

SAN CARLOS NORTHEAST AREA SPECIFIC PLAN AIR QUALITY AND GREENHOUSE GAS ASSESSMENT

San Carlos, California

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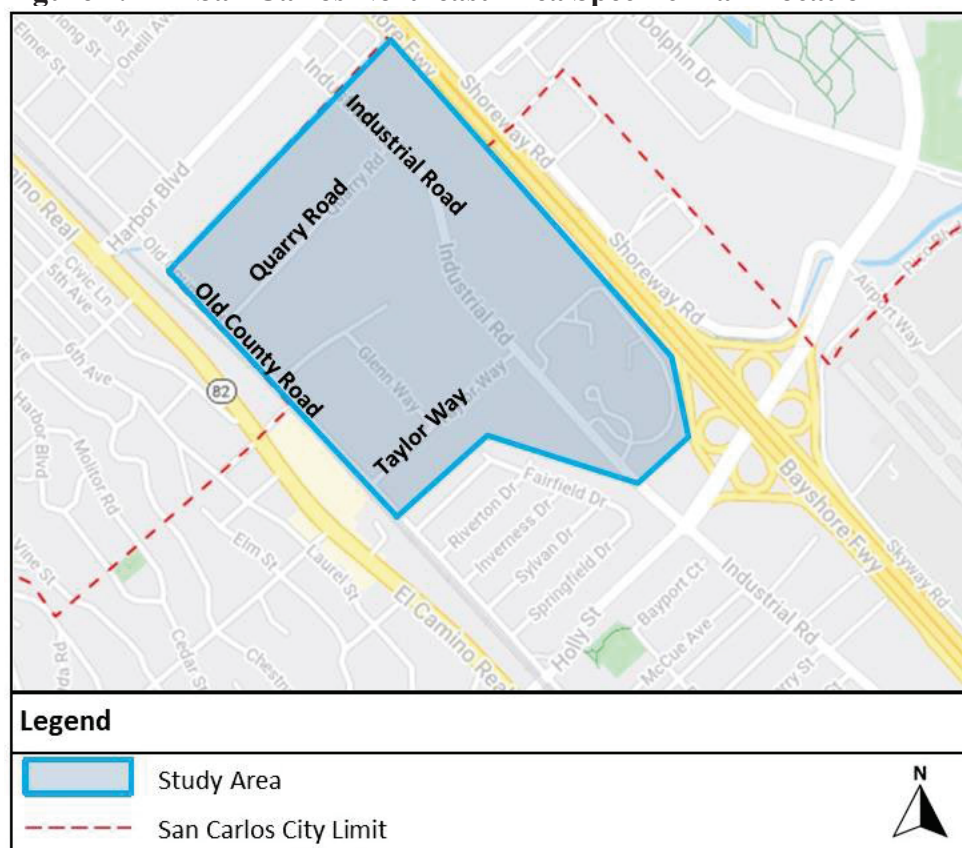
INTRODUCTION

This report addresses the air quality and greenhouse gas (GHG) emissions for the San Carlos Northeast Area Specific Plan (NEASP) located in San Carlos, California. The NEASP would allow for increased development of new residential uses in addition to industrial, retail, and office uses. The site is currently developed with light industrial, office, auto, and hospital and vet uses, with surface parking lots adjacent to each property. This report includes a summary of applicable air quality and GHG regulations and analyzes potential air quality and GHG impacts associated with the proposed NEASP.

PROJECT DESCRIPTION

The Specific Plan area comprises approximately 145 acres of properties that includes the area north of Holly Street to Belmont Creek, and between Highway 101 and Old County Road. The Plan Area is bordered by industrial and commercial uses as well as single-family neighborhoods. Figure 1 shows the NEASP location.

Figure 1. San Carlos Northeast Area Specific Plan Location



The proposed NEASP provides a vision and planning framework for future growth and development within the Plan area. The Plan provides a comprehensive vision for the Plan Area along with goals, policies, strategies and development standards to guide the Plan Area's future growth in an equitable manner than benefits the community. The NEASP would be built out over

an approximately 20-year period and would include up to 1,890 residential units (no residential units currently exist within the Plan area), in addition to industrial, commercial office, and retail uses. Additionally, the NEASP would reduce the existing commercial office, animal hospital, and warehouse and light industrial space.

AIR POLLUTANTS AND CONTAMINANTS

Air pollutants are governed by multiple federal and state standards to regulate and mitigate health impacts. At the federal level, there are six criteria pollutants for which National Ambient Air Quality Standards (NAAQS) have been established: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), ozone (O₃), suspended particulate matter (PM: PM_{2.5} and PM₁₀), and sulfur dioxide (SO₂). California sets standards, similar to the NAAQS as California Ambient Air Quality Standards (CAAQS). Health effects of the primary criteria pollutants (i.e., the NAAQS) and their potential sources are described below and summarized in Table 1. Note that California includes pollutants or contaminants that are specific to certain industries and not associated with this project. These include hydrogen sulfide and vinyl chloride.

Ozone

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NO_x). The main sources of ROG and NO_x, often referred to as ozone precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the Bay Area, automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, shortness of breath, and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide

Carbon monoxide is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. While CO transport is limited, it disperses with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels that adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, hospital patients, etc.). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service (LOS) or with extremely high traffic volumes. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal.

Nitrogen Dioxide

Nitrogen Dioxide is a reddish-brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO₂. Aside from its contribution to ozone formation, NO₂ also contribute to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO₂ may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. NO₂ decreases lung function and may reduce resistance to infection. On January 22, 2010 the U.S. Environmental Protection Agency (EPA) strengthened the health-based NAAQS for NO₂.

Sulfur Dioxide

Sulfur dioxide is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO₂ levels in the region. SO₂ irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight.

Particulate Matter

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles are those that are larger than 2.5 microns but smaller than 10 microns (PM₁₀). PM_{2.5} refers to fine suspended particulate matter with an aerodynamic diameter of 2.5 microns or less that is not readily filtered out by the lungs. Nitrates, sulfates, dust, and combustion particulates are major components of PM₁₀ and PM_{2.5}. These small particles can be directly emitted into the atmosphere as by-products of fuel combustion, through abrasion, such as tire or brake lining wear, or through fugitive dust (wind or mechanical erosion of soil). They can also be formed in the atmosphere through chemical reactions. Particulates may transport carcinogens and other toxic compounds that adhere to the particle surfaces and can enter the human body through the lungs.

Lead

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufactures.

Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the U.S. EPA established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the 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.

Table 1. Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter.	• Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO ₂)	• Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions.	• Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O ₃)	• Atmospheric reaction of organic gases with nitrogen oxides in sunlight.	• Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	• Contaminated soil.	• Impairment of blood functions and nerve construction. • Behavioral and hearing problems in children.
Suspended Particulate Matter (PM _{2.5} and PM ₁₀)	• Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions.	• Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardiorespiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Sulfur Dioxide (SO ₂)	• Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes.	• Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.
Toxic Air Contaminants	• Cars and trucks, especially diesels. • Industrial sources such as chrome platers. • Neighborhood businesses such as dry cleaners and service stations. • Building materials and product.	• Cancer. • Chronic eye, lung, or skin irritation. • Neurological and reproductive disorders.

Source: CARB, 2009. ARB Fact Sheet: Air Pollution and Health, see: <https://www.arb.ca.gov/research/health/fs/fs1/fs1.htm> accessed May 1, 2018

Toxic Air Contaminants (TACs)

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated by the EPA and the California Air Resources Board (CARB). Some examples of TACs include benzene, butadiene, formaldehyde, and hydrogen sulfide. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants.

High-volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (distribution centers, truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, and high-volume transit centers. Health risks from TACs are a function of both concentration and duration of exposure.

Local Climate and Air Quality

Air quality is a function of both local climate and local sources of air pollution. Air quality is the balance of the natural dispersal capacity of the atmosphere and emissions of air pollutants from human uses of the environment. Climate and topography are major influences on air quality.

Climate and Meteorology

During the summer, mostly clear skies result in mild to warm daytime temperatures and cool nights in the San Francisco Peninsula. Winter temperatures are mild, except for very cool but generally frost-less mornings. Further inland where the moderating effect of the bay is not as strong, temperature extremes are greater. Rainfall amounts are modest, ranging from 13 inches in the lowlands to over 20 inches in the hills. Wind patterns are influenced by local terrain, with a west-northwesterly breeze in response to the sea breeze infiltrating San Francisco Bay typically developing during the daytime¹. Winds are usually stronger in the spring and summer. Southerly winds experienced occasionally in late fall and winter and are usually associated with rainfall events. Winds from easterly directions are rare, occurring about 5 percent of the time, while winds with westerly components occur about 40 percent of the time. Calm winds, defined as less than 2 miles per hour, occur about 23 percent of the time. Rainfall amounts are modest, ranging from 13 inches in the lowlands to 20 inches in the hills.

Air Pollution Potential

Ozone and fine particle pollution, or PM_{2.5}, are the major regional air pollutants of concern in the San Francisco Bay Area. Ozone is primarily a problem in the summer, and fine particle pollution in the winter. A cool marine air usually reaches across San Mateo County in summer. Ozone frequently forms on hot summer days when the prevailing seasonal northerly winds carry ozone precursors southward across the county, causing health standards to be exceeded. The area experiences many exceedances of the PM_{2.5} standard each winter. This is due to the high population density, wood smoke, industrial and freeway traffic, and poor wintertime air circulation caused by extensive hills to the east and west that block wind flow into the region.

Attainment Status Designations

The CARB is required to designate areas of the state as attainment, nonattainment, or unclassified for all state standards. An “attainment” designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A “nonattainment” designation indicates that a pollutant concentration violated the standard at least once, excluding

¹ Iowa State University – Iowa Environmental Mesonet (IEM). 2024. Wind Roses found at: https://mesonet.agron.iastate.edu/sites/windrose.phtml?station=SQL&network=CA_ASOS Accessed February 20, 2025.

those occasions when a violation was caused by an exceptional event, as defined in the criteria. An “unclassified” designation signifies that data does not support either an attainment or nonattainment status. The California Clean Air Act (CCAA) divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

Table 2 shows the state and federal standards for criteria pollutants and provides a summary of the attainment status for the San Francisco Bay Area with respect to national and state ambient air quality standards.

Table 2. NAAQS, CAAQS, and San Francisco Bay Area Attainment Status

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Carbon Monoxide (CO)	8-Hour	9 ppm (10 mg/m ³)	Attainment	9 ppm (10 mg/m ³)	Attainment
	1-Hour	20 ppm (23 mg/m ³)	Attainment	35 ppm (40 mg/m ³)	Attainment
Nitrogen Dioxide (NO ₂)	Annual Mean	0.030 ppm (57 mg/m ³)	Attainment	0.053 ppm (100 µg/m ³)	Attainment
	1-Hour	0.18 ppm (339 µg/m ³)	Attainment	0.100 ppm	Unclassified
Ozone (O ₃)	8-Hour	0.07 ppm (137 µg/m ³)	Nonattainment	0.070 ppm	Nonattainment
	1-Hour	0.09 ppm (180 µg/m ³)	Nonattainment	Not Applicable	Not Applicable
Suspended Particulate Matter (PM ₁₀)	Annual Mean	20 µg/m ³	Nonattainment	Not Applicable	Not Applicable
	24-Hour	50 µg/m ³	Nonattainment	150 µg/m ³	Unclassified
Suspended Particulate Matter (PM _{2.5})	Annual Mean	12 µg/m ³	Nonattainment	9.0 µg/m ³	Nonattainment
	24-Hour	Not Applicable	Not Applicable	35 µg/m ³	Nonattainment
Sulfur Dioxide (SO ₂)	Annual Mean	Not Applicable	Not Applicable	0.03 ppm 80 µg/m ³	Attainment
	24-Hour	0.04 ppm (105 µg/m ³)	Attainment	0.14 ppm (365 µg/m ³)	Attainment
	1-Hour	0.25 ppm (655 µg/m ³)	Attainment	0.075 ppm (196 µg/m ³)	Attainment

Lead (Pb) is not listed in the above table because it has been in attainment since the 1980s. ppm = parts per million, mg/m³ = milligrams per cubic meter, µg/m³ = micrograms per cubic meter

Source: CARB *Table of Ambient Air Quality Standards*. https://ww2.arb.ca.gov/sites/default/files/2024-08/AAQS%20Table_ADA_FINAL_07222024.pdf Accessed February 12, 2025.

Existing Air Pollutant Levels

The Bay Area Air District (BAAD) monitors air pollution at various sites within the Bay Area. The closest air monitoring station is located at 879 Baron Avenue in Redwood City, approximately 3-4 miles from NEASP. Note that this site, like most others in the Bay Area, does not monitor PM₁₀. The data shows that during the most recently available period of 2019 through 2023, the project area has exceeded the state and/or federal O₃ and PM_{2.5} ambient air quality standards. Table 3 lists air quality trends in data collected for the 2019 through 2023 period and published by CARB, which is the most recent time-period available. Ozone standards, based on the 1- and 8-hour average concentrations, were exceeded on 0 to 4 days annually in Redwood City. Measured 24-hour PM_{2.5} concentrations are exceeded on 0 to 9 monitoring days in Redwood City. Note that PM_{2.5} levels were influenced by smoke from wildfires. Air pollutants that include CO, Pb, and SO₂ have been historically measured at low levels in the Project region and are, therefore, not measured anymore.

