00E+00
Acrylamide	6.49E-05	1.10E-01	0.00E+00	0.00E+00
Ammonia	8.08E-01	1.37E+03	0.00E+00	0.00E+00
Benzene	1.10E-04	1.87E-01	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	6.49E-04	1.10E+00	0.00E+00	0.00E+00
Chloroform	8.70E-03	1.47E+01	0.00E+00	0.00E+00
Dimethylformamide	3.27E-04	5.53E-01	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	2.90E-04	4.91E-01	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	8.17E-03	1.38E+01	0.00E+00	0.00E+00
n-Hexane	4.43E-04	7.49E-01	0.00E+00	0.00E+00
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	2.10E-02	3.55E+01	0.00E+00	0.00E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	2.65E-02	4.49E+01	0.00E+00	0.00E+00
Methyl Alcohol	9.41E-02	1.59E+02	0.00E+00	0.00E+00
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	8.14E-04	1.38E+00	0.00E+00	0.00E+00
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	1.38E-04	2.34E-01	0.00E+00	0.00E+00
1,1,1-Trichloroethane	2.50E-05	4.22E-02	0.00E+00	0.00E+00
Xylenes (mixed)	1.62E-03	2.74E+00	0.00E+00	0.00E+00

2025-2034 Future Emission Calculations for Laboratories and EMF

Chemical	VENT1		VENT2		VENT3		VENT4		VENT5		VENT6	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	1.27E-02	2.15E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.71E-04	9.66E-01	0.00E+00	0.00E+00
Acrylamide	1.46E-04	2.47E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	2.49E-04	4.21E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	1.46E-03	2.48E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	1.96E-02	3.32E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.07E-03	6.89E+00	1.20E-03	2.03E+00	0.00E+00	0.00E+00
Dimethylformamide	7.37E-04	1.25E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.05E-06	6.85E-03	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.78E-05	4.71E-02	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.09E-03	5.23E+00	0.00E+00	0.00E+00
Ethylene Oxide	1.82E+00	3.08E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	1.84E-02	3.12E+01	4.88E-05	8.26E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-03	2.03E+00	0.00E+00	0.00E+00
n-Hexane	9.99E-04	1.69E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.87E-04	1.67E+00	0.00E+00	0.00E+00
Hydrazine	1.61E-05	2.72E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	4.74E-02	8.01E+01	0.00E+00	0.00E+00	2.43E-04	4.11E-01	9.84E-03	1.66E+01	1.04E-02	1.77E+01	1.15E-02	1.95E+01
Hydrofluoric Acid	3.58E-04	6.05E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Iodine-125	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	5.98E-02	1.01E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.14E-02	3.62E+01	1.46E-02	2.46E+01
Methyl Alcohol	2.12E-01	3.59E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.36E-02	9.07E+01	0.00E+00	0.00E+00
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	1.84E-03	3.11E+00	2.04E-05	3.45E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.03E-04	8.51E-01	0.00E+00	0.00E+00
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	5.63E-05	9.52E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.68E-03	2.84E+00	0.00E+00	0.00E+00
Xylenes (mixed)	3.66E-03	6.19E+00	4.18E-05	7.07E-02	0.00E+00	0.00E+00	7.60E-04	1.29E+00	1.03E-03	1.74E+00	8.90E-04	1.51E+00

2025-2034 Future Emission Calculations for Laboratories and EMF

Chemical	VENT7		VENT8		VENT9		VENT10		VENT11		VENT12	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	0.00E+00	0.00E+00	6.89E-03	1.17E+01	0.00E+00	0.00E+00	4.13E-02	6.98E+01	2.12E-02	3.58E+01	2.57E-02	4.35E+01
Acrylamide	0.00E+00	0.00E+00	7.94E-05	1.34E-01	0.00E+00	0.00E+00	4.95E-05	8.37E-02	2.44E-04	4.12E-01	3.09E-05	5.22E-02
Ammonia	0.00E+00	0.00E+00	9.89E-01	1.67E+03	0.00E+00	0.00E+00	3.77E-01	6.37E+02	3.03E+00	5.13E+03	2.35E-01	3.97E+02
Benzene	0.00E+00	0.00E+00	1.35E-04	2.29E-01	0.00E+00	0.00E+00	7.34E-03	1.24E+01	4.15E-04	7.02E-01	4.58E-03	7.74E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.99E-04	1.18E+00	0.00E+00	0.00E+00	4.36E-04	7.37E-01
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	7.95E-04	1.34E+00	0.00E+00	0.00E+00	6.55E-04	1.11E+00	2.44E-03	4.12E+00	4.08E-04	6.90E-01
Chloroform	0.00E+00	0.00E+00	1.06E-02	1.80E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.26E-02	5.52E+01	0.00E+00	0.00E+00
Dimethylformamide	0.00E+00	0.00E+00	4.00E-04	6.77E-01	0.00E+00	0.00E+00	1.79E-03	3.03E+00	1.23E-03	2.08E+00	1.12E-03	1.89E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.53E-03	1.44E+01	7.76E-04	1.31E+00	5.32E-03	9.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.03E-05	1.36E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.98E-04	3.35E-01	0.00E+00	0.00E+00	1.24E-04	2.09E-01
Ethylene Oxide	0.00E+00	0.00E+00	9.89E-01	1.67E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.03E+00	5.13E+03	0.00E+00	0.00E+00
Formaldehyde	9.13E-04	1.54E+00	1.00E-02	1.69E+01	0.00E+00	0.00E+00	3.05E-04	5.16E-01	3.07E-02	5.19E+01	1.90E-04	3.22E-01
n-Hexane	0.00E+00	0.00E+00	5.42E-04	9.17E-01	0.00E+00	0.00E+00	5.71E-04	9.66E-01	1.66E-03	2.81E+00	3.56E-04	6.03E-01
Hydrazine	0.00E+00	0.00E+00	8.72E-06	1.47E-02	0.00E+00	0.00E+00	3.87E-05	6.54E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	7.93E-03	1.34E+01	2.57E-02	4.35E+01	4.03E-03	6.81E+00	3.08E-03	5.22E+00	7.89E-02	1.33E+02	1.92E-03	3.25E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-05	1.76E-02	0.00E+00	0.00E+00	6.50E-06	1.10E-02
Isopropanol	1.63E-02	2.75E+01	3.25E-02	5.49E+01	0.00E+00	0.00E+00	1.20E-02	2.03E+01	9.96E-02	1.68E+02	7.49E-03	1.27E+01
Methyl Alcohol	0.00E+00	0.00E+00	1.15E-01	1.95E+02	0.00E+00	0.00E+00	3.77E-01	6.37E+02	3.53E-01	5.97E+02	2.35E-01	3.97E+02
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.50E-04	1.61E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.51E-01	5.93E+02	4.88E-03	8.26E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.21E-04	5.43E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	0.00E+00	9.97E-04	1.69E+00	0.00E+00	0.00E+00	2.52E-02	4.27E+01	3.06E-03	5.17E+00	1.57E-02	2.66E+01
Trichloroethylene	0.00E+00	0.00E+00	8.04E-05	1.36E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.13E-03	3.61E+00	5.19E-04	8.78E-01	1.33E-03	2.25E+00
1,1,1-Trichloroethane	0.00E+00	0.00E+00	3.05E-05	5.17E-02	0.00E+00	0.00E+00	6.91E-05	1.17E-01	9.37E-05	1.58E-01	4.31E-05	7.29E-02
Xylenes (mixed)	7.82E-04	1.32E+00	1.99E-03	3.36E+00	0.00E+00	0.00E+00	8.80E-04	1.49E+00	6.09E-03	1.03E+01	5.49E-04	9.28E-01