Table 3. Measured Ambient Air Quality Concentrations from 2019 through 2023

Pollutant	Standard	2019	2020	2021	2022	2023
Ozone						
Max 1-hr concentration		83 ppb	98 ppb	85 ppb	79 ppb	89 ppb
No. days exceeded: CAAQS	90 ppb	0	1	0	0	0
Max 8-hr concentration		77 ppb	78 ppb	64 ppb	62 ppb	61 ppb
No. days exceeded: CAAQS	70 ppb	2	1	0	0	0
NAAQS	70 ppb	2	1	0	0	0
CO – No measurements made						
PM₁₀ – No measurements made						
PM_{2.5}						
Max 24-hr concentration		29.5 µg/m ³	124.1 µg/m ³	30.1g/m ³	27.4 µg/m ³	41.0 µg/m ³
No. days exceeded: NAAQS	35 µg/m ³	0	9	0	0	1
Annual Concentration		7.0 g/m ³	9.8 µg/m ³	6.0µg/m ³	6.8µg/m ³	8.0µg/m ³
No. days exceeded: CAAQS	12 µg/m ³	No	No	No	No	No
NAAQS	9 µg/m ³	No	Yes	No	No	No
Nitrogen Dioxide						
Max 1-hr concentration		0.098 ppm	0.085 ppm	0.040 ppm	0.044 ppm	0.055 ppm
No. days exceeded: CAAQS	0.0180 ppm	0	0	0	0	0
NAAQS	0.100 ppm	0	0	0	0	0
Annual Concentration		0.009 ppm	0.008 ppm	0.007 ppm	0.008 ppm	0.007 ppm
No. days exceeded: CAAQS	0.030 ppm	No	No	No	No	No
NAAQS	0.053 ppm	No	No	No	No	No

Source: California Air Resource Board, 2025, Web: <https://arb.ca.gov/adam/select8/sc8start.php>

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these

sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, infants and small children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The nearest sensitive receptors to the Plan are located in the single-family homes adjacent to the south of the Plan Area. There are more sensitive receptors located to the west and northwest of the Area. The Plan Area would include new residential dwellings that are considered sensitive receptors.

Odors

Odor impacts are subjective in nature and are generally regarded as an annoyance rather than a health hazard. The ability to detect and react to odors varies considerably among people. A strong or unfamiliar odor is more easily detected and are more likely to cause complaints. BAAD responds to odor complaints from the public and considers a source to have a substantial number of odor complaints if the complaint history includes five or more confirmed complaints per year averaged over a 3-year period. Facilities that are regulated by CalRecycle (e.g. landfill, composting, etc.) are required to have Odor Impact Minimization Plans in place.

REGULATORY FRAMEWORK

Pursuant to the Federal Clean Air Act (FCAA) of 1970, the EPA established the NAAQS. The NAAQS were established for major pollutants, termed “criteria” pollutants. Criteria pollutants are defined as those pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

Both the EPA and the CARB have established ambient air quality standards for common pollutants: CO, O₃, NO₂, SO₂, Pb, and PM. In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. These standards are designed to protect the health and welfare of the public with a reasonable margin of safety. These ambient air quality standards are levels of contaminants which represent safe levels that avoid specific adverse health effects associated with each criteria pollutant.

Federal Air Quality Regulations

At the federal level, the EPA has been charged with implementing national air quality programs. EPA’s air quality mandates are drawn primarily from the FCAA, which was enacted in 1963. The FCAA was amended in 1970, 1977, and 1990.

The FCAA required EPA to establish primary and secondary NAAQS and required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). Federal standards include both primary and secondary standards. Primary standards set limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased

visibility, damage to animals, crops, vegetation, and buildings.² The Federal Clean Air Act Amendments of 1990 (FCAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA has responsibility to review all state SIPs to determine conformity with the mandates of the FCAAA and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area which imposes additional control measures. Failure to submit an approvable SIP or to implement the Plan within the mandated timeframe may result in the application of sanctions on transportation funding and stationary air pollution sources in the air basin.

The 1970 FCAA authorized the establishment of national health-based air quality standards and also set deadlines for their attainment. The FCAA Amendments of 1990 changed deadlines for attaining NAAQS as well as the remedial actions required of areas of the nation that exceed the standards. Under the FCAA, state and local agencies in areas that exceed the NAAQS are required to develop SIPs to show how they will achieve the NAAQS by specific dates. The FCAA requires that projects receiving federal funds demonstrate conformity to the approved SIP and local air quality attainment Plan for the region. Conformity with the SIP requirements would satisfy the FCAA requirements.

State Air Quality Regulations

The CARB is the agency responsible for the coordination and oversight of state and local air pollution control programs in California and for implementing the CCAA, adopted in 1988. The CCAA requires that all air districts in the state achieve and maintain the CAAQS by the earliest practical date. The CCAA specifies that districts should focus on reducing the emissions from transportation and air-wide emission sources and provides districts with the authority to regulate indirect sources.

CARB is also responsible for developing and implementing air pollution control plans to achieve and maintain the NAAQS. CARB is primarily responsible for statewide pollution sources and produces a major part of the SIP. Local air districts provide additional strategies for sources under their jurisdiction. CARB combines this data and submits the completed SIP to the EPA.

Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), establishing CAAQS (which in many cases are more stringent than the NAAQS), determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, and off-road vehicles.

² See: U.S. Environmental Protection Agency, Web: <https://www.epa.gov/criteria-air-pollutants/naaqs-table>, Accessed 13 August 2020

California Clean Air Act

In 1988, the CCAA established its own, more stringent ambient air quality standards, known as California Ambient Air Quality Standards (CAAQS). The CCAA requires that all air basins in the state endeavor to achieve and maintain CAAQS for CO, O₃, SO₂, and NO₂ by the earliest practical date. The CCAA establishes local air districts and provides them with authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources. Each nonattainment area in the State is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, for each nonattainment pollutant or its precursors. A Clean Air Plan is a SIP that shows how a district would reduce emissions to achieve air quality standards.

California Air Resources Board

The California Air Resources Board (CARB) is the agency responsible for coordination with the EPA and developing SIPs to achieve and maintain both the NAAQS and CAAQS. As a result, it has oversight of the state's air pollution control programs. Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, and off-road vehicles.

California Air Resources Board Handbook

In 1998, CARB identified particulate matter from diesel-fueled engines (i.e., DPM) as a toxic air contaminant. CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines.³ CARB subsequently developed an Air Quality and Land Use Handbook⁴ (Handbook) in 2005 that is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. The 2005 CARB Handbook recommends that planning agencies consider proximity to air pollution sources when considering new locations for "sensitive" land uses, such as residences, medical facilities, daycare centers, schools, and playgrounds.

Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the Handbook relative to the Plan Area include taking steps to consider or avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day.

³ California Air Resources Board, 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October.

⁴ California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April.

- Within 300 feet of gasoline fueling stations (note that new fueling stations utilize enhanced vapor recovery systems that substantially reduce emissions).
- Within 300 feet of dry-cleaning operations (note that dry cleaning with TACs is being phased out and was completely prohibited beginning in 2023).

Since the handbook was published, California has substantially reduced or eliminated some of the TAC emission sources, such that these buffer distances are likely not applicable. For example, particulate and DPM emissions from trucks have been greatly reduced through U.S. EPA engine standards that phased in after 2010. TACs are no longer used in dry cleaning. Gasoline stations and passenger vehicles have greatly improved vapor recovery systems that reduce TAC emissions associated with gasoline dispensing facilities.

Truck and Bus Regulation

CARB is actively enforcing heavy-duty diesel vehicle regulations that require fleets to replace or retrofit heavy-duty diesel vehicles, with full implementation of the program scheduled for January 1, 2023. Compliance with the program is generally considered vehicles equipped with a 2010 or newer engine model year. As of January 1, 2020, the DMV cannot register any vehicle that does not meet the requirements of the Truck and Bus Regulation.

Other CARB diesel programs affecting heavy-duty diesel vehicles include:

- Idling limits of no more than 5 minutes with special exceptions.
- Emission Control Labels must be affixed to engines of all commercial heavy-duty diesel vehicles, and must be legible as proof the engine, at minimum, meets U.S. federal emissions standards for the engine model year.
- The Periodic Smoke Inspection Program requires owners of California-based fleets of two or more diesel vehicles to perform annual smoke opacity tests and to keep records for at least two years for each vehicle.
- The Heavy-Duty Vehicle Inspection Program uses random roadside inspections to verify that diesel engines do not smoke excessively and are tamper-free.

Off-Road Vehicle and Equipment Regulations

CARB has also adopted and implemented regulations to reduce DPM and nitrogen oxides (NOx) emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers, backhoes, off-highway trucks, etc.). The regulations apply to diesel-powered off-road vehicles with engines 25 horsepower (hp) or greater. The regulations are intended to reduce particulate matter and NOx exhaust emissions by requiring owners to turn over their fleet (replace older equipment with newer equipment) or retrofit existing equipment in order to achieve specified fleet-averaged emission rates. Implementation of this regulation, in conjunction with stringent Federal off-road equipment engine emission limits for new vehicles, is expected to substantially reduce emissions of DPM and NOx.

Fleet owners must report the vehicle and engine information for all vehicles within their fleets operating in California. Fleet owners must also report owner information. Fleet owners should

report using DOORS, which is CARB's online reporting tool. CARB issues a unique Equipment Identification Number (EIN) that is assigned to each vehicle. The fleet owner must label their vehicles with the EIN.

Other CARB diesel programs affecting off-road vehicles and equipment include:

- Idling limits of no more than 5 minutes with special exceptions.
- Portable engines 50 hp or greater may require a permit or registration to legally operate. BAAD is responsible for taking enforcement action against individuals who own or operate portable equipment without a registration or permit.

Advanced Clean Trucks (ACT)

California's Advanced Clean Trucks (ACT) increases the percentage of medium and heavy-duty trucks sold as zero emission vehicles (ZEVs) beginning in 2024. By 2035, 40 to 75 percent of new trucks sold, depending on size, would have to meet ZEV requirements. In addition, large employers including retailers, manufacturers, brokers and others are required to report information about shipments and shuttle services with 50 or more trucks, are required to report about their existing fleet operations. California abandoned this rule in January 2025, after it was unsuccessful in obtaining a waiver from U.S. EPA in 2024.

Omnibus Regulation

The Omnibus regulation will require manufacturers of heavy-duty trucks to comply with more stringent emissions standards that will reduce heavy-duty NOx emissions by 90%, overhaul engine testing procedures, and further extend engine warranties. The measure is meant to help California meet federal air quality standards (i.e., NAAQS). California received U.S. EPA approval for this regulation in December 2024.

Advanced Clean Cars

CARB regulates emissions from on-road vehicles in a number of ways that including the setting emission standards, testing vehicles through the Smog Check Program (administered by the Bureau of Automotive Repair) and implementation of fleet retrofit or replacement schedules. The Advanced Clean Cars Program, adopted by CARB in 2012, was designed to bring together CARB's traditional passenger vehicle requirements to meet federal air quality standards and also support California's AB 32 goals to develop and implement programs to reduce GHG emissions back down to 1990 levels by 2020, a goal achieved in 2016 as a result of numerous emissions reduction programs.

This recent rule, *Advanced Clean Cars II (ACC II)* is phase two of the original rule. ACC II establishes a year-by-year process, starting in 2026, so all new cars and light trucks sold in California will be zero-emission vehicles by 2035, including plug-in hybrid electric vehicles. The regulation codifies the light-duty vehicle goals set out in Governor Newsom's Executive Order N-79-20. U.S. EPA approval was received in December 2024. Currently, 16 percent of new light-

duty vehicles sold in California are zero emissions or plug-in hybrids. By 2030, 68 percent of new vehicles sold in California would be zero emissions and 100 percent by 2035.

Bay Area Air District

The BAAD seeks to attain and maintain air quality conditions in the San Francisco Bay Area Air Basin (SFBAAB) through a comprehensive program of planning, regulation, enforcement, technical innovation, and education. The clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The BAAD also inspects stationary sources and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by law.

Clean Air Plan

The BAAD is responsible for developing a Clean Air Plan which guides the region's air quality planning efforts to attain the CAAQS. The BAAD's 2017 Clean Air Plan is the latest Clean Air Plan which contains district-wide control measures to reduce ozone precursor emissions (i.e., ROG and NO_x), particulate matter and greenhouse gas emissions. The Bay Area 2017 Clean Air Plan, which was adopted on April 19, 2017 by the BAAD's board of directors:

- Updates the Bay Area 2010 Clean Air Plan in accordance with the requirements of the California Clean Air Act to implement "all feasible measures" to reduce ozone;
- Provides a control strategy to reduce ozone, particulate matter (PM), air toxics, and greenhouse gases in a single, integrated plan;
- Reviews progress in improving air quality in recent years; and
- Continues and updates emission control measures.

CARE Program

The BAAD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area.⁵ The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program has been implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses has been used to focus emission reduction measures in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. The BAAD has identified six communities as impacted:

⁵ See BAAD: <https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program>.

Concord, Richmond/San Pablo, Western Alameda County, San José, Redwood City/East Palo Alto, and Eastern San Francisco.

Overburdened Communities Program

To address localized health impacts in Bay Area communities, BAAD staff met with community advocacy organizations to develop concepts and recommendations on how the air district could be more health protective. Through a series of public workshops and a public comment period, BAAD amended Rule 2 (i.e., Regulation 2-1-24) in 2021. It identifies an *overburdened* community as an area located (i) within a census tract identified by the California Office of Environmental Health Hazard Assessment's (OEHHA's) Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0, as having an overall score at or above the 70th percentile, or (ii) within 1,000 feet of any such census tract. Projects in overburdened communities must conduct specific public involvement activities and stationary sources are subject to specific permitting requirements.