2025-2034 Future Emission Calculations for Laboratories and EMF

Chemical	VENT13		VENT14		VENT15		VENT16		VENT17		VENT18	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	8.32E-03	1.41E+01	0.00E+00	0.00E+00	2.40E-02	4.06E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrylamide	9.58E-05	1.62E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	1.19E+00	2.02E+03	0.00E+00	0.00E+00	2.19E-01	3.71E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.44E-02	4.13E+01
Benzene	1.63E-04	2.76E-01	0.00E+00	0.00E+00	4.27E-03	7.23E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	4.81E-05	8.13E-02	4.07E-04	6.88E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	6.37E-04	1.08E+00	3.81E-04	6.44E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	1.28E-02	2.17E+01	0.00E+00	0.00E+00	5.18E-02	8.77E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylformamide	4.83E-04	8.17E-01	0.00E+00	0.00E+00	1.04E-03	1.77E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	4.29E-04	7.26E-01	3.35E-03	5.66E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	1.21E-02	2.04E+01	0.00E+00	0.00E+00	1.78E-04	3.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
n-Hexane	6.54E-04	1.11E+00	1.07E-03	1.81E+00	3.32E-04	5.62E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	3.10E-02	5.25E+01	1.13E-02	1.91E+01	1.80E-03	3.04E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	2.37E-03	4.01E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	3.92E-02	6.62E+01	2.32E-02	3.92E+01	6.99E-03	1.18E+01	1.05E-03	1.77E+00	0.00E+00	0.00E+00	9.74E-03	1.65E+01
Methyl Alcohol	1.39E-01	2.35E+02	5.81E-02	9.82E+01	2.19E-01	3.71E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	1.20E-03	2.03E+00	5.45E-04	9.21E-01	1.47E-02	2.48E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.29E-04	3.87E-01
Trichloroethylene	0.00E+00	0.00E+00	5.17E-04	8.75E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-03	2.10E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	3.69E-05	6.23E-02	0.00E+00	0.00E+00	4.02E-05	6.80E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes (mixed)	2.40E-03	4.05E+00	1.11E-03	1.89E+00	5.12E-04	8.66E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

2025-2034 Future Emission Calculations for Laboratories and EMF

Chemical	VENT19		VENT20		VENT21		VENT22		VENT23		VENT24	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	6.12E-03	1.03E+01	7.38E-03	1.25E+01	1.45E-02	2.45E+01	1.75E-02	2.97E+01	0.00E+00	0.00E+00	1.04E-02	1.76E+01
Acrylamide	7.04E-05	1.19E-01	8.50E-05	1.44E-01	1.67E-04	2.82E-01	2.02E-04	3.42E-01	0.00E+00	0.00E+00	1.20E-04	2.03E-01
Ammonia	0.00E+00	0.00E+00	1.06E+00	1.79E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E+00	2.52E+03
Benzene	1.20E-04	2.03E-01	0.00E+00	0.00E+00	2.84E-04	4.80E-01	3.44E-04	5.82E-01	0.00E+00	0.00E+00	2.04E-04	3.45E-01
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.65E-05	2.79E-02
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	7.05E-04	1.19E+00	0.00E+00	0.00E+00	1.67E-03	2.82E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-03	2.03E+00
Chloroform	9.44E-03	1.60E+01	1.14E-02	1.93E+01	2.23E-02	3.78E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylformamide	3.55E-04	6.00E-01	4.29E-04	7.25E-01	8.40E-04	1.42E+00	1.02E-03	1.72E+00	0.00E+00	0.00E+00	6.04E-04	1.02E+00
1,4-Dioxane	2.24E-04	3.79E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.43E-04	1.09E+00	0.00E+00	0.00E+00	3.81E-04	6.45E-01
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	8.77E-01	1.48E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E+00	2.52E+03
Ethylene Dichloride	3.15E-04	5.33E-01	0.00E+00	0.00E+00	7.46E-04	1.26E+00	9.04E-04	1.53E+00	0.00E+00	0.00E+00	5.36E-04	9.07E-01
Ethylene Oxide	8.77E-01	1.48E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.52E+00	4.26E+03	0.00E+00	0.00E+00	1.49E+00	2.52E+03
Formaldehyde	8.87E-03	1.50E+01	1.07E-02	1.81E+01	2.10E-02	3.55E+01	2.54E-02	4.30E+01	2.13E-03	3.59E+00	1.51E-02	2.55E+01
n-Hexane	4.81E-04	8.13E-01	5.81E-04	9.82E-01	1.14E-03	1.92E+00	1.38E-03	2.33E+00	0.00E+00	0.00E+00	8.18E-04	1.38E+00
Hydrazine	7.73E-06	1.31E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-05	2.22E-02
Hydrochloric Acid	2.28E-02	3.86E+01	2.75E-02	4.66E+01	5.39E-02	9.12E+01	6.54E-02	1.11E+02	0.00E+00	0.00E+00	3.88E-02	6.56E+01
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	2.88E-02	4.87E+01	3.48E-02	5.88E+01	6.81E-02	1.15E+02	8.26E-02	1.40E+02	0.00E+00	0.00E+00	4.90E-02	8.28E+01
Methyl Alcohol	1.02E-01	1.73E+02	1.23E-01	2.09E+02	2.42E-01	4.09E+02	2.93E-01	4.96E+02	0.00E+00	0.00E+00	1.74E-01	2.94E+02
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.22E-01	2.06E+02
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	8.84E-04	1.49E+00	1.07E-03	1.81E+00	2.09E-03	3.54E+00	2.54E-03	4.29E+00	0.00E+00	0.00E+00	1.50E-03	2.54E+00
Trichloroethylene	7.13E-05	1.21E-01	0.00E+00	0.00E+00	1.69E-04	2.85E-01	2.05E-04	3.46E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	1.81E-04	3.06E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	2.71E-05	4.58E-02	3.27E-05	5.53E-02	6.41E-05	1.08E-01	7.77E-05	1.31E-01	0.00E+00	0.00E+00	4.61E-05	7.79E-02
Xylenes (mixed)	1.76E-03	2.98E+00	2.13E-03	3.60E+00	4.17E-03	7.04E+00	5.05E-03	8.54E+00	0.00E+00	0.00E+00	3.00E-03	5.07E+00

2025-2034 Future Emission Calculations for Laboratories and EMF

Chemical	VENT25		VENT26		VENT27		VENT28		VENT29		VENT30	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	2.04E-02	3.45E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.79E-03	1.32E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrylamide	2.35E-04	3.97E-01	0.00E+00	0.00E+00	1.81E-06	3.07E-03	8.97E-05	1.52E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	2.93E+00	4.95E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	4.00E-04	6.77E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	2.35E-03	3.98E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.98E-04	1.52E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	3.15E-02	5.33E+01	0.00E+00	0.00E+00	2.43E-04	4.11E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylformamide	1.18E-03	2.00E+00	0.00E+00	0.00E+00	9.14E-06	1.55E-02	4.52E-04	7.64E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.86E-04	4.83E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	1.05E-03	1.78E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.01E-04	6.79E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	2.93E+00	4.95E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.12E+00	1.89E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	2.96E-02	5.00E+01	3.89E-03	6.57E+00	2.28E-04	3.86E-01	1.13E-02	1.91E+01	0.00E+00	0.00E+00	3.56E-05	6.02E-02
n-Hexane	1.60E-03	2.71E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.12E-04	1.04E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.84E-06	1.66E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	7.61E-02	1.29E+02	0.00E+00	0.00E+00	5.87E-04	9.93E-01	2.90E-02	4.91E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	9.61E-02	1.62E+02	1.26E-02	2.13E+01	7.42E-04	1.25E+00	3.67E-02	6.20E+01	1.03E-02	1.75E+01	6.34E-04	1.07E+00
Methyl Alcohol	3.41E-01	5.76E+02	0.00E+00	0.00E+00	2.63E-03	4.45E+00	1.30E-01	2.20E+02	0.00E+00	0.00E+00	1.59E-03	2.68E+00
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	2.95E-03	4.99E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-03	1.90E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	9.04E-05	1.53E-01	0.00E+00	0.00E+00	6.98E-07	1.18E-03	3.45E-05	5.83E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes (mixed)	5.88E-03	9.94E+00	0.00E+00	0.00E+00	4.54E-05	7.67E-02	2.24E-03	3.79E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