Planning Healthy Places

BAAD developed a guidebook that provides air quality and public health information intended to assist local governments in addressing potential air quality issues related to exposure of sensitive receptors to exposure of emissions from local sources of air pollutants. The guidance provides tools and recommends best practices that can be implemented to reduce exposures. The information is provided as recommendations to develop policies and measures in city or county General Plans, neighborhood or specific plans, land use development ordinances, or into projects.

BAAD California Environmental Quality Act Air Quality Guidelines

In June 2010, BAAD adopted thresholds of significance to assist in the review of projects under California Environmental Quality Act (CEQA). In 2023, the BAAD revised their *CEQA Air Quality Guidelines*⁶ that include significance thresholds to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The current BAAD guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements. Included in the guidelines are assessment methodologies for criteria air pollutants, air toxics, odors, and GHG emissions. Air quality impacts and health risks are considered potentially significant if they exceed these thresholds.

The BAAD recommends all projects include a “basic” set of best management practices (BMPs) to manage fugitive dust and consider impacts from dust (i.e., fugitive PM₁₀ and PM_{2.5}) to be less than significant if BMPs are implemented. BAAD strongly encourages enhanced BMPs for construction sites near schools, residential areas, other sensitive land uses, or if the basic BMPs do not adequately reduce fugitive emissions below BAAD significance thresholds.

⁶ Formerly known as Bay Area Air Quality Management District (BAAQMD), 2022 *CEQA Guidelines*. April 2023.

BAAD Rules and Regulations

Combustion equipment associated with the proposed project that includes new diesel engines to power generators and possibly cooling towers would establish new sources of particulate matter and gaseous emissions. Emissions would primarily result from the testing of the emergency backup generators and some minor emissions from cooling towers. Certain emission sources would be subject to BAAD Regulations and Rules. The District's rules and regulations that may apply to project operation include:

- Regulation 1 – General Provisions
 - Rule 1-30: Public Nuisance
- Regulation 2 – Permits
 - Rule 2-1: General Requirements
 - Rule 2-2: New Source Review
 - Rule 2-5: New Source Review of Toxic Air Contaminants
- Regulation 6 – Particulate Matter and Visible Emissions
 - Rule 6-2: Commercial Cooking Equipment
 - Rule 6-3: Wood-Burning Devices
 - Rule 6-7: Odorous Substances
- Regulation 9 – Inorganic Gaseous Pollutants
 - Rule 9-1: Sulfur Dioxide
 - Rule 9-4: Nitrogen Oxides from Fan Type Residential Central Furnace
 - Rule 9-6: Nitrogen Oxides Emissions from Natural Gas-Fired Boilers and Water Heaters
 - Rule 9-7: Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, And Process Heaters
 - Rule 9-8: Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines

Permits

Rule 2-1-301 requires that any person installing, modifying, or replacing any equipment, the use of which may reduce or control the emission of air contaminants, shall first obtain an Authority to Construct (ATC).

Rule 2-1-302 requires that written authorization from the BAAD in the form of a Permit to Operate (PTO) be secured before any such equipment is used or operated.

Rule 2-1 lists sources that are exempt from permitting. At the proposed facility, the diesel fuel storage tanks are expected to be exempt from permitting.

New Source Review

Rule 2-2, New Source Review (NSR), applies to all new and modified sources or facilities that are subject to the requirements of Rule 2-1-301. The purpose of the rule is to provide for review of such sources and to provide mechanisms by which no net increase in emissions will result.

Rule 2-2-301 requires that an applicant for an ATC or PTO apply Best Available Control Technology (BACT) to any new or modified source that results in an increase in emissions and has emissions of precursor organic compounds, non-precursor organic compounds, NO_x, SO₂, PM₁₀, or CO of 10.0 pounds or more per highest day. Based on the estimated emissions from the proposed project, BACT will be required for NO_x emissions from the diesel-fueled generator engines.

BACT for Diesel Generator Engines

Since the generators will be used exclusively for emergency use during involuntary loss of power, the BACT levels listed for IC compression engines in the BAAD BACT Guidelines would apply. These are provided for two separate size ranges of diesel engines:

I.C. Engine – Compression Ignition >50hp and <1,000hp: BAAD applies BACT 2 emission limits based on the ATCM for stationary emergency standby diesel engines larger than 50 brake-horsepower (BHP). NO_x emission factor limit is subject to the CARB ACTM that ranges from 3.0 to 3.5 grams per horsepower hour (g/hp-hr). The PM (PM₁₀ or PM_{2.5}) limit is 0.15 g/hp-hr per CARB's ACTM.

I.C. Engine – Compression Ignition >999hp: BAAD applies specific BACT emission limits for stationary emergency standby diesel engines equal or larger than 1,000 brake-horsepower (BHP). NO_x emission factor limit is 0.5 g/hp-hr. The PM (PM₁₀ or PM_{2.5}) limit is 0.02 g/hp-hr. POC (i.e., ROG) limits are 0.14 g/hp-hr.

Residential Furnaces and Boilers and Water Heaters

In 2023, BAAD adopted the proposed amendments to Rules 9-4 and 9-6 that are intended to reduce emissions of NO_x from residential and commercial water heaters. These amended rules will affect Bay Area households that use natural gas appliances by, essentially, prohibiting the installation of new natural gas-fired furnaces and water heaters. The rules require appliances that do not emit NO_x. Currently, the only zero-NO_x appliances available are electric appliances. Implementation begins in 2027, where only zero-NO_x water heaters can be sold or installed, in 2029 where only zero-NO_x furnaces can be sold or installed, and 2031 where only zero-NO_x large commercial heaters can be sold or installed. Note that electric appliances would have zero emission of other criteria pollutants and zero emissions of direct GHG.

City of San Carlos

City of San Carlos 2045 General Plan

The San Carlos 2045 General Plan's Environmental Management Element includes policies and actions to reduce exposure of the City's sensitive population to exposure of air pollution, toxic air contaminants, and GHG emissions. The following policies and actions are applicable to the proposed project:

Policies

- Policy EM-6.1: Support and comply with the BAAQMD, State and federal standards and policies that improve air quality in the Bay Area.
- Policy EM-6.2: Support and encourage commercial uses to adopt environmentally friendly technologies and reduce the release of pollutants.
- Policy EM-6.3: Support the reduction of emissions of particulates from wood burning appliances, construction activity, automobiles, trucks and other sources.
- Policy EM-6.6: BAAQMD recommended measures to reduce PM₁₀ and exhaust emissions associated with construction shall be applied to new development in San Carlos.

Policies

- Policy EM-7.1: Take appropriate action to address climate change and reduce greenhouse gas emissions.
- Policy EM-7.3: Participate in regional, State, and federal efforts to reduce greenhouse gas emissions and mitigate the impacts resulting from climate change.
- Policy EM-7.6: Support greenhouse gas (GHG) emission reduction measures and climate change resiliency strategies that are cost effective and help create an environmentally sustainable, livable, and equitable community. The cost of implementation to the City and private sector shall be considered prior to the adoption of any GHG reduction strategy.

SIGNIFICANCE THRESHOLDS

Significance Criteria

Per Appendix G of the CEQA Guidelines and BAAD recommendations, air quality and GHG impacts are considered significant if implementation of the General Plan would:

- 1) Conflict with or obstruct implementation of an applicable air quality plan.
- 2) Result in a 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.
- 3) Expose sensitive receptors to substantial pollutant concentrations.
- 4) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.
- 5) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

- 6) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

BAAD provided revised CEQA Guidelines. The thresholds identified in Table 4 and Table 5 represent the most recent guidance provided by BAAD. Though not necessarily a CEQA issue, the effect of existing TAC sources on future sensitive receptors (e.g., residences) is analyzed to comply with BAAD's Clean Air Plan key goal of reducing population TAC exposure and protecting public health in the Bay Area.

Table 4. BAAD Plan-Level Air Quality Significance Thresholds

Pollutant/ Contaminant	Construction Related	Operational
Criteria Air Pollutants (Regional)	None	1. Consistency with Current Air Quality Plan control measures, and 2. Projected vehicle miles traveled (VMT) or vehicle trip increase is less than or equal to projected population increase
Local Risks and Hazards	None	1. Overlay zones around existing and planned sources of TACs (including adopted Risk Reduction Plan areas), and 2. Overlay zones of at least 500 feet from all freeways and high-volume roadways For this analysis – overlay zones are based on potential for sources to result in the following impacts: 1. Excess cancer risk >10.0 chances per million 2. Annual PM2.5 Concentration > 0.3 µg/m ³ 3. Hazard Index >1.0
Accidental Release of Acutely Hazardous Air Pollutants	None	None
Odors	None	Identify the location, and include policies to reduce the impacts, of existing or planned sources of odors
Climate Impacts	None	1. Meet State's goals to reduce emissions to 40% below 1990 levels by 2030 and carbon neutrality by 2045; or 2. Be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b)

Table 5. BAAD Project-Level Air Quality Significance Thresholds

Criteria Air Pollutant	Construction Thresholds		Operational Thresholds	
	Average Daily Emissions (lbs./day)		Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54		54	10
NO _x	54		54	10
PM ₁₀	82 (Exhaust)		82	15
PM _{2.5}	54 (Exhaust)		54	10
CO	Not Applicable		9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices (BMPs)*		Not Applicable	
Health Risks and Hazards	Single Sources/ Individual Project		Combined Sources (Cumulative from all sources within 1000-foot zone of influence)	
Excess Cancer Risk	>10 in a million	OR Compliance with Qualified Community Risk Reduction Plan	>100 in a million	OR Compliance with Qualified Community Risk Reduction Plan
Hazard Index	>1.0		>10.0	
Incremental annual PM _{2.5}	>0.3 µg/m ³		>0.8 µg/m ³	
Greenhouse Gas Emissions				
Land Use Projects – (Must Include A or B)	A. Projects must include, at a minimum, the following project design elements: 1. Buildings a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development). b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines. 2. Transportation a. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor’s Office of Planning and Research’s Technical Advisory on Evaluating Transportation Impacts in CEQA: i. Residential projects: 15 percent below the existing VMT per capita ii. Office projects: 15 percent below the existing VMT per employee iii. Retail projects: no net increase in existing VMT b. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2. B. Be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).			
Odors				
Construction:	No thresholds			
Operation:	Five confirmed odor complaints averaged over 3 years.			
Note: ROG = reactive organic gases, NO _x = nitrogen oxides, PM ₁₀ = coarse particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, PM _{2.5} = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. GHG = greenhouse gases.				
* BAAD strongly recommends implementing all feasible fugitive dust management practices especially when construction projects are located near sensitive communities, including schools, residential areas, or other sensitive land uses.				

Source: Bay Area Air District, 2022.

AIR QUALITY IMPACTS AND MITIGATION MEASURES

Impact AIR-1: Conflict with or obstruct implementation of an applicable air quality plan?

BAAD is the regional agency responsible for overseeing compliance with State and federal laws, regulations, and programs within the SFBAAB. BAAD, with assistance from ABAG and Metropolitan Transportation Commission (MTC), has prepared and implements specific plans to meet the applicable laws, regulations, and programs. The most recent and comprehensive of which is the *Bay Area 2017 Clean Air Plan*.⁷ The BAAD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality impacts. In formulating compliance strategies, BAAD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHGs.

Consistency of the NEASP with Clean Air Plan control measures is demonstrated by assessing whether the proposed Plan implements the applicable Clean Air Plan control measures. The 2017 Clean Air Plan includes control measures that are intended to reduce air pollutant emissions in the Bay Area either directly or indirectly. The control measures are divided into five categories that include:

- 40 measures to reduce stationary and area sources;
- 8 mobile source measures;
- 23 transportation control measures (including land use strategies);
- 4 building sector measures;
- 2 energy sector measures;
- 4 agriculture sector measures;
- 3 natural and working lands measures;
- 4 waste sector measures;
- 2 water sector measures; and
- 3 super-GHG pollutants measures.

In developing the control strategy, BAAD identified the full range of tools and resources available, both regulatory and non-regulatory, to develop each measure. Implementation of each control measure will rely on some combination of the following:

- Adoption and enforcement of rules to reduce emissions from stationary sources, area sources, and indirect sources.
- Revisions to the BAAD's permitting requirements for stationary sources.
- Enforcement of CARB rules to reduce emissions from heavy-duty diesel engines.
- Allocation of grants and other funding by the Air District and/or partner agencies.
- Promotion of best policies and practices that can be implemented by local agencies through guidance documents, model ordinances, and other measures.

⁷ Bay Area Air District (BAAD), 2017. *Final 2017 Clean Air Plan*.

- Partnerships with local governments, other public agencies, the business community, non-profits, and other groups.
- Public outreach and education.
- Enhanced air quality monitoring.
- Development of land use guidance and CEQA guidelines, and Air District review and comment on Bay Area projects pursuant to CEQA.
- Leadership and advocacy.

This approach relies upon lead agencies to assist in implementing some of the control measures. A key tool for local agency implementation is the development of land use policies and implementing measures that address new development or redevelopment in local communities. To address this impact, the NEASP's effect on implementing the Clean Air Plan is evaluated based on consistency with Clean Air Planning projections (i.e., rate of increase in population versus vehicle travel)

Consistency with Clean Air Plan Projections

The BAAD, with assistance from ABAG and MTC, has prepared and implemented the Clean Air Plan to meet the applicable laws, regulations, and programs. The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate. The BAAD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality impacts. In formulating compliance strategies, BAAD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHG.