2025-2034 Future Emission Calculations for Laboratories and EMF

Chemical	VENT31		VENT32		VENT33		VENT34		VENT35		VENT36	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	7.08E-04	1.20E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-03	2.54E+00	2.78E-04	4.70E-01
Acrylamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	6.65E-02	1.12E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.41E-01	2.38E+02	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.35E-04	3.97E-01	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E-04	1.97E-01	2.16E-05	3.65E-02
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.54E-03	2.61E+00	0.00E+00	0.00E+00
Chloroform	1.48E-03	2.51E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.15E-03	5.32E+00	0.00E+00	0.00E+00
Dimethylformamide	5.02E-06	8.50E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-05	1.80E-02	1.97E-06	3.33E-03
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.31E-05	1.24E-01	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	3.83E-03	6.48E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.12E-03	1.37E+01	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	1.49E-03	2.52E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.16E-03	5.34E+00	0.00E+00	0.00E+00
n-Hexane	1.22E-03	2.07E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.59E-03	4.38E+00	4.80E-04	8.11E-01
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	1.29E-02	2.19E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.74E-02	4.64E+01	5.07E-03	8.58E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.75E-03	9.72E+00	0.00E+00	0.00E+00
Isopropanol	2.65E-02	4.49E+01	0.00E+00	0.00E+00	1.01E-02	1.71E+01	0.00E+00	0.00E+00	5.62E-02	9.51E+01	1.04E-02	1.76E+01
Methyl Alcohol	6.65E-02	1.12E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.41E-01	2.38E+02	2.61E-02	4.41E+01
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.57E-04	2.66E-01	0.00E+00	0.00E+00
Toluene	6.24E-04	1.05E+00	1.55E-04	2.63E-01	2.38E-04	4.02E-01	0.00E+00	0.00E+00	1.32E-03	2.23E+00	2.44E-04	4.13E-01
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-03	2.12E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.41E-03	7.46E+00	0.00E+00	0.00E+00
Xylenes (mixed)	1.28E-03	2.16E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.53E-04	2.59E-01	2.70E-03	4.57E+00	0.00E+00	0.00E+00

2025-2034 Future Emission Calculations for Laboratories and EMF

Chemical	VENT37		VENT38		VENT39		VENT40		VENT41		VENT42	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	0.00E+00	0.00E+00	4.48E-02	7.57E+01	7.29E-03	1.23E+01	0.00E+00	0.00E+00	7.21E-04	1.22E+00	0.00E+00	0.00E+00
Acrylamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.40E-05	1.42E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-01	1.71E+02	6.77E-02	1.15E+02	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-04	2.42E-01	0.00E+00	0.00E+00	1.13E-04	1.91E-01	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.35E-05	1.41E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.40E-04	1.42E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	0.00E+00	0.00E+00	9.66E-02	1.63E+02	1.13E-02	1.90E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylformamide	0.00E+00	0.00E+00	1.95E-03	3.29E+00	4.23E-04	7.15E-01	0.00E+00	0.00E+00	5.12E-06	8.65E-03	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.76E-04	6.36E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E+00	1.77E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-02	1.79E+01	0.00E+00	0.00E+00	1.52E-03	2.57E+00	0.00E+00	0.00E+00
n-Hexane	0.00E+00	0.00E+00	6.20E-04	1.05E+00	5.73E-04	9.69E-01	0.00E+00	0.00E+00	1.25E-03	2.11E+00	0.00E+00	0.00E+00
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.21E-06	1.56E-02	0.00E+00	0.00E+00	9.07E-07	1.53E-03	0.00E+00	0.00E+00
Hydrochloric Acid	0.00E+00	0.00E+00	3.35E-03	5.66E+00	2.72E-02	4.60E+01	1.96E-02	3.32E+01	1.32E-02	2.23E+01	0.00E+00	0.00E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	1.13E-05	1.91E-02	2.05E-04	3.47E-01	4.12E-03	6.96E+00	2.76E-03	4.67E+00	0.00E+00	0.00E+00
Isopropanol	1.04E-02	1.77E+01	1.30E-02	2.20E+01	3.43E-02	5.80E+01	4.03E-02	6.81E+01	2.70E-02	4.57E+01	0.00E+00	0.00E+00
Methyl Alcohol	0.00E+00	0.00E+00	4.09E-01	6.91E+02	1.22E-01	2.06E+02	1.01E-01	1.71E+02	6.77E-02	1.15E+02	0.00E+00	0.00E+00
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.92E-05	6.64E-02
Toluene	2.45E-04	4.15E-01	2.74E-02	4.63E+01	1.05E-03	1.78E+00	9.46E-04	1.60E+00	6.35E-04	1.07E+00	3.29E-04	5.57E-01
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.13E-04	5.29E-01
Triethylamine	0.00E+00	0.00E+00	2.31E-03	3.91E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.23E-05	5.46E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes (mixed)	0.00E+00	0.00E+00	9.55E-04	1.61E+00	2.10E-03	3.55E+00	1.94E-03	3.27E+00	1.30E-03	2.20E+00	0.00E+00	0.00E+00

2025-2034 Future Emission Calculations for Laboratories and EMF

Chemical	VENT43		VENT44		VENT45		VENT46		VENT47		VENT48	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-02	1.93E+01	1.25E-03	2.12E+00
Acrylamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-04	2.22E-01	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E-02	2.08E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.76E-02	2.98E+01	0.00E+00	0.00E+00
Dimethylformamide	0.00E+00	0.00E+00	2.41E-08	4.07E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.62E-04	1.12E+00	7.26E-05	1.23E-01
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.65E-02	2.80E+01	1.81E-03	3.07E+00
n-Hexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.97E-04	1.52E+00	0.00E+00	0.00E+00
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.40E-03	4.06E+00	4.25E-02	7.19E+01	4.66E-03	7.89E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.92E-03	8.32E+00	5.37E-02	9.08E+01	5.89E-03	9.96E+00
Methyl Alcohol	0.00E+00	0.00E+00	3.19E-04	5.39E-01	5.66E-03	9.57E+00	1.23E-02	2.08E+01	1.90E-01	3.22E+02	2.09E-02	3.53E+01
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	9.98E-05	1.69E-01	2.99E-06	5.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.65E-03	2.79E+00	1.81E-04	3.06E-01
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.54E-06	9.37E-03
Xylenes (mixed)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.28E-03	5.55E+00	3.60E-04	6.09E-01

2025-2034 Future Emission Calculations for Laboratories and EMF

Chemical	VENT49		VENT50		VENT51		VENT52		VENT53		VENT54	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	1.10E-03	1.86E+00	1.31E-02	2.22E+01	2.68E-04	4.53E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrylamide	0.00E+00	0.00E+00	1.51E-04	2.56E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	1.89E+00	3.19E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	2.58E-04	4.36E-01	4.20E-05	7.10E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.62E-05	2.74E-02
Bromine and Compounds	0.00E+00	0.00E+00	2.09E-05	3.53E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	1.52E-03	2.56E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	1.70E-03	2.87E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylformamide	6.39E-05	1.08E-01	7.63E-04	1.29E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	4.82E-04	8.15E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	7.89E-07	1.33E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	0.00E+00	0.00E+00	6.78E-04	1.15E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	1.89E+00	3.19E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	1.60E-03	2.70E+00	1.91E-02	3.22E+01	5.64E-04	9.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-03	2.03E+00
n-Hexane	0.00E+00	0.00E+00	1.03E-03	1.75E+00	4.63E-04	7.83E-01	2.21E-04	3.73E-01	1.09E-04	1.85E-01	6.50E-05	1.10E-01
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	4.10E-03	6.94E+00	4.90E-02	8.29E+01	4.90E-03	8.28E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.08E-03	5.21E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	5.18E-03	8.77E+00	6.19E-02	1.05E+02	1.00E-02	1.70E+01	4.79E-03	8.10E+00	2.37E-03	4.01E+00	3.89E-03	6.58E+00
Methyl Alcohol	1.84E-02	3.11E+01	2.20E-01	3.71E+02	2.52E-02	4.26E+01	0.00E+00	0.00E+00	5.94E-03	1.01E+01	1.38E-02	2.33E+01
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	0.00E+00	1.90E-03	3.21E+00	2.36E-04	3.99E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-04	2.02E-01
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	4.88E-06	8.25E-03	5.82E-05	9.85E-02	7.88E-04	1.33E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes (mixed)	3.17E-04	5.36E-01	3.79E-03	6.40E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

2025-2034 Future Emission Calculations for Laboratories and EMF

Chemical	VENT55		VENT56		VENT57		VENT58		VENT59		VENT60	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.19E-03	1.05E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrylamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.12E-05	1.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	2.44E-02	4.14E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	4.08E-05	6.90E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-04	2.05E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylformamide	1.85E-06	3.12E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.59E-04	6.07E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.27E-04	3.84E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.19E-04	5.39E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.87E-01	1.50E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.97E-03	1.52E+01	0.00E+00	0.00E+00	4.71E-04	7.97E-01
n-Hexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.86E-04	8.23E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.82E-06	1.32E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.31E-02	3.90E+01	3.41E-03	5.76E+00	1.21E-03	2.05E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-04	2.94E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	9.76E-03	1.65E+01	2.50E-03	4.22E+00	1.48E-02	2.50E+01	2.91E-02	4.93E+01	0.00E+00	0.00E+00	1.53E-03	2.59E+00
Methyl Alcohol	2.44E-02	4.14E+01	6.25E-03	1.06E+01	0.00E+00	0.00E+00	1.03E-01	1.75E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	0.00E+00	5.86E-05	9.92E-02	0.00E+00	0.00E+00	8.94E-04	1.51E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.74E-05	4.63E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes (mixed)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.78E-03	3.01E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

2025-2034 Future Emission Calculations for Laboratories and EMF

Chemical	VENT61		VENT62		VENT63		VENT64		VENT65		VENT66	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	1.90E-03	3.21E+00	1.30E-03	2.21E+00	0.00E+00	0.00E+00	5.38E-04	9.11E-01	2.15E-03	3.63E+00	5.28E-03	8.93E+00
Acrylamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.47E-05	4.18E-02	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	1.87E-01	3.16E+02	0.00E+00	0.00E+00	5.05E-02	8.55E+01	0.00E+00	0.00E+00	7.58E-01	1.28E+03
Benzene	3.72E-05	6.29E-02	2.56E-05	4.33E-02	0.00E+00	0.00E+00	8.43E-05	1.43E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	2.19E-04	3.70E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.54E-04	9.38E-01	0.00E+00	0.00E+00	6.09E-04	1.03E+00
Chloroform	2.93E-03	4.95E+00	2.01E-03	3.41E+00	4.80E-03	8.12E+00	0.00E+00	0.00E+00	3.32E-03	5.61E+00	8.15E-03	1.38E+01
Dimethylformamide	1.10E-04	1.86E-01	7.57E-05	1.28E-01	0.00E+00	0.00E+00	3.82E-06	6.46E-03	0.00E+00	0.00E+00	3.07E-04	5.18E-01
1,4-Dioxane	6.96E-05	1.18E-01	4.78E-05	8.09E-02	0.00E+00	0.00E+00	2.62E-05	4.44E-02	0.00E+00	0.00E+00	1.94E-04	3.28E-01
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	9.78E-05	1.65E-01	6.73E-05	1.14E-01	0.00E+00	0.00E+00	2.91E-03	4.93E+00	0.00E+00	0.00E+00	2.72E-04	4.61E-01
Ethylene Oxide	2.72E-01	4.60E+02	1.87E-01	3.16E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.58E-01	1.28E+03
Formaldehyde	2.75E-03	4.65E+00	1.89E-03	3.20E+00	4.51E-03	7.63E+00	1.13E-03	1.92E+00	3.11E-03	5.27E+00	7.66E-03	1.30E+01
n-Hexane	1.49E-04	2.52E-01	1.03E-04	1.73E-01	0.00E+00	0.00E+00	9.30E-04	1.57E+00	0.00E+00	0.00E+00	4.15E-04	7.02E-01
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	7.08E-03	1.20E+01	4.86E-03	8.23E+00	1.16E-02	1.96E+01	9.84E-03	1.66E+01	8.01E-03	1.35E+01	1.97E-02	3.33E+01
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.06E-03	3.49E+00	0.00E+00	0.00E+00	1.49E-04	2.51E-01
Isopropanol	8.94E-03	1.51E+01	6.14E-03	1.04E+01	1.46E-02	2.48E+01	2.02E-02	3.41E+01	1.01E-02	1.71E+01	2.49E-02	4.21E+01
Methyl Alcohol	3.17E-02	5.36E+01	2.18E-02	3.68E+01	5.19E-02	8.78E+01	5.05E-02	8.55E+01	3.59E-02	6.07E+01	8.82E-02	1.49E+02
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	2.74E-04	4.64E-01	1.89E-04	3.19E-01	4.50E-04	7.60E-01	4.74E-04	8.02E-01	3.10E-04	5.25E-01	7.64E-04	1.29E+00
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.16E-05	1.04E-01
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-04	2.19E-01
1,1,1-Trichloroethane	8.41E-06	1.42E-02	5.78E-06	9.77E-03	0.00E+00	0.00E+00	1.58E-03	2.68E+00	9.52E-06	1.61E-02	2.34E-05	3.96E-02
Xylenes (mixed)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.70E-04	1.64E+00	6.19E-04	1.05E+00	1.52E-03	2.57E+00

2025-2034 Future Emission Calculations for Laboratories and EMF

Chemical	VENT67		VENT68	
	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	6.60E-03	1.12E+01	0.00E+00	0.00E+00
Acrylamide	7.60E-05	1.28E-01	0.00E+00	0.00E+00
Ammonia	9.46E-01	1.60E+03	0.00E+00	0.00E+00
Benzene	1.29E-04	2.19E-01	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	7.61E-04	1.29E+00	0.00E+00	0.00E+00
Chloroform	1.02E-02	1.72E+01	0.00E+00	0.00E+00
Dimethylformamide	3.83E-04	6.47E-01	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	3.40E-04	5.75E-01	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	9.57E-03	1.62E+01	0.00E+00	0.00E+00
n-Hexane	5.19E-04	8.77E-01	0.00E+00	0.00E+00
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	2.46E-02	4.16E+01	0.00E+00	0.00E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	3.11E-02	5.25E+01	0.00E+00	0.00E+00
Methyl Alcohol	1.10E-01	1.86E+02	0.00E+00	0.00E+00
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	9.54E-04	1.61E+00	0.00E+00	0.00E+00
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	1.62E-04	2.74E-01	0.00E+00	0.00E+00
1,1,1-Trichloroethane	2.92E-05	4.94E-02	0.00E+00	0.00E+00
Xylenes (mixed)	1.90E-03	3.21E+00	0.00E+00	0.00E+00

2035+ Future Emission Calculations for Laboratories and EMF

Chemical	VENT1		VENT2		VENT3		VENT4		VENT5		VENT6	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	1.47E-02	2.48E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.59E-04	1.11E+00	0.00E+00	0.00E+00
Acrylamide	1.69E-04	2.85E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	2.87E-04	4.86E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	1.69E-03	2.86E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	2.26E-02	3.83E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.70E-03	7.95E+00	1.38E-03	2.34E+00	0.00E+00	0.00E+00
Dimethylformamide	8.51E-04	1.44E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.68E-06	7.91E-03	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.21E-05	5.43E-02	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.57E-03	6.03E+00	0.00E+00	0.00E+00
Ethylene Oxide	2.10E+00	3.56E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	2.13E-02	3.59E+01	5.63E-05	9.53E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E-03	2.35E+00	0.00E+00	0.00E+00
n-Hexane	1.15E-03	1.95E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-03	1.93E+00	0.00E+00	0.00E+00
Hydrazine	1.85E-05	3.13E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	5.46E-02	9.24E+01	0.00E+00	0.00E+00	2.81E-04	4.75E-01	1.14E-02	1.92E+01	1.20E-02	2.04E+01	1.33E-02	2.25E+01
Hydrofluoric Acid	4.13E-04	6.98E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	6.90E-02	1.17E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.47E-02	4.18E+01	1.68E-02	2.84E+01
Methyl Alcohol	2.45E-01	4.14E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.19E-02	1.05E+02	0.00E+00	0.00E+00
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	2.12E-03	3.58E+00	2.36E-05	3.99E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.80E-04	9.81E-01	0.00E+00	0.00E+00
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	6.49E-05	1.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E-03	3.28E+00	0.00E+00	0.00E+00
Xylenes (mixed)	4.22E-03	7.14E+00	4.82E-05	8.16E-02	0.00E+00	0.00E+00	8.77E-04	1.48E+00	1.19E-03	2.01E+00	1.03E-03	1.74E+00