Table 6 provides existing and future population, land use and traffic build-out projections for the NEASP. The service population is estimated to increase by 3,611 residents and 10,356 workers through build-out of 1,890 new residential units and a net increase of 4,508,000 sf of non-commercial uses. A daily vehicle miles traveled (VMT) assessment for build-out of the NEASP was not conducted since the plan area is located within a transit priority area, and would, therefore, not have a significant transportation impact. The rate of traffic increase was estimated using the projected trip generation rates. Under the NEASP buildout, the number of daily traffic trips in the area would increase by 203 percent. Since there are no residences in the area, population growth was estimated using the service population of residents and workers, which would increase by 193 percent. The rate of traffic growth would increase at a much greater rate than service population.

Table 6. NEASP Traffic and Population Projections

Scenario	Population	Daily Trips	Dwelling Units	1,000-SF Non-Residential
Existing	0 Res 6,933 Non-Res	19,001	0	2,619
Plan (Net New)	3,611 Res 10,356 Non-Res	40,942	1,890	4,508
Existing to be Removed	-562 Non-Res	-2,282	0	-418,000
Existing + Plan	3,611 Res 16,727 Non-Res	57,661	1,890	6,657
<i>Net Change</i>	+3,611 Res +9,794 Non-Res	+38,660	+1,890	+4,038
<i>Rate of Increase over Existing</i>	193%	203%		

Source: Nelson\Nygaard Consulting Associates, December 2024.

The General Plan and NEASP have several policies and measures that are meant to reduce traffic, both trips and VMT. These are listed below:

San Carlos General Plan Circulation and Scenic Highways Element-

Policies

- Policy CSH-2.2 Provide for adequate pedestrian and bicycle facilities as viable transportation alternatives in San Carlos.
- Policy CSH-3.1 Strive to reduce baseline and development-related traffic by 20 percent through public-private partnership efforts.
- Policy CSH-3.2 Support city-wide efforts to reduce vehicular trips and vehicle miles traveled within and through the community.
- Policy CSH-3.3 Support the incorporation of Transportation Demand Measures in new development to reduce vehicle miles traveled and traffic impacts.
- Policy CSH-3.4 Support Smart Growth and Sustainability principles to reduce travel time from housing to jobs, provide affordable transportation to all members of the community, allow compact mixed-use development and decrease dependency on automobiles.
- Policy CSH-3.10 The City shall support efforts for a coordinated transportation system and maintaining acceptable levels of traffic with local, regional, and Caltrans agencies.
- Policy CSH-6.1 Bicycling and walking facilities should be incorporated into all new development projects to the maximum extent feasible.
- Policy CSH-7.4 Support traffic controls that recognize bicycles.

NEASP Mobility Goals and Vision

Traffic and TDM-

Goal: Minimize drive-alone trips to reduce vehicle traffic and population

Policies

- | | |
|------------|---|
| Policy T.1 | Minimize vehicular traffic volumes at district gateways |
| Policy T.2 | Balance hourly VMT to reduce peak traffic |
| Policy T.3 | Maximize TDM tools to reduce vehicle trips |

Multimodal Options-

Goal: Provide more travel options and support equitable access for all

Policies

- | | |
|------------|--|
| Policy M.1 | Create complete pedestrian and bike networks |
| Policy M.2 | Support access to transit and shared mobility services |
| Policy M.3 | Manage mobility services collaboratively. |

Causing Substantial VMT

In 2018, the California Office of Planning and Research proposed updates to CEQA guidelines establish VMT as the primary metric for evaluating a project's impacts on the environment and transportation system. The NEASP's transportation study was scoped to utilize the City/County Association of Governments (C/CAG) of San Mateo County guidelines and considered transportation improvements that are incorporated into the plan.

The NEASP proposes transportation infrastructure changes within the Plan area to achieve sustainable transportation through the following mobility goals:

- Minimize drive-alone trips to reduce vehicle traffic and pollution.
- Redesign our streets to expand multimodal options, improve safety, reduce flooding, and create beautiful places.
- Provide more travel options and support equitable access for all.

The Plan proposes improvements to multimodal access, such as adding new local internal street connections (both motorized and non-motorized) to increase redundancy into the transportation grid and balance traffic distribution.

In addition to multimodal improvements, additional intersection level geometric changes are proposed within the Plan area to better manage vehicle traffic, accommodate new non-motorized crossings, achieve traffic calming and slower, safer speeds, and better organize access throughout the Plan area. These geometric changes include:

- Reconfiguration of general-purpose lanes to bike lanes and two-way left turn lanes.
- Signal phase changes for turning movements (for example: permitted phasing, protected phasing, time-of-day based protected left turn phasing with flashing yellow arrows, split phasing, and right turn overlaps).
- Adding or reconfiguring turn pockets at signalized and unsignalized intersections.
- Converting intersections from stop controlled to signalized.

The C/CAG's VMT Estimation Tool was utilized to screen all parcels within the Plan area to determine level of VMT analysis required for the Plan. The tool includes a screening feature that uses the location of the project to determine if the project site is within a low VMT generating area, including low VMT generating traffic analysis zones (TAZ) or parcels and transit priority areas (TPA). All of the NEASP was determined to be located in a TPA, and therefore, the traffic impact on causing a substantial increase in VMT was considered less than significant. No quantifiable analysis of VMT was conducted that considered the effects of trip and VMT reduction.

Rate of Population Growth vs. Increase in Traffic

The only measure of traffic growth in NEASP is the predicted growth in the number of vehicle trips. The growth in the rate of daily trips in the NEASP would be greater than the rate of growth in population, both residents and workers. According to the BAAD-recommended thresholds of significance for Plan-Level evaluations, the impact would be significant since traffic related growth is projected to be greater than the growth in population. Traffic growth (i.e., trip generation or VMT) would have to be reduced by 5 percent to match the rate of population growth.

Consistency with Clean Air Plan Control Measures

The Guidelines set forth criteria for determining consistency with the Clean Air Plan control measures. In general, a plan is considered consistent if a) the plan supports the primary goals of the Clean Air Plan; b) includes control measures; and c) does not interfere with implementation of the Clean Air Plan measures. NEASP is considered a sustainable development since it is an infill development that would be transit-oriented and located near a mix of uses that include employment and services. As a result, these types of communities tend to reduce the rate of per capita VMT. The NEASP would generally be consistent with Clean Air Plan measures intended to reduce automobile and energy use, which are discussed below. Table 7 lists those Clean Air Plan policies relevant to the NEASP and indicates consistency with the policies.

Table 7. Consistency with BAAD Control Strategy Measures from the Clean Air Plan

Applicable BAAD Control Strategy Measures	NEASP Consistency
Transportation Control Measures	
TR1: Clean Air Teleworking Initiative	Consistent Teleworking has become well supported throughout the workforce since the CAP was developed in 2017. The NEASP would encourage the implementation of Transportation Demand Management (TDM) programs for new development, which would include measures such as increased support for telecommuting
TR2: Trip Reduction Programs	Consistent The NEASP contains a Transportation Demand Management framework that sets standards for future private development parcels to reduce vehicle traffic and improve mobility options.
TR 5: Transit Efficiency and Use	Consistent While this no direct transit service within the Plan area, improvements to the walking and biking environment within is designed to encourage connections to nearby rail and bus transits.
TR7: Safe Routes to Schools and Safe Routes to Transit	Consistent The NEASP would ensure clear and safe pedestrian circulation. Improvements to the walking environment within is designated to encourage connections to nearby rail and bus transit.
TR8: Ridesharing, Last-Mile Connection	Consistent Supported by San Carlos General Plan Policy EM-11.5 which encourages a shuttle system in San Carlos to connect residential neighborhoods to commercial areas, transit, and other destinations and Policy EM-11.8 which promotes a car sharing program.
TR9: Bicycle and Pedestrian Access and Facilities	Consistent The NEASP would result in new-non motorized access points, new protected bikeways and improvements to the walking and biking environment.
TR10: Land Use Strategies	Consistent The NEASP would introduce housing in an area that currently has zero residents and would encourage mixed-use development on parcels that includes community-serving commercial uses.
TR13: Parking Policies	Consistent The NEASP would manage parking to provide equitable access and improve efficiency of the parking system through minimizing peak parking demand, managing the curb to promote turnover, and maximizing access to shared parking.

Applicable BAAD Control Strategy Measures	NEASP Consistency
Building Control Measures	
BL1: Green Buildings	Consistent Supported by San Carlos General Plan Policy LU-8.19 and EM-9.6 which encourages green building practices in new development and redevelopment.
BL2: Decarbonize Buildings	Consistent Supported by San Carlos General Plan policy EM-9.2 which supports on-site generation of energy through alternative forms of energy production such as solar panels, wind turbines, and biomass facilities
BL4: Urban Heat Island Mitigation	Consistent Supported by San Carlos General Plan Policy PR-4.11 which encourages the maintenance and planting of trees where appropriate to provide shades, absorb carbon, reduce the heat island effect and reduce cooling loads in shades buildings.
Natural and Working Lands Control Measures	
NW2: Urban Tree Planting	Consistent Supported by San Carlos General Plan Policy PR-4.11 which encourages the maintenance and planting of trees where appropriate to provide shades, absorb carbon, reduce the heat island effect and reduce cooling loads in shades buildings and Goal EM-3 which encourages the enhancement of the urban forest through tree protection and planting.
Waste Management Control Measures	
WA4: Recycling and Waste Reduction	Consistent Supported by the San Carlos General Plan Goal EM-12 which includes policies aimed at reducing solid waste disposal and increasing recycling.
Water Control Measures	
WR2: Support Water Conservation	Consistent Supported by San Carlos General Plan policies which encourage new development to utilize recycled water for landscape irrigation, and promotes water conservation (Policies EM-5.3, 5.4, 5.5, 5.6, and 5.7)

As indicated in Table 7, the NEASP would include implementing policies and measures that are generally consistent with the applicable Clean Air Plan control measures.

Impact AIR-2: Result in a 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?

The Bay Area is considered a non-attainment area for ground-level ozone and PM_{2.5} under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM₁₀ under the California Clean Air Act, but not the federal act. The area has attained both state and federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for ozone and particulate matter (i.e., PM_{2.5} and PM₁₀), the BAAD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for ozone precursor pollutants (ROG and NO_x), PM₁₀, and PM_{2.5} and apply to both construction period and operational period impacts for projects. They do not apply to plans, such as NEASP.

Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to by itself, result in nonattainment of ambient air quality standards. Instead a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

NEASP Construction Period Emission

Implementation of the Specific Plan would result in temporary emissions from construction activities associated with subsequent development, including demolition, site grading, asphalt paving, building construction, and architectural coating. Emissions commonly associated with construction activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips. During construction, fugitive dust, the dominant source of PM₁₀ and PM_{2.5} emissions, is generated when wheels or blades disturb surface materials. Uncontrolled dust from construction can become a nuisance and potential health hazard to those living and working nearby. The potential health risk impact from construction is described under Impact 4.

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM₁₀ and PM_{2.5}. Sources of fugitive dust include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site deposit mud on local streets, which is an additional source of airborne dust after it dries. The BAAD recommends all projects include a "basic" set of best management practices (BMPs) to manage fugitive dust and considers impacts from dust (i.e., fugitive PM₁₀ and PM_{2.5}) to be less-than-significant if BMPs are implemented to reduce these emissions. Policy EM-6.6: *BAAD recommended measures to reduce PM₁₀ and exhaust emissions associated with construction shall be applied to new development in San Carlos*, implements BAAD recommended BMPs.

Construction exhaust emissions include those from equipment (i.e., off-road) and traffic (on-road vehicles and trucks). Off-road construction equipment is often diesel-powered and can be a substantial source of NO_x emissions, in addition to PM₁₀ and PM_{2.5} emissions. Architectural coatings and application of asphalt pavement are dominant sources of ROG emissions. The BAAD CEQA Air Quality Guidelines do not identify quantified plan level thresholds for construction emissions. There are project-level thresholds of 54 pounds per average day for NO_x, ROG and PM_{2.5} exhaust and 82 pounds per average day for PM₁₀ exhaust. Unless controlled, the combination

of temporary dust from activities and diesel exhaust from construction equipment and related traffic may pose a nuisance impact to nearby receptors or exceed acceptable levels for projects. In addition, NO_x emissions during grading and soil import/export for large projects may exceed the BAAD NO_x emission thresholds for projects.

Without application of appropriate control measures to reduce construction dust and exhaust, construction period impacts at the program level would be considered a *potentially significant impact*. *Implementation of Mitigation Measures AQ-1 would reduce this impact to a level of less-than-significant.*

Mitigation Measure AQ-1: Require Project-Level Construction Assessment for Projects in the NEASP.

Construction criteria pollutant and TAC quantification shall be required on individual projects developed under the NEASP once those details are available through modeling to identify impacts and, if necessary, include measures to reduce emissions below the applicable BAAD construction thresholds. Reductions in emissions can be accomplished through, though is not limited to, the following measures:

- Construction equipment selection for low emissions (e.g., U.S. EPA Tier 4 standards);
- Use of alternative fuels, engine retrofits, and added exhaust devices;
- Low-VOC paints;
- Modify construction schedule; and
- Implementation of BAAD Enhanced Construction Mitigation Measures for control of fugitive dust.

Note screening tables included in the BAAD CEQA Air Quality Guidelines can be used to demonstrate less-than-significant criteria air pollutant emissions for small projects.