2035+ Future Emission Calculations for Laboratories and EMF

Chemical	VENT7		VENT8		VENT9		VENT10		VENT11		VENT12	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	0.00E+00	0.00E+00	7.96E-03	1.35E+01	0.00E+00	0.00E+00	4.76E-02	8.06E+01	2.44E-02	4.13E+01	2.97E-02	5.02E+01
Acrylamide	0.00E+00	0.00E+00	9.16E-05	1.55E-01	0.00E+00	0.00E+00	5.71E-05	9.65E-02	2.81E-04	4.75E-01	3.56E-05	6.02E-02
Ammonia	0.00E+00	0.00E+00	1.14E+00	1.93E+03	0.00E+00	0.00E+00	4.35E-01	7.35E+02	3.50E+00	5.92E+03	2.71E-01	4.59E+02
Benzene	0.00E+00	0.00E+00	1.56E-04	2.64E-01	0.00E+00	0.00E+00	8.47E-03	1.43E+01	4.79E-04	8.09E-01	5.28E-03	8.93E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.07E-04	1.36E+00	0.00E+00	0.00E+00	5.03E-04	8.51E-01
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	9.17E-04	1.55E+00	0.00E+00	0.00E+00	7.55E-04	1.28E+00	2.81E-03	4.76E+00	4.71E-04	7.96E-01
Chloroform	0.00E+00	0.00E+00	1.23E-02	2.08E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.77E-02	6.37E+01	0.00E+00	0.00E+00
Dimethylformamide	0.00E+00	0.00E+00	4.62E-04	7.81E-01	0.00E+00	0.00E+00	2.07E-03	3.50E+00	1.42E-03	2.40E+00	1.29E-03	2.18E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.84E-03	1.66E+01	8.95E-04	1.51E+00	6.14E-03	1.04E+01
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.26E-05	1.57E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.29E-04	3.87E-01	0.00E+00	0.00E+00	1.43E-04	2.41E-01
Ethylene Oxide	0.00E+00	0.00E+00	1.14E+00	1.93E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.50E+00	5.92E+03	0.00E+00	0.00E+00
Formaldehyde	1.05E-03	1.78E+00	1.15E-02	1.95E+01	0.00E+00	0.00E+00	3.52E-04	5.95E-01	3.54E-02	5.98E+01	2.20E-04	3.71E-01
n-Hexane	0.00E+00	0.00E+00	6.26E-04	1.06E+00	0.00E+00	0.00E+00	6.59E-04	1.12E+00	1.92E-03	3.25E+00	4.11E-04	6.95E-01
Hydrazine	0.00E+00	0.00E+00	1.01E-05	1.70E-02	0.00E+00	0.00E+00	4.46E-05	7.55E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	9.15E-03	1.55E+01	2.97E-02	5.02E+01	4.65E-03	7.86E+00	3.56E-03	6.02E+00	9.10E-02	1.54E+02	2.22E-03	3.75E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-05	2.03E-02	0.00E+00	0.00E+00	7.50E-06	1.27E-02
Isopropanol	1.88E-02	3.17E+01	3.75E-02	6.33E+01	0.00E+00	0.00E+00	1.39E-02	2.34E+01	1.15E-01	1.94E+02	8.64E-03	1.46E+01
Methyl Alcohol	0.00E+00	0.00E+00	1.33E-01	2.25E+02	0.00E+00	0.00E+00	4.35E-01	7.35E+02	4.08E-01	6.89E+02	2.71E-01	4.59E+02
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.10E-03	1.85E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.04E-01	6.84E+02	5.64E-03	9.53E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.70E-04	6.26E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	0.00E+00	1.15E-03	1.94E+00	0.00E+00	0.00E+00	2.91E-02	4.92E+01	3.53E-03	5.97E+00	1.82E-02	3.07E+01
Trichloroethylene	0.00E+00	0.00E+00	9.28E-05	1.57E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.46E-03	4.16E+00	5.99E-04	1.01E+00	1.54E-03	2.60E+00
1,1,1-Trichloroethane	0.00E+00	0.00E+00	3.52E-05	5.96E-02	0.00E+00	0.00E+00	7.97E-05	1.35E-01	1.08E-04	1.83E-01	4.97E-05	8.41E-02
Xylenes (mixed)	9.02E-04	1.53E+00	2.29E-03	3.87E+00	0.00E+00	0.00E+00	1.02E-03	1.72E+00	7.03E-03	1.19E+01	6.33E-04	1.07E+00

2035+ Future Emission Calculations for Laboratories and EMF

Chemical	VENT13		VENT14		VENT15		VENT16		VENT17		VENT18	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	9.60E-03	1.62E+01	0.00E+00	0.00E+00	2.77E-02	4.69E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrylamide	1.11E-04	1.87E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	1.38E+00	2.33E+03	0.00E+00	0.00E+00	2.53E-01	4.28E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.82E-02	4.76E+01
Benzene	1.88E-04	3.18E-01	0.00E+00	0.00E+00	4.93E-03	8.34E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	5.54E-05	9.38E-02	4.70E-04	7.94E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	7.35E-04	1.24E+00	4.40E-04	7.43E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	1.48E-02	2.51E+01	0.00E+00	0.00E+00	5.98E-02	1.01E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylformamide	5.57E-04	9.42E-01	0.00E+00	0.00E+00	1.20E-03	2.04E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	4.95E-04	8.37E-01	3.86E-03	6.53E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	1.39E-02	2.35E+01	0.00E+00	0.00E+00	2.05E-04	3.46E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
n-Hexane	7.55E-04	1.28E+00	1.23E-03	2.09E+00	3.84E-04	6.49E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	3.58E-02	6.05E+01	1.30E-02	2.21E+01	2.07E-03	3.50E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	2.73E-03	4.62E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	4.52E-02	7.64E+01	2.68E-02	4.52E+01	8.06E-03	1.36E+01	1.21E-03	2.05E+00	0.00E+00	0.00E+00	1.12E-02	1.90E+01
Methyl Alcohol	1.60E-01	2.71E+02	6.70E-02	1.13E+02	2.53E-01	4.28E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	1.39E-03	2.35E+00	6.29E-04	1.06E+00	1.69E-02	2.87E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.64E-04	4.47E-01
Trichloroethylene	0.00E+00	0.00E+00	5.97E-04	1.01E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-03	2.42E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	4.25E-05	7.19E-02	0.00E+00	0.00E+00	4.64E-05	7.85E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes (mixed)	2.76E-03	4.67E+00	1.29E-03	2.18E+00	5.91E-04	9.99E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