Effectiveness of Mitigation Measures AQ-1

Site-specific construction schedules and equipment are not known at this time for the future development area and have not been quantified at the project level. Implementation of General Plan Policy EM-6.6 would ensure that all construction projects employ the BAAD-Recommended BMPs to Control Construction Dust Emissions. Implementation of Mitigation Measure AQ-1 would ensure that construction of future development areas under the NEASP would be analyzed through project-level review to quantify construction criteria pollutant emissions and identify the specific measures needed to reduce potential impacts, as necessary. *Therefore, the potential impact from construction of individual construction projects within the future development in the NEASP area would be reduced to a level of less-than-significant with implementation of Mitigation Measures AQ-1*

NEASP Operational Period Emissions

Implementation of the NEASP would result in long-term area and mobile source emissions from operation and use of subsequent development. There are no significance thresholds applicable to

emissions associated with plan-level development; however, there are project-level thresholds. For annual emissions, these are emissions of greater than 10 tons for ROG, NOx or PM_{2.5} and 15 tons for PM₁₀. For average daily emissions, these are 54 pounds for ROG, NOx or PM_{2.5} and 82 pounds for PM₁₀.

CalEEMod Modeling Assumptions

Operational air emissions from the project would be generated primarily from autos driven by future residents and employees. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are typical ROG emissions from these types of land uses. CalEEMod was used to estimate net emissions from operation of the proposed project assuming full buildout in 2045 or later.

CalEEMod Land Uses

A complete operational model scenario for year 2045 was developed for CalEEMod. Inputs are summarized in Table 8.

Table 8. Operational Land Uses Entered into CalEEMod

Project Land Uses	Size	Units
Proposed Project Land Uses (year 2045)		
Research & Development	2,964	1,000 sf
General Heavy Industry ¹	700	1,000 sf
General Office Building	180	1,000 sf
Regional Shopping Center	80	1,000 sf
Apartments Mid Rise	1,890	Dwellings
Unrefrigerated Warehouse – No Rail	40	1,000 sf
Manufacturing	492	1,000 sf
Existing Uses (Year 2024 and 2045)		
Research & Development	400	1,000 sf
General Heavy Industry ¹	1,264	1,000 sf
General Office Building	151 ²	1,000 sf
Hospital	425 ³	1,000 sf
Automobile Care Center	41 ⁴	1,000 sf
Unrefrigerated Warehouse – No Rail	234	1,000 sf
Manufacturing	104	1,000 sf
Existing To Be Removed (by Year 2045)		
General Heavy Industry ¹	303	1,000 sf
General Office Building	45	1,000 sf
Hospital	10	1,000-sf
Unrefrigerated Warehouse – No Rail	60	1,000 sf

¹CalEEMod does not allow Light Industrial land uses to be over 50,000-sf, therefore the Light Industrial land use was modeled as General Heavy Industrial

²Includes General Office, Small Office Building, and Single Tenant Office Building square footages.

³Includes Hospital and Animal Hospital/Veterinary Clinic square footages.

⁴Includes Automobile Sales and Automobile Care Center square footages.

⁵CalEEMod does not include an Animal Hospital/Veterinary Clinic land use, therefore the Hospital land use was used.

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. Emissions associated with build-out later than 2045 would be lower.

Traffic Inputs

CalEEMod allows the user to enter specific vehicle trip generation rates. Therefore, the project-specific daily trip generation rate provided by the traffic consultant was entered into the model.⁸ The NEASP would produce approximately 54,589 daily trips. When considering the *25% TDM Reduction* adjustments, the project would then produce 40,942 net daily trips. The daily trip generation was calculated using ITE trip generation rates, the size of the project land uses, and the adjusted total automobile trips. The Saturday and Sunday trip rates were derived by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips to the default weekday rate with the project-specific daily weekday trip rate. Since VMT for these scenarios was not quantified, the default trip lengths and trip types specified by CalEEMod were used.

Fugitive dust generated by vehicles traveling on roadways generates PM₁₀ and PM_{2.5} emissions. The silt loading factor in CalEEMod is the key input along with traffic travel distances. The road silt loading factor was computed based on assumptions used by CARB to calculate emissions inventories for different counties. CARB provides the silt loading factor for each roadway type and the estimated fraction of travel on those roadways for each county. The silt loading factor for San Mateo County was calculated to be 0.0357 grams per square meter.

Energy

Peninsula Clean Energy (PCE) provides electricity to the City of San Carlos. CalEEMod defaults for energy use for PCE were used for all Existing uses, which include the 2019⁹ Title 24 Building Standards. For the new Project uses, an emission factor of 0 pounds of CO₂ per megawatt of electricity produced was entered into CalEEMod based on CalEEMod default emission factor for 2045.

The Existing modeling scenarios included CalEEMod default inputs for natural gas for all land uses. The NEASP CalEEMod scenarios assumed that residential land uses would not include any natural gas infrastructure, but that the non-residential land uses would include natural gas infrastructure. Therefore, natural gas use for new Project residential land uses was set to zero and reassigned to electricity use in CalEEMod.

⁸ Nelson\Nygaard Consulting Associates, *Northeast Area Specific Plan Transportation Analysis City of San Carlos Memorandum*, December 13, 2024.

⁹ The 2022 Title 2024 standards have not been incorporated into the current CalEEMod model, which uses Title 24 standards from 2019 (CalEEMod User Guide). The 2019 standards, and therefore the energy analysis, are more conservative.

Wood-Burning Devices

CalEEMod default inputs assume new residential construction would include wood-burning fireplaces and stoves. The new Project residential uses would not include wood-burning devices, as these devices are prohibited by BAAD Regulation 6, Rule 3.¹⁰ Therefore, the number of woodstoves and fireplaces for new Project residential uses in CalEEMod were set to zero.

Other Inputs

Default model assumptions for emissions associated with solid waste generation were used. Wastewater treatment was changed to 100-percent aerobic conditions to represent the use of city services (i.e., the project would not send wastewater to septic tanks or facultative lagoons).

Summary of Operational Period Emissions

Table 9 reports the predicted emissions from complete build out of the NEASP area in terms of annual emissions in tons and average daily operational emissions, assuming 365 days of operation per year. Net emissions between the proposed NEASP area and existing uses are also shown. There are no emission thresholds that apply to potential emissions generated by a plan, such as the NEASP. As shown in Table 9, annual and average daily emissions of ROG and NO_x associated with operation of the Plan Area would exceed the BAAD significance thresholds that is applied to projects. PM_{2.5} emissions would be below the thresholds. *Attachment 1* to this report includes the operational assumptions, CalEEMod model output files, and emissions calculations for the NEASP.

Table 9. NEASP Operational Period Emissions

Scenario	ROG	NO _x	PM ₁₀	PM _{2.5}
<i>Existing Annual Emissions in 2024 (tons/year)¹</i>	22.88	13.22	9.16	2.75
<i>Existing Land Uses Annual Emissions in 2045 (tons/year)¹</i>	20.31	9.29	9.10	2.69
Future Proposed Annual Emissions in 2045 (tons/year)	45.35	13.82	15.95	4.55
Existing to Be Removed in 2045 (tons/year) ¹	3.05	1.29	1.22	0.36
NEASP (Existing + Project – Existing to Be Removed) Annual Emissions in 2045 (tons/year)	62.61 tpy	21.82 tpy	23.83 tpy	6.88 tpy
<i>Net increase over Existing</i>	<i>42.30 tpy</i>	<i>12.53 tpy</i>	<i>14.73 tpy</i>	<i>4.19 tpy</i>
<i>BAAD Project-Level Thresholds (tons per year)</i>	<i>10 tons</i>	<i>10 tons</i>	<i>15 tons</i>	<i>10 tons</i>
Average Daily Net Project Operational Emissions (pounds per day) ²	231.8 lbs./day	68.7 lbs./day	80.7 lbs./day	23.0 lbs./day
<i>BAAD Project-Level Thresholds (pounds per day)</i>	<i>54 lbs./day</i>	<i>54 lbs./day</i>	<i>82 lbs./day</i>	<i>54 lbs./day</i>

¹ Listed for informational purposes. ² Assumes 365-day operation.

¹⁰ Bay Area Air District, https://www.baaqmd.gov/~media/dotgov/files/rules/regulation-6-rule-3/documents/20191120_r0603_final-pdf.pdf?la=en

Carbon Monoxide

Carbon monoxide (CO) is a pollutant that affects air quality locally. Monitoring data from all ambient air quality monitoring stations in the Bay Area indicate that existing carbon monoxide levels are currently below national and California ambient air quality standards. Monitored CO levels have decreased substantially since 1990 as newer vehicles with greatly improved exhaust emission control systems have replaced older vehicles. The Bay Area has been designated as an attainment area for the CO standards. The highest measured levels in the Bay Area during the past three years are 3.0 ppm or less for eight-hour averaging periods, compared with state and federal criteria of 9.0 ppm.

Even though current CO levels in the Bay Area are well below ambient air quality standards, and there have been no exceedances of CO standards in the Bay Area since 1991, elevated levels of CO still warrant analysis. CO hotspots (occurrences of localized high CO concentrations) could still occur near busy congested intersections. Recognizing the relatively low CO concentrations experienced in the Bay Area, the BAAD's CEQA Air Quality Guidelines state that a project would have a less-than-significant impact if it would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour. Peak hour traffic volumes at intersections affected by implementation of the NEASP area would be less than 10,000 vehicle trips per hour. Therefore, this impact would be less-than-significant.

Mitigation Measure AQ-2: Require Project-Level Operational Assessment for Projects in the NEASP.

Total NEASP caused emissions exceed BAAD-recommended project level thresholds. Therefore, projects proposed within the NEASP shall conduct operational criteria pollutant analysis in accordance with the latest guidance provided by BAAD. The BAAD CEQA Air Quality Guidelines provide project screening criteria and level sizes to determine if projects warrant modeling to evaluate their emissions. Projects that meet the screening criteria and are smaller than the screening sizes (e.g., those listed in Table 4-1, pages 4-3 and 4-4, of the 2022 BAAD CEQA Air Quality Guidelines) would be considered to have less-than-significant operational air pollutant emissions. Projects that are larger than the screening sizes would undergo refined analysis to determine if emissions exceed the project-level thresholds. Projects that are found to have emissions above thresholds are required to implement additional mitigation, including but not limited to:

- Implement additional TDM programs to reduce residential VMT as required by the City's Climate Mitigation and Adaptation Plan.
- Proposed development within the NEASP shall incorporate additional green building measures such as rooftop solar photovoltaic (PV) systems, rough-ins for electric vehicle charging, use of efficient lighting and irrigation, and recycled water, as feasible.

- Developed parcels shall require within their CC&Rs and/or ground leases requirements for all future interior spaces to be repainted only with architectural coatings that meet the “Low-VOC” or “Super-Compliant” requirements.

Effects of Emissions during Project Operation

When evaluated using the thresholds contained in the 2022 version of the BAAQMD CEQA Air Quality Guidelines the NEASP would have emissions of ozone precursor pollutants (i.e., ROG and NOx) during operation at full build-out that exceed thresholds of significance for projects. These emissions cannot be feasibly reduced further, as the proposed NEASP includes features and mitigation measures to minimize these emissions. Such features include a mix-use project near transit with regional connections, implementation of a TDM plan, and mitigation measures to reduce project level emissions. Emissions of ROG associated with consumer product use would be the overwhelming contributor to project ROG emissions. Vehicle travel would be the overwhelming cause of NOx emissions.

The increase in NEASP emissions of these pollutants result in a cumulatively considerable net increase of criteria pollutants for which the project region is in nonattainment under an applicable ambient air quality standard. Because the project would increase the rate of traffic growth in excess of the rate of population growth and have emissions of ROG and NOx that would exceed emission-based significance thresholds, the NEASP could result in a cumulatively considerable net increase in pollutant emissions that contribute to elevated ozone concentrations that exceed ambient air quality standards.

Ozone is a powerful oxidant that is harmful to public health at high concentrations. Ozone, at high levels, can damage the tissues of the lungs and respiratory tract. High concentrations of ozone irritate the nose, throat, and respiratory system and constrict the airways.¹¹ Ozone also can aggravate other respiratory conditions such as asthma, bronchitis, and emphysema, causing increased hospital admissions. Repeated exposure to high ozone levels can make people more susceptible to respiratory infection and lung inflammation and permanently damage lung tissue. Ozone can also have negative cardiovascular impacts, including chronic hardening of the arteries and acute triggering of heart attacks. Children are most at risk, as they tend to be active and outdoors in the summer, when ozone levels are highest. Seniors and people with respiratory illnesses are also especially sensitive to ozone’s effects. Even healthy adults, working or exercising outdoors during high ozone levels, can be affected. Ozone is not emitted directly from pollution sources. Instead, ozone is formed in the atmosphere through complex chemical reactions in the presence of sunlight between two types of precursor chemicals: hydrocarbons, often referred to as ROG and NOx. As air temperatures rise, the formation of ground level ozone increases at an accelerated pace. Ozone levels are usually highest on clear, hot, windless summer afternoons, especially in inland valleys that are downwind of pollution sources.

Ozone is a regional pollutant. Emissions of ROG and NOx throughout the Bay Area contribute to ozone formation. Because emissions in one part of the region can impact air quality miles downwind, efforts to reduce ozone levels focus on reducing emissions of ROG and NOx throughout the region. The relationship between ROG and NOx in ozone formation is complex;

¹¹ See: California Air Resource Board, Web: <https://ww2.arb.ca.gov/resources/ozone-and-health>

the ratio between the precursor pollutants influences how ozone forms. BAAQMD's ozone modeling indicates that the Bay Area is "ROG-limited" for ozone formation. This means that reducing ROG emissions in the Bay Area will be more productive in reducing ozone, at least in the near term. However, modeling also suggests that large reductions in NO_x emissions will be needed to achieve the ozone reductions required to attain the current health-based ozone standards. A certain amount of ozone formation occurs naturally, even in the absence of anthropogenic emissions of ROG and NO_x.¹²

As stated in the BAAQMD CEQA Air Quality Guidelines, air pollution by its nature is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality is considered significant. In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

The project emissions from operation are compared against regional emissions that lead to elevated concentrations of ozone in Table 9. By comparing project emissions to regional emissions, one gets the sense of the magnitude of the project effects on regional air quality. In terms of ROG, NEASP operational emissions in comparison to regional emissions are a small portion of the regional inventory (i.e., 0.06 to 0.13 percent) that the effect of the entire build-out of NEASP would not cause regional pollutant levels to measurably change. As a result, operation of NEASP would not measurably increase ozone levels. Therefore, the health effects associated with the project emissions would not be measurable. However, the emissions from the combined projects built out under NEASP would increase emissions above the threshold of 54 pounds per average day for ozone precursors (i.e., ROG and NO_x), such that the emissions would be cumulatively considerable.

Table 10. Comparison of Project Emissions to Air Basin Emissions (in tons/day)¹³

Scenario	ROG	NO _x
Bay Area Air Basin in 2024	90.28	66.92
Bay Area Air Basin in 2045 ¹	92.22	69.03
Unmitigated Project Operation (Increase over existing)	0.12 tons/day (42.3 tons/year)	0.03 tons/day (12.5 tons/year)
% of Basin in 2040	0.13%	0.06%

¹CARB emission inventories are only reported out to year 2040, which is the closest year of analysis to proposed NEASP operational year

¹² Bay Area Air Quality Management District, 2017. *Spare the Air Cool the Climate Final 2017 Clean Air Plan*. April. Web: https://www.baaqmd.gov/~/_media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-_proposed-final-cap-vol-1-pdf.pdf?la=en

¹³ CARB. 2021. 2016 SIP Emission Projection Data. See https://www.arb.ca.gov/app/emsmv/2017/emssumcat.php?_ga=2.50848289.940452654.1638212311-106250637.1504031780 accessed November 29, 2021 to estimate year 2020 and 2030 emissions.

Impact AIR-3: Expose sensitive receptors to substantial pollutant concentrations?

Impacts related to increased health risk can occur either by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the Plan Area vicinity or by significantly exacerbating existing cumulative TAC impacts. The build-out of the NEASP would introduce a new temporary source of TACs during construction (i.e., on-site construction and truck hauling emissions) and long-term sources of TACs during operation (i.e., mobile and stationary sources).

There are sensitive receptors within 1,000 feet of the NEASP. Plan Area construction activity would generate dust and equipment exhaust that would affect nearby sensitive receptors. In addition, the NEASP would place sensitive receptors within the plan area. Traffic generated by the NEASP would consist of mostly light-duty gasoline-powered vehicles and the NEASP may introduce new stationary sources such as emergency diesel-powered generators, which would produce TAC and air pollutant emissions in the area.

NEASP impacts to existing sensitive receptors were addressed for temporary construction activities and long-term operational conditions. There are also several sources of existing TACs and localized air pollutants in the vicinity of the project. The impact of the existing sources of TAC was also assessed in terms of describing the cumulative risk which includes the project contribution, as well as the risk on the new sensitive receptors introduced by the NEASP.

NEASP Construction TAC Exposure

Subsequent land use activities associated with implementation of the NEASP could include short-term construction sources of TACs. There are sensitive receptors adjacent to many portions of the Plan Area and there will be future residents in the NEASP development areas that could potentially be exposed to construction TACs during construction activity.

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. The construction exhaust emissions may pose health risks for sensitive receptors such as nearby residents. The primary health risk impact issues associated with construction emissions are cancer risk and exposure to PM_{2.5}. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities would have to be conducted at a project level to address these impacts. Since specific construction plans and schedules for construction are not known, it is not possible to quantify the impacts and determine the significance. There are various measures that can be incorporated into construction plans that could minimize these potential impacts.

Because residential development in the Plan Area would be developed over time, there could be on-site residences (new sensitive receptors) occupied while construction would be occurring in other areas of the Plan Area. Health risks impacts to nearby off-site and future on-site sensitive receptors associated with temporary construction of the future development is considered *potentially significant*. *Implementation of Mitigation Measure AQ-1 would reduce this impact to less-than-significant.*

NOTE TO REVIEWERS – Very large or complex projects constructed near sensitive receptors may not be able to reduce impacts to less-than-significant. That would either require a subsequent EIR or finding here of significant and unavoidable impact (for an impact that may not occur).

NEASP Operation TAC Exposure

Traffic

Traffic volumes would increase with the implementation of the NEASP. However, TAC emissions from traffic are anticipated to decrease for several reasons:

- Vehicles, especially heavy-duty trucks, that meet newer diesel emissions standards will replace older vehicles (Note that trucks are the highest source of traffic TAC emissions);
- Overall increase in fuel efficiency of automobiles and trucks; and
- An increase in the percentage of vehicles that have zero emissions.

Nonetheless localized increases in traffic emissions of TACs may occur as NEASP is built out. These increases would likely be dependent on the specific types and sizes of land uses and the amount of truck traffic generated. Projects that include warehouses or distribution centers could have impacts with respect to health risks, depending on proximity of receptors.

Stationary Sources

Development of NEASP would inevitably include stationary equipment such as backup power generators powered by diesel engines. Operation of diesel generators would be a source of TAC emissions in the form of DPM. There are no specific plans to include this equipment nor plans that would reasonably allow identification of potential equipment. These diesel engines would be subject to CARB's Stationary Diesel Airborne Toxics Control Measure (ATCM) and require permits from the BAAD, since they will be equipped with engines larger than 50-HP. BACT requirements would apply to these generators that would limit DPM emissions. As part of the BAAD permit requirements for toxics screening analysis, the engine emissions will have to meet Best Available Control Technology for Toxics (BACT) and pass the toxic risk screening level of less than ten in a million. The risk assessment would be prepared by BAAD. Depending on results, BAAD would set limits for DPM emissions (e.g., more restricted engine operation periods). Sources of air pollutant emissions complying with all applicable BAAD regulations generally will not be considered to have a significant air quality health risk impact on their own. However, combined with other project sources, such as traffic or construction equipment, this could lead to a *significant* impact.

Health Risk Impacts – Construction and Operation

Sources of TACs or PM_{2.5} emissions associated in the Plan Area have not been identified. The mix of land uses envisioned under the NEASP could include sources such that significant exposures

might occur. The impacts may be caused by a combination of construction activity, truck traffic, diesel-powered emergency generators, etc. This would be a *potentially significant impact*.

Mitigation Measure AQ-3: Require Project-Level Health Risk Assessments for Projects in near Sensitive Receptors.

Applicants proposing development of projects within 1,000 feet of existing sensitive receptors or worker receptors as defined by the BAAD (e.g., residential, schools) shall prepare a site-specific construction and operational health risk assessment (HRA). If the HRA demonstrates, to the satisfaction of the City, that the health risk exposures for adjacent receptors will be less than BAAD project-level thresholds, then additional mitigation would be unnecessary. However, if the HRA demonstrates that health risks would exceed BAAD project level thresholds, additional feasible on- and off-site mitigation shall be analyzed to further reduce risks to the greatest extent practicable. Measures to reduce significant health risk impacts include:

- *Implementation of Mitigation Measure AQ-1.*
- *Site design modifications, such as locating TAC emitting equipment at portion of a site that have the least impact.*
- *Operational modifications, such as limiting the number of operational hours of TAC emitting equipment or activities.*

Effectiveness of Mitigation Measure AQ-3

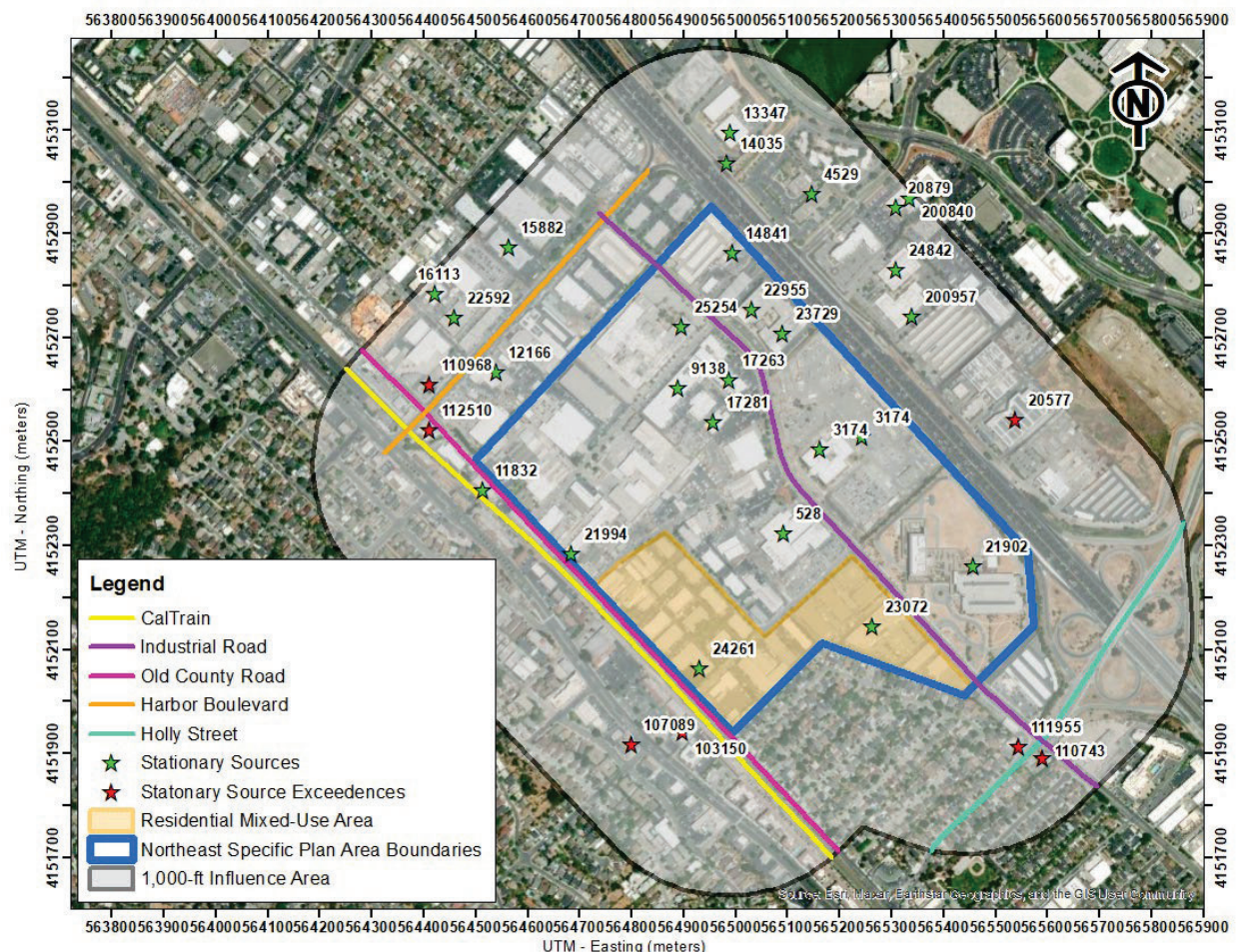
Implementation of measures identified in *Mitigation Measure AQ-3* through future project-specific assessments would reduce on-site diesel exhaust emissions. The selection of appropriate equipment, described under Mitigation Measure AQ-1, could reduce emissions substantially. For example, the use of diesel-powered construction equipment that meets U.S. EPA particulate matter emissions standards for Tier 4 engines or included DPM filters certified by CARB can significantly reduce DPM emissions. That measure alone would likely reduce construction health risk impacts to a less-than-significant level. Other measures would further reduce impacts. Additional measures to reduce TAC and PM_{2.5} emissions would include hourly limits for equipment use, electrification or use of alternative fuels for equipment, and appropriate siting and design of equipment. The application of appropriate measures would reduce maximum cancer risk, annual PM_{2.5} concentrations, and HI to below respective threshold levels. Therefore, *after implementation of these recommended measures, the project would have a less-than-significant impact with respect to health risk caused by construction activities.*

TAC Effects on NEASP Sensitive Receptors

The project would include new sensitive receptors, primarily in the form of residents. Substantial sources of existing air pollution can adversely affect sensitive receptors proposed as part of new projects. BAAD recommends using a 1,000-foot screening radius around a project site for purposes of identifying health risk impacts from citing a new source of TACs or new sensitive receptors. A review of the Plan Area using BAAD's geographic information systems (GIS) screening maps

identified the existing health risks from nearby TAC sources. These include 33 nearby stationary sources (diesel-power generators, generic sources, and gas stations), and traffic on nearby highways (U.S. Highway 101 and State Route 82/El Camino Real), local roadways (Industrial Road, Old County Road, Harbor Boulevard, and Holly Street), and diesel-powered locomotives on the rail line along the western boundary of the Plan Area. shows the existing TAC sources, the NEASP, and the 1,000-foot influence area. Details of the screening and health risk calculations are included in *Attachment 2*.

Figure 2. NEASP Area with Residential Development and 1,000-foot Influence Area (see Tables 10-14 for Source Buffer Distances)



High-Volume Roadways

Highways – U.S. Highway 101 and State Route 82

The Specific Plan area is located near U.S. Highway 101 (U.S. 101) and State Route 82 / El Camino Real (S.R. 82). Highway health risk screening data provided by the BAAD raster files was used to risk levels associated with these highways (see *Attachment 2*). The risk levels provided by BAAD represents cumulative risk from highways. Refined modeling of the individual highways would show lower risk values.