2035+ Future Emission Calculations for Laboratories and EMF

Chemical	VENT19		VENT20		VENT21		VENT22		VENT23		VENT24	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	7.06E-03	1.19E+01	8.52E-03	1.44E+01	1.67E-02	2.82E+01	2.02E-02	3.42E+01	0.00E+00	0.00E+00	1.20E-02	2.03E+01
Acrylamide	8.13E-05	1.37E-01	9.81E-05	1.66E-01	1.92E-04	3.25E-01	2.33E-04	3.94E-01	0.00E+00	0.00E+00	1.38E-04	2.34E-01
Ammonia	0.00E+00	0.00E+00	1.22E+00	2.07E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.72E+00	2.91E+03
Benzene	1.38E-04	2.34E-01	0.00E+00	0.00E+00	3.27E-04	5.54E-01	3.97E-04	6.71E-01	0.00E+00	0.00E+00	2.35E-04	3.98E-01
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.91E-05	3.22E-02
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	8.13E-04	1.38E+00	0.00E+00	0.00E+00	1.92E-03	3.25E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-03	2.34E+00
Chloroform	1.09E-02	1.84E+01	1.32E-02	2.22E+01	2.58E-02	4.36E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylformamide	4.10E-04	6.93E-01	4.94E-04	8.36E-01	9.69E-04	1.64E+00	1.17E-03	1.99E+00	0.00E+00	0.00E+00	6.97E-04	1.18E+00
1,4-Dioxane	2.59E-04	4.38E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.42E-04	1.26E+00	0.00E+00	0.00E+00	4.40E-04	7.45E-01
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	1.01E+00	1.71E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.72E+00	2.91E+03
Ethylene Dichloride	3.64E-04	6.15E-01	0.00E+00	0.00E+00	8.60E-04	1.46E+00	1.04E-03	1.77E+00	0.00E+00	0.00E+00	6.19E-04	1.05E+00
Ethylene Oxide	1.01E+00	1.71E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.90E+00	4.91E+03	0.00E+00	0.00E+00	1.72E+00	2.91E+03
Formaldehyde	1.02E-02	1.73E+01	1.24E-02	2.09E+01	2.42E-02	4.09E+01	2.94E-02	4.96E+01	2.45E-03	4.15E+00	1.74E-02	2.94E+01
n-Hexane	5.55E-04	9.38E-01	6.70E-04	1.13E+00	1.31E-03	2.22E+00	1.59E-03	2.69E+00	0.00E+00	0.00E+00	9.44E-04	1.60E+00
Hydrazine	8.92E-06	1.51E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E-05	2.57E-02
Hydrochloric Acid	2.63E-02	4.45E+01	3.18E-02	5.37E+01	6.22E-02	1.05E+02	7.55E-02	1.28E+02	0.00E+00	0.00E+00	4.48E-02	7.57E+01
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	3.32E-02	5.62E+01	4.01E-02	6.78E+01	7.86E-02	1.33E+02	9.53E-02	1.61E+02	0.00E+00	0.00E+00	5.65E-02	9.56E+01
Methyl Alcohol	1.18E-01	1.99E+02	1.42E-01	2.41E+02	2.79E-01	4.71E+02	3.38E-01	5.72E+02	0.00E+00	0.00E+00	2.00E-01	3.39E+02
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.40E-01	2.37E+02
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	1.02E-03	1.72E+00	1.23E-03	2.08E+00	2.41E-03	4.08E+00	2.93E-03	4.95E+00	0.00E+00	0.00E+00	1.74E-03	2.93E+00
Trichloroethylene	8.23E-05	1.39E-01	0.00E+00	0.00E+00	1.95E-04	3.29E-01	2.36E-04	3.99E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	2.09E-04	3.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	3.13E-05	5.29E-02	3.78E-05	6.38E-02	7.40E-05	1.25E-01	8.97E-05	1.52E-01	0.00E+00	0.00E+00	5.32E-05	8.99E-02
Xylenes (mixed)	2.03E-03	3.44E+00	2.45E-03	4.15E+00	4.81E-03	8.13E+00	5.83E-03	9.86E+00	0.00E+00	0.00E+00	3.46E-03	5.84E+00

2035+ Future Emission Calculations for Laboratories and EMF

Chemical	VENT25		VENT26		VENT27		VENT28		VENT29		VENT30	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	2.35E-02	3.98E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.99E-03	1.52E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrylamide	2.71E-04	4.59E-01	0.00E+00	0.00E+00	2.09E-06	3.54E-03	1.03E-04	1.75E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	3.38E+00	5.71E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	4.62E-04	7.81E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	2.71E-03	4.59E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-03	1.75E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	3.63E-02	6.15E+01	0.00E+00	0.00E+00	2.81E-04	4.74E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylformamide	1.37E-03	2.31E+00	0.00E+00	0.00E+00	1.05E-05	1.78E-02	5.21E-04	8.82E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.30E-04	5.57E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	1.21E-03	2.05E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.63E-04	7.83E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	3.38E+00	5.71E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E+00	2.18E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	3.41E-02	5.77E+01	4.48E-03	7.58E+00	2.64E-04	4.46E-01	1.30E-02	2.20E+01	0.00E+00	0.00E+00	4.10E-05	6.94E-02
n-Hexane	1.85E-03	3.13E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.07E-04	1.19E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-05	1.92E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	8.78E-02	1.48E+02	0.00E+00	0.00E+00	6.78E-04	1.15E+00	3.35E-02	5.67E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	1.11E-01	1.87E+02	1.46E-02	2.46E+01	8.56E-04	1.45E+00	4.23E-02	7.15E+01	1.19E-02	2.02E+01	7.31E-04	1.24E+00
Methyl Alcohol	3.93E-01	6.65E+02	0.00E+00	0.00E+00	3.04E-03	5.13E+00	1.50E-01	2.54E+02	0.00E+00	0.00E+00	1.83E-03	3.10E+00
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	3.40E-03	5.76E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-03	2.20E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	1.04E-04	1.76E-01	0.00E+00	0.00E+00	8.05E-07	1.36E-03	3.98E-05	6.73E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes (mixed)	6.78E-03	1.15E+01	0.00E+00	0.00E+00	5.23E-05	8.85E-02	2.59E-03	4.38E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

2035+ Future Emission Calculations for Laboratories and EMF

Chemical	VENT31		VENT32		VENT33		VENT34		VENT35		VENT36	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	8.17E-04	1.38E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.73E-03	2.93E+00	3.20E-04	5.42E-01
Acrylamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	7.67E-02	1.30E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.63E-01	2.75E+02	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.71E-04	4.59E-01	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.34E-04	2.27E-01	2.49E-05	4.21E-02
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.78E-03	3.01E+00	0.00E+00	0.00E+00
Chloroform	1.71E-03	2.90E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.63E-03	6.14E+00	0.00E+00	0.00E+00
Dimethylformamide	5.80E-06	9.81E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E-05	2.08E-02	2.27E-06	3.84E-03
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.43E-05	1.43E-01	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	4.42E-03	7.48E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.37E-03	1.58E+01	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	1.72E-03	2.91E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.64E-03	6.16E+00	0.00E+00	0.00E+00
n-Hexane	1.41E-03	2.39E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.99E-03	5.06E+00	5.54E-04	9.36E-01
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	1.49E-02	2.53E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.16E-02	5.35E+01	5.86E-03	9.90E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.63E-03	1.12E+01	0.00E+00	0.00E+00
Isopropanol	3.06E-02	5.18E+01	0.00E+00	0.00E+00	1.17E-02	1.97E+01	0.00E+00	0.00E+00	6.49E-02	1.10E+02	1.20E-02	2.03E+01
Methyl Alcohol	7.67E-02	1.30E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.63E-01	2.75E+02	3.01E-02	5.09E+01
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.82E-04	3.07E-01	0.00E+00	0.00E+00
Toluene	7.20E-04	1.22E+00	1.79E-04	3.03E-01	2.74E-04	4.64E-01	0.00E+00	0.00E+00	1.52E-03	2.58E+00	2.82E-04	4.77E-01
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-03	2.45E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.09E-03	8.61E+00	0.00E+00	0.00E+00
Xylenes (mixed)	1.47E-03	2.49E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.77E-04	2.99E-01	3.12E-03	5.28E+00	0.00E+00	0.00E+00