Table 10. BAAD Raster Screening Data - Highway Impacts within Specific Plan Area

Highway	Estimated ADT	Road Direction	Side of Road	Estimated Screening Buffer Distance for Exceedance (feet)
U.S. 101	224,000	Northwest-Southeast	West/south	1,000
El Camino Real	24,000	Northwest-Southeast	East/north	<400

Local Roadways – Industrial Road, Old County Road, Harbor Boulevard, and Holly Street

Local roadways with traffic volumes of over 10,000 vehicles per day that are within 500 feet of sensitive receptors could potentially have a significant TAC effect on the proposed Specific Plan area. The following roadways were estimated as having traffic volumes over 10,000 vehicles per day and located within 500 feet of sensitive receptors: Industrial Road, Old County Road, and Holly Street. Figure 2 shows the locations of these roadways.

There is no screening tool to predict health risk impacts from local roadways approved by BAAD at the time of this analysis, and without more specific traffic and receptor location information for the Plan area, modeling could not be conducted. The distance at which the increased cancer risk and PM_{2.5} concentration from the roadways would not exceed the BAAD single-source thresholds for TAC sources was estimated based on the size of the roads, which side of the roadway, and wind direction. Wind flows generally from the west-northwest, so highest risk levels would be downwind (i.e., east side of north-south roadways and south side of east-west roadways). Table 11 lists information about the roadways and the estimated buffer distances where exceedances of health risk thresholds may occur.

Table 11. Local Roadway Segments and Buffer Distances for Exceedance

Road	Estimated Cumulative + NEASP ADT	Road Direction	Side of Road	Estimated Screening Buffer Distance for Exceedance (feet)
Industrial Road	13,045 to 20,922 ¹	Northwest-Southeast Roadway	East	200
			West	100
Old County Road	14,636 to 16,984 ¹	Northwest-Southeast Roadway	East	200
			West	100
Holly Street	53,422 ^{1,3}	Southwest-Northeast Roadway	North	500

¹ Based on traffic analysis reported ADT.

² Based on traffic analysis peak-hour volume adjusted by x10 for ADT.

³ Much of Holly Street is over 500 feet from NEASP

BAAD Permitted Stationary Sources

Permitted stationary sources of air pollution within and near NEASP were identified using BAAD's *Permitted Stationary Sources 2022* GIS website,¹⁴ which identifies the location of nearby stationary sources and their estimated risk and hazard impacts, including emissions and adjustments based on OEHHA guidance. Of the 33 stationary sources identified within the Plan

¹⁴ BAAD, <https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=845658c19eae4594b9f4b805fb9d89a3>

Area, Plants #20577, #103150-1, #107089-1, #112510-1, #110743-1, #110968-1 and #111955-1 had risk impacts exceeding BAAD single-source thresholds without distance adjustments. Table 12 shows the distance sensitive receptors should be from these seven sources in order to have health risk impacts below the significance thresholds, as shown in Table 12. also shows the stationary sources within the Plan Area and the stationary sources' risk impacts are in *Attachment 2*.

Table 12. Distances to Threshold from Existing Stationary TAC Sources

Plant	Estimated Screening Buffer Distance for Exceedance (feet)
South Bay Recycling LLC (SBR) (Facility ID #20577 Hazardous Waste Treatment and Disposal, 333 Shoreway Road)	920
Auto Pride Wash (Facility ID #103150-1, Car Washes, 195 El Camino Real)	15
Justin Chevron (Facility ID #107089-1, Gas Dispensing Facility, 90 El Camino Real)	100
Double Time (Facility ID #112510-1, Gas Dispensing Facility, 701 Harbor Blvd)	135
A & A Gas Inc DBA A&A Gas & Food Mart (Facility ID #110743-1, Gas Dispensing Facility, 907 Holly St)	150
Flyers #489 (Facility ID #110968-1, Gas Dispensing Facility, 90 610 Harbor Blvd)	85
Bay Petroleum dba Holly 76 (Facility ID # 111955-1, Gas Dispensing Facility, 906 Holly St)	165

Railroad Health Risk Impacts

The NEASP site is located just north of the rail line used for Caltrain and some UPRR freight service. The western portion of the Plan Area is located near the rail line. Trains traveling on these lines generate TAC and PM_{2.5} emissions from diesel locomotives. Due to the proximity of the rail line to the Plan Area, potential health risks to future Plan Area residents from DPM and PM_{2.5} emissions from diesel locomotive engines were evaluated.

Cancer risk, PM_{2.5} concentrations, and HI associated with trains on the nearby railways were computed using by predicting locomotive DPM emissions, dispersion modeling using AERMOD with meteorological data and applying cancer risk calculations consistent with the State's Office of Health Hazard Assessment (OEHHA) consistent with BAAD methodology described in Appendix E of the BAAD CEQA Air Quality Guidelines.

This assessment considered the Peninsula Corridor Electrification Project, which is a key component of the Caltrain Modernization Program that electrified the Caltrain Corridor from San Francisco to San Jose. Caltrain recently began service with a mixed fleet of electric and diesel locomotives, with approximately 75 percent of the service being electric and 25 percent being diesel between San José and San Francisco. After the initial implementation period, diesel locomotives will be replaced with electric trains over time as they reach the end of their service life. Caltrain's diesel-powered locomotives would continue to be used to provide service between the San José Diridon Station and Gilroy. It is expected that all of the San José to San Francisco

fleet would be electric trains about five to eight years after initial electric service begins.¹⁵ DPM emissions from trains on the rail line were calculated using EPA emission factors for locomotives¹⁶ and CARB adjustment factors to account for fuels used in California.¹⁷

When considering the health risk impacts from only diesel locomotive freight trains, potentially significant health risk impacts (mainly for cancer risk) would extend out approximately 375 feet north or east from the rail line, as shown in Table 13. The railway risk modeling information is in *Attachment 2*.

Table 13. Distances to Threshold from Existing TAC Sources

Rail Line	Distance to Threshold (feet)
Caltrain/UPRR	375 north of tracks

Summary of Existing TAC Health Risks

Figure 2 identifies the existing TAC sources within the Plan Area. Any development of sensitive receptors within affected areas identified in the sections above would potentially expose sensitive receptors to significant exposure of cancer risk and/or PM_{2.5} concentrations. This would be a *potentially significant impact*.

Mitigation Measure AQ-4: Projects developed within the NEASP that are affected by air pollutant or TAC sources shall implement appropriate measures to minimize long-term toxic air contaminant (TAC) and annual PM_{2.5} exposure for new project occupants:

This mitigation measure applies to any project developed within affected areas that are near high volume roadways, stationary sources, or Caltrain, as indicated in and Tables 10-14. Project would either need to include measures to reduce long-term exposure to TAC and PM_{2.5}, as described below, or conduct site-specific analysis to identify the level of exposure to TACs in terms of cancer risk and annual PM_{2.5} concentrations. The analysis shall use procedures prescribed by BAAD (e.g., the BAAD CEQA Air Quality Guidelines) to predict these exposures. Where cancer risk exceeds 10 chances per million from any single source or 100 chances per million for cumulative sources (i.e., within 1,000 feet), where annual PM_{2.5} concentrations exceed 0.3 µg/m³ from any single source or 0.8 µg/m³ for cumulative sources, and where HI exceed 1.0 from any single source or 10.0 for cumulative sources, the following measures shall be implemented:

- Design project developments to limit exposure from sources of TACs and fine particulate matter (PM_{2.5}) emissions.
- Install air filtration at units that have predicted cancer risk levels above 10 chances per million and PM_{2.5} concentrations above 0.3 µg/m³. Air filtration devices shall be rated MERV13 or higher. Alternately, at the approval of the City, equivalent control technology may be used if it is shown by a qualified air quality consultant or heating, ventilation, and air conditioning (HVAC) engineer that it would reduce risk below significance thresholds.

¹⁵ Caltrain 2015. *Short Range Transit Plan: FY2015-2024*. October 1, 2015.

¹⁶ *Emission Factors for Locomotives*, USEPA 2009 (EPA-420-F-09-025)

¹⁷ *Offroad Modeling, Change Technical Memo*, Changes to the Locomotive Inventory, CARB July 2006.

- c. As part of implementing this measure, an ongoing maintenance plan for the building's HVAC air filtration system shall be required.
- d. Ensure that any lease agreements and other property documents (1) require cleaning, maintenance, and monitoring of the affected units for air flow leaks; (2) include assurance that new owners and tenants are provided information on the ventilation system; and (3) include provisions that fees associated with owning or leasing a unit(s) in the building include funds for cleaning, maintenance, monitoring, and replacements of the filters, as needed.
- e. Require that, prior to building occupancy, an authorized air pollutant consultant or HVAC engineer verify the installation of all necessary measures to reduce cancer risk below 10 chances per million and PM_{2.5} concentrations below 0.3 µg/m³ from any source.

Effectiveness of Mitigation Measure AQ-4

The BAAD CEQA Air Quality Guidelines and BAAD's Planning Healthy Places recommend that developments in areas affected by air pollutant sources install and maintain air filtration systems of fresh air supply. These systems should be installed on either an individual unit-by-unit basis, with individual air intake and exhaust ducts ventilating each unit separately, or through a centralized building ventilation system. The ventilation system should be certified to achieve certain effectiveness.

The air filtration systems using MERV13, can reduce exposures by 70 to 85 percent. There are filtration systems that can achieve greater reductions. The effective particulate control efficiency using a MERV13 filtration system is about 85 percent and 70 percent when accounting for 3 hours of non-filtered air (e.g., being outside or having windows open).

Assuming the effectiveness of filtration systems described above, implementation of Mitigation Measure AQ-4 would reduce maximum cancer risk, annual PM_{2.5} concentrations, and HI to below respective threshold levels. Therefore, with implementation of Mitigation Measure AQ-4, this impact would be reduced to a *less-than-significant* level.

Impact AIR-4: Create objectionable odors affecting a substantial number of people?

The project would generate localized emissions of diesel exhaust during construction equipment operation and truck activity. These emissions may be noticeable from time to time by adjacent receptors. However, they would be localized and are not likely to adversely affect people off site by resulting in confirmed odor complaints. The NEASP does not identify any uses that are typical sources of odors that could lead to objectionable odors that generate frequent odor complaints.

Odor impacts could occur if residents associated with the project experienced objectionable odors and made complaints. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative methodologies to determine the presence of a significant odor impact. The significance of odor impacts is based on the potential to cause odor complaints.

BAAD publishes screening buffer distances for odor sources and sensitive receptors in their CEQA Air Quality Guidelines. There are no identified major sources of odors. Uses in the plan area may include restaurants or auto repair shops that could have localized odors but not likely to result in frequent odor complaints.

GREENHOUSE GAS EMISSIONS

Regulatory Framework

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. The most common GHGs are carbon dioxide (CO₂) and water vapor but there are also several others, most importantly methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO₂, CH₄, and N₂O are byproducts of fossil fuel combustion.
- N₂O is associated with agricultural operations such as fertilization of crops.
- CH₄ is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations.
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and sulfur hexafluoride emissions are commonly created by industries such as aluminum production and semi-conductor manufacturing.

Each GHG has its own potency and effect upon the earth's energy balance. This is expressed in terms of a global warming potential (GWP), with CO₂ being assigned a value of 1 and sulfur hexafluoride being several orders of magnitude stronger. In GHG emission inventories, the weight of each gas is multiplied by its GWP and is measured in units of CO₂ equivalents (CO₂e).

An expanding body of scientific research supports the theory that global climate change is currently affecting changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California are adversely affected by the global warming trend. Increased precipitation and sea level rise will increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes, and drought; and increased levels of air pollution.

Federal and Statewide GHG Emissions

The U.S. EPA reported that in 2022, total gross nationwide GHG emissions were 6,343 million metric tons (MMT) carbon dioxide equivalent (CO₂e).¹⁸ These emissions were 17 percent lower than 2005 levels, but 1 percent higher than 2021.

CARB updates the statewide GHG emission inventory on an annual basis where the latest inventory includes 2000 through 2022 emissions.¹⁹ In 2022, GHG emissions from statewide emitting activities were 371.1 MMT CO₂e, 2.4 percent lower than 2021. Since peak levels in 2004, California's GHG emissions have generally followed a decreasing trend. In 2014, statewide GHG emissions dropped below the 2020 GHG Limit and have remained below the Limit since that time.

State Regulatory Actions for GHG Emissions

Executive Order S-3-05 – California GHG Reduction Targets

Executive Order (EO) S-3-05 was signed by Governor Arnold Schwarzenegger in 2005 to set GHG emission reduction targets for California. The three targets established by this EO are as follows: (1) reduce California's GHG emissions to 2000 levels by 2010, (2) reduce California's GHG emissions to 1990 levels by 2020, and (3) reduce California's GHG emissions by 80 percent below 1990 levels by 2050.

Assembly Bill 32 – California Global Warming Solutions Act (2006)

Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, codified the State's GHG emissions target by directing CARB to reduce the State's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05, which has a target of reducing GHG emissions 85 percent below 1990 levels.

The first Scoping Plan for AB 32 was adopted by CARB in December 2008. Its most recent update was completed in December of 2022²⁰. It contains the State's main strategies to achieve carbon neutrality by 2045. This plan extends and expands upon the earlier versions with a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045. It also takes the step of adding carbon neutrality as a science-based guide and touchstone for California's climate work. Measures to achieve carbon neutrality include rapidly moving to zero emission vehicles (ZEV), removing natural gas as an option for space conditioning, increasing the number of solar arrays and wind turbines, and scaling up renewable hydrogen for hard-to-electrify end uses.