2035+ Future Emission Calculations for Laboratories and EMF

Chemical	VENT37		VENT38		VENT39		VENT40		VENT41		VENT42	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	0.00E+00	0.00E+00	5.17E-02	8.74E+01	8.41E-03	1.42E+01	0.00E+00	0.00E+00	8.32E-04	1.41E+00	0.00E+00	0.00E+00
Acrylamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.69E-05	1.64E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-01	1.97E+02	7.81E-02	1.32E+02	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.65E-04	2.79E-01	0.00E+00	0.00E+00	1.30E-04	2.20E-01	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.63E-05	1.63E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.70E-04	1.64E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	0.00E+00	0.00E+00	1.11E-01	1.89E+02	1.30E-02	2.20E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylformamide	0.00E+00	0.00E+00	2.24E-03	3.80E+00	4.88E-04	8.25E-01	0.00E+00	0.00E+00	5.90E-06	9.98E-03	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.34E-04	7.33E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E+00	2.04E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.22E-02	2.06E+01	0.00E+00	0.00E+00	1.75E-03	2.96E+00	0.00E+00	0.00E+00
n-Hexane	0.00E+00	0.00E+00	7.15E-04	1.21E+00	6.61E-04	1.12E+00	0.00E+00	0.00E+00	1.44E-03	2.43E+00	0.00E+00	0.00E+00
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-05	1.80E-02	0.00E+00	0.00E+00	1.05E-06	1.77E-03	0.00E+00	0.00E+00
Hydrochloric Acid	0.00E+00	0.00E+00	3.86E-03	6.53E+00	3.14E-02	5.30E+01	2.27E-02	3.83E+01	1.52E-02	2.57E+01	0.00E+00	0.00E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	1.30E-05	2.21E-02	2.37E-04	4.00E-01	4.75E-03	8.03E+00	3.19E-03	5.39E+00	0.00E+00	0.00E+00
Isopropanol	1.21E-02	2.04E+01	1.50E-02	2.54E+01	3.96E-02	6.70E+01	4.65E-02	7.86E+01	3.12E-02	5.27E+01	0.00E+00	0.00E+00
Methyl Alcohol	0.00E+00	0.00E+00	4.72E-01	7.98E+02	1.40E-01	2.38E+02	1.16E-01	1.97E+02	7.81E-02	1.32E+02	0.00E+00	0.00E+00
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.53E-05	7.66E-02
Toluene	2.83E-04	4.79E-01	3.16E-02	5.34E+01	1.22E-03	2.06E+00	1.09E-03	1.85E+00	7.33E-04	1.24E+00	3.80E-04	6.43E-01
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.61E-04	6.10E-01
Triethylamine	0.00E+00	0.00E+00	2.67E-03	4.52E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.73E-05	6.30E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes (mixed)	0.00E+00	0.00E+00	1.10E-03	1.86E+00	2.42E-03	4.10E+00	2.23E-03	3.78E+00	1.50E-03	2.54E+00	0.00E+00	0.00E+00

2035+ Future Emission Calculations for Laboratories and EMF

Chemical	VENT43		VENT44		VENT45		VENT46		VENT47		VENT48	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.32E-02	2.23E+01	1.44E-03	2.44E+00
Acrylamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E-04	2.56E-01	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-02	2.40E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.03E-02	3.43E+01	0.00E+00	0.00E+00
Dimethylformamide	0.00E+00	0.00E+00	2.78E-08	4.70E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.64E-04	1.29E+00	8.38E-05	1.42E-01
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.91E-02	3.23E+01	2.09E-03	3.54E+00
n-Hexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.03E-03	1.75E+00	0.00E+00	0.00E+00
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.77E-03	4.68E+00	4.91E-02	8.30E+01	5.38E-03	9.10E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.67E-03	9.60E+00	6.20E-02	1.05E+02	6.80E-03	1.15E+01
Methyl Alcohol	0.00E+00	0.00E+00	3.68E-04	6.22E-01	6.53E-03	1.10E+01	1.42E-02	2.40E+01	2.20E-01	3.72E+02	2.41E-02	4.08E+01
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	1.15E-04	1.95E-01	3.45E-06	5.83E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-03	3.22E+00	2.09E-04	3.53E-01
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.40E-06	1.08E-02
Xylenes (mixed)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.79E-03	6.41E+00	4.16E-04	7.03E-01

2035+ Future Emission Calculations for Laboratories and EMF

Chemical	VENT49		VENT50		VENT51		VENT52		VENT53		VENT54	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	1.27E-03	2.15E+00	1.52E-02	2.56E+01	3.09E-04	5.23E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrylamide	0.00E+00	0.00E+00	1.75E-04	2.95E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	2.18E+00	3.68E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	2.97E-04	5.03E-01	4.84E-05	8.19E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.87E-05	3.16E-02
Bromine and Compounds	0.00E+00	0.00E+00	2.41E-05	4.07E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	1.75E-03	2.96E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	1.96E-03	3.32E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylformamide	7.37E-05	1.25E-01	8.80E-04	1.49E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	5.56E-04	9.41E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	9.10E-07	1.54E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	0.00E+00	0.00E+00	7.82E-04	1.32E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	2.18E+00	3.68E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	1.84E-03	3.12E+00	2.20E-02	3.72E+01	6.51E-04	1.10E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-03	2.34E+00
n-Hexane	0.00E+00	0.00E+00	1.19E-03	2.02E+00	5.34E-04	9.04E-01	2.55E-04	4.31E-01	1.26E-04	2.14E-01	7.50E-05	1.27E-01
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	4.74E-03	8.01E+00	5.65E-02	9.56E+01	5.65E-03	9.56E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.56E-03	6.01E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	5.98E-03	1.01E+01	7.14E-02	1.21E+02	1.16E-02	1.96E+01	5.52E-03	9.34E+00	2.74E-03	4.63E+00	4.49E-03	7.59E+00
Methyl Alcohol	2.12E-02	3.59E+01	2.53E-01	4.28E+02	2.90E-02	4.91E+01	0.00E+00	0.00E+00	6.86E-03	1.16E+01	1.59E-02	2.69E+01
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	0.00E+00	2.19E-03	3.71E+00	2.72E-04	4.60E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-04	2.33E-01
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	5.63E-06	9.52E-03	6.72E-05	1.14E-01	9.09E-04	1.54E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes (mixed)	3.66E-04	6.19E-01	4.37E-03	7.38E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

2035+ Future Emission Calculations for Laboratories and EMF

Chemical	VENT55		VENT56		VENT57		VENT58		VENT59		VENT60	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.14E-03	1.21E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrylamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.22E-05	1.39E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	2.82E-02	4.77E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	4.71E-05	7.96E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.40E-04	2.37E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chloroform	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylformamide	2.13E-06	3.61E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.14E-04	7.01E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.62E-04	4.43E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.68E-04	6.22E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E+00	1.73E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.03E-02	1.75E+01	0.00E+00	0.00E+00	5.44E-04	9.20E-01
n-Hexane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.61E-04	9.49E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.02E-06	1.53E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.66E-02	4.50E+01	3.93E-03	6.65E+00	1.40E-03	2.36E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.01E-04	3.40E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	1.13E-02	1.90E+01	2.88E-03	4.87E+00	1.71E-02	2.89E+01	3.36E-02	5.68E+01	0.00E+00	0.00E+00	1.77E-03	2.99E+00
Methyl Alcohol	2.82E-02	4.77E+01	7.21E-03	1.22E+01	0.00E+00	0.00E+00	1.19E-01	2.02E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	0.00E+00	6.77E-05	1.14E-01	0.00E+00	0.00E+00	1.03E-03	1.74E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.16E-05	5.35E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes (mixed)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.06E-03	3.48E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

2035+ Future Emission Calculations for Laboratories and EMF

Chemical	VENT61		VENT62		VENT63		VENT64		VENT65		VENT66	
	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	2.19E-03	3.70E+00	1.51E-03	2.55E+00	0.00E+00	0.00E+00	6.21E-04	1.05E+00	2.48E-03	4.19E+00	6.10E-03	1.03E+01
Acrylamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.85E-05	4.83E-02	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	2.16E-01	3.65E+02	0.00E+00	0.00E+00	5.83E-02	9.86E+01	0.00E+00	0.00E+00	8.74E-01	1.48E+03
Benzene	4.29E-05	7.26E-02	2.95E-05	4.99E-02	0.00E+00	0.00E+00	9.73E-05	1.65E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	2.52E-04	4.27E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.40E-04	1.08E+00	0.00E+00	0.00E+00	7.03E-04	1.19E+00
Chloroform	3.38E-03	5.72E+00	2.32E-03	3.93E+00	5.54E-03	9.37E+00	0.00E+00	0.00E+00	3.83E-03	6.47E+00	9.41E-03	1.59E+01
Dimethylformamide	1.27E-04	2.15E-01	8.74E-05	1.48E-01	0.00E+00	0.00E+00	4.41E-06	7.45E-03	0.00E+00	0.00E+00	3.54E-04	5.98E-01
1,4-Dioxane	8.03E-05	1.36E-01	5.52E-05	9.34E-02	0.00E+00	0.00E+00	3.03E-05	5.12E-02	0.00E+00	0.00E+00	2.24E-04	3.78E-01
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	1.13E-04	1.91E-01	7.76E-05	1.31E-01	0.00E+00	0.00E+00	3.36E-03	5.69E+00	0.00E+00	0.00E+00	3.14E-04	5.31E-01
Ethylene Oxide	3.14E-01	5.31E+02	2.16E-01	3.65E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.74E-01	1.48E+03
Formaldehyde	3.18E-03	5.37E+00	2.18E-03	3.69E+00	5.20E-03	8.80E+00	1.31E-03	2.21E+00	3.59E-03	6.08E+00	8.84E-03	1.49E+01
n-Hexane	1.72E-04	2.91E-01	1.18E-04	2.00E-01	0.00E+00	0.00E+00	1.07E-03	1.82E+00	0.00E+00	0.00E+00	4.79E-04	8.11E-01
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	8.16E-03	1.38E+01	5.61E-03	9.49E+00	1.34E-02	2.26E+01	1.14E-02	1.92E+01	9.24E-03	1.56E+01	2.27E-02	3.84E+01
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.38E-03	4.03E+00	0.00E+00	0.00E+00	1.72E-04	2.90E-01
Isopropanol	1.03E-02	1.74E+01	7.09E-03	1.20E+01	1.69E-02	2.86E+01	2.33E-02	3.94E+01	1.17E-02	1.97E+01	2.87E-02	4.85E+01
Methyl Alcohol	3.66E-02	6.18E+01	2.51E-02	4.25E+01	5.99E-02	1.01E+02	5.83E-02	9.86E+01	4.14E-02	7.00E+01	1.02E-01	1.72E+02
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	3.17E-04	5.35E-01	2.18E-04	3.68E-01	5.19E-04	8.77E-01	5.47E-04	9.25E-01	3.58E-04	6.06E-01	8.81E-04	1.49E+00
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.11E-05	1.20E-01
Triethylamine	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-04	2.53E-01
1,1,1-Trichloroethane	9.70E-06	1.64E-02	6.67E-06	1.13E-02	0.00E+00	0.00E+00	1.83E-03	3.09E+00	1.10E-05	1.86E-02	2.70E-05	4.57E-02
Xylenes (mixed)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.12E-03	1.89E+00	7.14E-04	1.21E+00	1.76E-03	2.97E+00

2035+ Future Emission Calculations for Laboratories and EMF

Chemical	VENT67		VENT68	
	lb/hour	lb/year	lb/hour	lb/year
Acetonitrile	7.61E-03	1.29E+01	0.00E+00	0.00E+00
Acrylamide	8.77E-05	1.48E-01	0.00E+00	0.00E+00
Ammonia	1.09E+00	1.85E+03	0.00E+00	0.00E+00
Benzene	1.49E-04	2.52E-01	0.00E+00	0.00E+00
Bromine and Compounds	0.00E+00	0.00E+00	0.00E+00	0.00E+00
t-Butyl Alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon Tetrachloride	8.78E-04	1.48E+00	0.00E+00	0.00E+00
Chloroform	1.18E-02	1.99E+01	0.00E+00	0.00E+00
Dimethylformamide	4.42E-04	7.47E-01	0.00E+00	0.00E+00
1,4-Dioxane	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Epichlorohydrin	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dibromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene Dichloride	3.92E-04	6.64E-01	0.00E+00	0.00E+00
Ethylene Oxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	1.10E-02	1.87E+01	0.00E+00	0.00E+00
n-Hexane	5.99E-04	1.01E+00	0.00E+00	0.00E+00
Hydrazine	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric Acid	2.84E-02	4.80E+01	0.00E+00	0.00E+00
Hydrofluoric Acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropanol	3.58E-02	6.06E+01	0.00E+00	0.00E+00
Methyl Alcohol	1.27E-01	2.15E+02	0.00E+00	0.00E+00
Methyl Bromide	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene Chloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tetrachloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	1.10E-03	1.86E+00	0.00E+00	0.00E+00
Trichloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Triethylamine	1.87E-04	3.16E-01	0.00E+00	0.00E+00
1,1,1-Trichloroethane	3.37E-05	5.70E-02	0.00E+00	0.00E+00
Xylenes (mixed)	2.19E-03	3.71E+00	0.00E+00	0.00E+00

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 1

JOB: La Jolla

RUN: Hour 1 (WORST CASE ANGLE)

POLLUTANT:

I. SITE VARIABLES

U= 1.0 M/S Z0= 100. CM ALT= 0. (M)
 BRG= WORST CASE VD= 0.0 CM/S
 CLAS= 7 (G) VS= 0.0 CM/S
 MIXH= 1000. M AMB= 2.2 PPM
 SIGTH= 10. DEGREES TEMP= 15.0 DEGREE (C)

II. LINK VARIABLES

LINK	* LINK COORDINATES (M) *	EF	H	W
DESCRIPTION	* X1 Y1 X2 Y2 * TYPE	VPH (G/MI)	(M)	(M)
A. WB1	* -27 12 -132 38 * AG	695	18.4	0.0 10.0
B. WB2	* -27 8 -132 35 * AG	695	18.4	0.0 10.0
C. WB3	* -27 5 -132 31 * AG	695	18.4	0.0 10.0
D. WB4L	* -27 0 -132 27 * AG	1334	18.4	0.0 14.0
E. EB1	* -27 -8 -132 22 * AG	583	18.4	0.0 10.0
F. EB2	* -27 -12 -132 18 * AG	583	18.4	0.0 10.0
G. EBSB1	* -27 -16 -132 15 * AG	657	18.4	0.0 10.0
H. SB1	* -32 -17 -32 -170 * AG	305	18.4	0.0 10.0
I. SB2	* -26 -17 -26 -170 * AG	305	18.4	0.0 10.0
J. NBWB1	* -19 -17 -19 -170 * AG	700	18.4	0.0 10.0
K. NBEB1	* -15 -17 -15 -170 * AG	284	18.4	0.0 10.0
L. NBEB2	* -11 -17 -11 -170 * AG	284	18.4	0.0 10.0
M. EB3	* 0 -11 154 47 * AG	773	18.4	0.0 10.0
N. EB4	* 0 -7 154 51 * AG	773	18.4	0.0 10.0
O. EB5	* 0 -4 154 54 * AG	773	18.4	0.0 10.0
P. LT1	* 0 4 77 30 * AG	268	18.4	0.0 10.0
Q. LT2	* 0 7 77 34 * AG	268	18.4	0.0 10.0
R. WB5	* 0 15 153 60 * AG	928	18.4	0.0 10.0
S. WB6	* 0 19 153 64 * AG	928	18.4	0.0 10.0
T. WB7	* 0 22 153 67 * AG	928	18.4	0.0 10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

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JOB: La Jolla
 RUN: Hour 1 (WORST CASE ANGLE)
 POLLUTANT:

III. RECEPTOR LOCATIONS

* COORDINATES (M)				
RECEPTOR	*	X	Y	Z
-----*				
1. R1	*	0	35	1.8
2. R2	*	-40	25	1.8
3. R3	*	70	55	1.8
4. R4	*	0	-20	1.8
5. R5	*	0	-70	1.8
6. R6	*	-40	-45	1.8
7. R7	*	-40	-20	1.8
8. R8	*	70	5	1.8
9. R9	*	-70	-10	1.8
10. R10	*	-70	30	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

* PRED *		CONC/LINK									
RECEPTOR	* BRG *	* CONC *	(PPM)								
RECEPTOR	*(DEG)	*(PPM)	* A	B	C	D	E	F	G	H	
-----*											
1. R1	* 95.	* 5.3	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2. R2	* 169.	* 5.5	* 0.4	0.4	0.3	0.6	0.2	0.2	0.2	0.2	
3. R3	* 218.	* 5.7	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
4. R4	* 51.	* 5.8	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5. R5	* 320.	* 4.9	* 0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.1	
6. R6	* 54.	* 5.5	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	
7. R7	* 309.	* 5.6	* 0.3	0.3	0.3	0.7	0.4	0.5	0.8	0.0	
8. R8	* 274.	* 5.9	* 0.2	0.2	0.2	0.4	0.1	0.1	0.1	0.0	
9. R9	* 73.	* 6.5	* 0.0	0.1	0.1	0.5	0.4	0.5	0.7	0.0	
10. R10	* 149.	* 5.9	* 0.6	0.5	0.4	0.7	0.3	0.2	0.3	0.1	

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
 JUNE 1989 VERSION
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JOB: La Jolla
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 POLLUTANT:

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

[illegible]

APPENDIX B

HEALTH RISK ASSESSMENT *(Available Upon Request)*