¹⁸ United States Environmental Protection Agency, 2024. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2022*. April 11. Web: <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>

¹⁹ CARB. 2024. *California Greenhouse Gas Emission for 2000 to 2022*. Web: <https://ww2.arb.ca.gov/ghg-inventory-data>

²⁰ CARB. 2022. *Final 2022 Scoping Plan Update and Appendices*. Web: <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents>

Senate Bill 375 – California's Regional Transportation and Land Use Planning Efforts (2008)

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 provides incentives for local governments and applicants to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows applicants to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB works with the metropolitan planning organization (i.e., MTC) to align their regional transportation, housing, and land use plans to reduce VMT and demonstrate the region's ability to attain its GHG reduction targets.

Senate Bills 350 and 100 - Renewable Portfolio Standards

In September 2015, the California Legislature passed SB 350, which increased the states Renewables Portfolio Standard (RPS) for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

In September 2018, SB 100 was signed by Governor Brown to revise California's RPS program goals, furthering California's focus on using renewable energy and carbon-free power sources for its energy needs. The bill requires all California utilities to supply a specific percentage of their retail sales from renewable resources by certain target years. By December 31, 2024, 44 percent of the retail sales would need to be from renewable energy sources, by December 31, 2026 the target would be 40 percent, by December 31, 2027 the target would be 52 percent, and by December 31, 2030 the target would be 60 percent. By December 31, 2045, all California utilities would be required to supply retail electricity that is 100 percent carbon-free and sourced from eligible renewable energy resources to all California end-use customers.

SB 743 Transportation Impacts

Senate Bill 743 required lead agencies to abandon the old "level of service" metric for evaluating a project's transportation impacts, which was based solely on the amount of delay experienced by motor vehicles. In response, the Governor's Office of Planning and Research (OPR) developed a VMT metric that considered other factors such as reducing GHG emissions and developing multimodal transportation.²¹ A VMT-per-capita metric was adopted into the CEQA Guidelines Section 15064.3 in November 2017. Given current baseline per-capita VMT levels computed by CARB in the 2017 Scoping Plan of 22.24 miles per day for light-duty vehicles and 24.61 miles per day for all vehicle types, the reductions needed to achieve the 2050 climate goal are 16.8 percent for light-duty vehicles and 14.3 percent for all vehicle types combined. Based on this analysis (as well as other factors), OPR recommended using a 15-percent reduction in per capita VMT as an appropriate threshold of significance for evaluating transportation impacts.

²¹ Governor's Office of Planning and Research. 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December.

Executive Order B-55-18 – Carbon Neutrality

In 2018, a new statewide goal was established to achieve carbon neutrality as soon as possible, but no later than 2045, and to maintain net negative emissions thereafter. CARB and other relevant state agencies are tasked with establishing sequestration targets and creating policies/programs that would meet this goal.

Executive Order B-30-15 & Senate Bill 32 GHG Reduction Targets – 2030 GHG Reduction Target

In April 2015, Governor Brown signed EO B-30-15, which extended the goals of AB 32, setting a GHG emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed Senate Bill (SB) 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*.²² While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

SB 32 was passed in 2016, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels. CARB has drafted a 2022 Scoping Plan Update to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. The 2022 draft plan:

- Identifies a path to keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030.
- Identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 or earlier.
- Focuses on strategies for reducing California's dependency on petroleum to provide consumers with clean energy options that address climate change, improve air quality, and support economic growth and clean sector jobs.
- Integrates equity and protecting California's most impacted communities as a driving principle.
- Incorporates the contribution of natural and working lands to the state's GHG emissions, as well as its role in achieving carbon neutrality.
- Relies on the most up to date science, including the need to deploy all viable tools, including carbon capture and sequestration as well as direct air capture.
- Evaluates multiple options for achieving our GHG and carbon neutrality targets, as well as the public health benefits and economic impacts associated with each.

The Scoping Plan was updated in 2022 and lays out how the state can get to carbon neutrality by 2045 or earlier. It is the first Scoping Plan that adds carbon neutrality as a science-based guide and touchstone beyond statutorily established emission reduction targets.²³

The mid-term 2030 target is considered critical by CARB on the path to obtaining an even deeper GHG emissions target of 80 percent below 1990 levels by 2050, as directed in Executive Order S-

²² California Air Resource Board, 2017. *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Targets*. November. Web:

https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf

²³ <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents>

3-05. The 2022 Scoping Plan outlines the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure, providing a blueprint to continue driving down GHG emissions and to not only obtain the statewide goals, but cost-effectively achieve carbon-neutrality by 2045 or earlier. In the 2022 Scoping Plan, CARB recommends:

- VMT per capita reduced 12% below 2019 levels by 2030 and 22% below 2019 levels by 2045.
- 100% of Light-duty vehicle sales are zero emissions vehicles (ZEV) by 2035.
- 100% of medium duty/heavy duty vehicle sales are ZEV by 2040.
- 100% of passenger and other locomotive sales are ZEV by 2030.
- 100% of line haul locomotive sales are ZEV by 2035.
- All electric appliances in new residential and commercial building begin in 2026 (residential) and 2029 (commercial).
- 80% of residential appliance sales are electric by 2030 and 100% of residential appliance sales are electric by 2035.
- 80% of commercial appliance sales are electric by 2030 and 100% of commercial appliance sales are electric by 2045.

California Building Standards Code – Title 24 Part 11 & Part 6

The California Green Building Standards Code (CALGreen Code) is part of the California Building Standards Code under Title 24, Part 11.²⁴ The CALGreen Code encourages sustainable construction standards that involve planning/design, energy efficiency, water efficiency resource efficiency, and environmental quality. These green building standard codes are mandatory statewide and are applicable to residential and non-residential developments. The most recent CALGreen Code (2022 California Building Standard Code) was effective as of January 1, 2023.

The California Building Energy Efficiency Standards (California Energy Code) is under Title 24, Part 6 and is overseen by the CEC. This code includes design requirements to conserve energy in new residential and non-residential developments, while being cost effective for homeowners. However, the CEC does not mandate specific fuel types. This Energy Code is enforced and verified by cities during the planning and building permit process. The current energy efficiency standards (2022 Energy Code) replaced the 2019 Energy Code as of January 1, 2023. The 2022 Energy Code builds on California's technology innovations, encouraging inclusion of market-ready electric products in new construction, such as heat pumps for climate control and water heating. Under the 2022 standards, all new homes are required to be electric-ready. That means buildings with gas stoves have electrical panels and wiring to support a switch to electric stoves. This Energy code also strengthens ventilation standards to improve indoor air quality. This update provides crucial steps in the state's progress toward 100 percent clean carbon neutrality by midcentury.²⁵

²⁴ See: <https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen#:~:text=CALGreen%20is%20the%20first%2Din,to%201990%20levels%20by%202020.>

²⁵ See: https://www.energy.ca.gov/sites/default/files/2021-08/CEC_2022_EnergyCodeUpdateSummary_ADA.pdf

CEC studies have identified the most aggressive electrification scenario as putting the building sector on track to reach the carbon neutrality goal by 2045.²⁶ Installing new natural gas infrastructure in new buildings will interfere with this goal. To meet the State’s goal, communities have been adopting “Reach” codes that prohibit natural gas connections in new and remodeled buildings.

Requirements for electric vehicle (EV) charging infrastructure are set forth in Title 24 of the California Code of Regulations and are regularly updated on a 3-year cycle. The CALGreen standards consist of a set of mandatory standards required for new development, as well as two more voluntary standards known as Tier 1 and Tier 2. The CALGreen 2022 standards require deployment of additional EV chargers in various building types, including multifamily residential and nonresidential land uses. They include requirements for both EV capable parking spaces and the installation of Level 2 EV supply equipment for multifamily residential and nonresidential buildings. The 2022 CALGreen standards include both mandatory requirements and more aggressive voluntary Tier 1 and Tier 2 provisions for both EV readiness and the actual installation of EV chargers. Providing EV charging infrastructure that meets current CALGreen requirements will not be sufficient to power the anticipated more extensive level of EV penetration in the future that is needed to meet SB 32 climate goals.

An update to the current CALGreen Energy Code will be effective on January 1, 2026, with the adoption of the 2025 Energy Code.²⁷ The 2025 standards were adopted at the September 11, 2024 CEC business meeting and will go to the California Building Standards Commission for approval as part of California’s Building Standards Code before the end of 2024. It will apply to newly constructed buildings, additions, and alterations and focus on:

- Expanding the use of heat pumps for space conditioning and water heating in newly constructed single-family, multifamily, and select nonresidential buildings.
- Encouraging electric-ready buildings to set up owners to use cleaner electric water heating and cooking when they are ready to invest in those technologies.
- Updating photovoltaic and battery energy storage system standards for high-rise multifamily and nonresidential buildings to achieve cost effective installations in consideration of revised net billing and virtual net billing rules.
- Updating space conditioning system control standards for nonresidential buildings.
- Updating ventilation requirements in multifamily buildings to improve indoor air quality.

Advanced Clean Cars

The Advanced Clean Cars Program, originally adopted by CARB in 2012, was designed to bring together CARB’s traditional passenger vehicle requirements to meet federal air quality standards and also support California’s AB 32 goals to develop and implement programs to reduce GHG emissions back down to 1990 levels by 2020, a goal achieved in 2016 as a result of numerous emissions reduction programs.

²⁶ California Energy Commission. 2021. *Final Commission Report: California Building Decarbonization Assessment*. Publication Number CEC-400-2021-006-CMF. August

²⁷ CEC 2025 California Energy Code Fact Sheet, September 2024. https://www.energy.ca.gov/sites/default/files/2024-09/2025_California_Energy_Code_Fact_Sheet_ada.pdf

Advanced Clean Cars II (ACC II) is phase two of the original rule. ACC II establishes a year-by-year process, starting in 2026, so all new cars and light trucks sold in California will be zero-emission vehicles by 2035. The regulation codifies the light-duty vehicle goals set out in Governor Newsom's Executive Order N-79-20. Currently, 16 percent of new light-duty vehicles sold in California are zero emissions or plug-in hybrids. By 2030, 68 percent of new vehicles sold in California would be zero emissions and 100 percent by 2035.

City of San Carlos 2045 General Plan

The City of San Carlos General Plan 2045 includes policies and programs to reduce exposure of the City's sensitive population to exposure of air pollution, TACs, and GHG emissions. The following policies and programs are applicable to the proposed project:

Policies

- Policy EM-7.1: Take appropriate action to address climate change and reduce greenhouse gas emissions.
- Policy EM-7.3: Participate in regional, State, and federal efforts to reduce greenhouse gas emissions and mitigate the impacts resulting from climate change.
- Policy EM-7.6: Support greenhouse gas (GHG) emission reduction measures and climate change resiliency strategies that are cost effective and help create an environmentally sustainable, livable, and equitable community. The cost of implementation to the City and private sector shall be considered prior to the adoption of any GHG reduction strategy.

City of San Carlos Climate Mitigation and Adaptation Plan (CMAP)

In 2021, the City adopted a new Climate Mitigation and Adaptation Plan (CMAP) to reduce greenhouse gas emissions.²⁸ The CMAP aims to reduce emissions 40% by 2030 and 80% by 2050 relative to 1990 levels. This CMAP is an update to the 2009 Climate Action Plan (2009 CAP) that provides updated information, an expanded set of GHG reduction strategies, climate adaptation strategies and a planning horizon out to 2050. The following goals and strategies found in the CMAP are relevant to the NEASP:

- Goal 1: Reduce energy use
 - Strategy 1: Regional Energy Conservation and Efficiency Programs. Promote available energy efficiency and conservation opportunities, incentives, and technical assistance for businesses and residents.
- Goal 2: Transition to carbon-free energy sources

²⁸ City of San Carlos Climate Mitigation and Adaptation Plan, URL: <https://cms3.revize.com/revize/sancarlos/Document%20Center/City%20Hall/Departments%20And%20Divisions/City%20Manager/Sustainability/Climate%20Action/CMAP%20Final.pdf>

- Strategy 4: Electrification. Transition to electricity as the primary energy source citywide.
- Strategy 5: Building Codes. Advance electrification through local amendments to the California Building Code.
- Strategy 7: Peninsula Clean Energy. Continue to support and promote PCE as the community's official electricity provider with a goal to provide 100 percent carbon-free renewable energy by 2025.
- Goal 4: Promote sustainable development that reduces vehicle miles traveled.
 - Strategy 17: Vehicles Miles Traveled. Reduce community-wide transportation-related emissions per resident and employee, with an emphasis on reductions from existing and new development in the city's core commercial, office, and industrial areas, including development on the east side.
- Goal 7: Become a zero-waste community
 - Strategy 27: Construction and Demolition Waste. Increase the amount of waste recycled during construction and demolition of buildings.

In conjunction with existing local and state programs, the CMAP strategies provide a path to reduce the City's GHG emissions by 49 percent below 2005 levels by 2030 by 83 percent below 2005 levels by 2050. This would exceed the City's GHG reduction targets to reduce emissions to 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050. The CMAP also includes a Consistency Checklist for New Development that can be used to streamline the development of individual projects.

BAAD GHG Significance Thresholds

On April 20, 2022, BAAD adopted new thresholds of significance for operational GHG emissions from land use projects for projects and Plans beginning the CEQA process. The following framework is how BAAD will determine GHG significance moving forward.²⁹ Note BAAD intends that the thresholds apply to projects that begin the CEQA process after adoption of the thresholds, unless otherwise directed by the lead agency. The new thresholds of significance are:

Plan Level

1. Meet State's goals to reduce emissions to 40% below 1990 levels by 2030 and carbon neutrality by 2045; or:
2. Be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b)

Project Level

- A. Projects must include, at a minimum, the following project design elements:
 - a. Buildings
 - i. The project will not include natural gas appliances or natural gas plumbing (in both residential and non-residential development).

²⁹ Justification Report: BAAD CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Project and Plans. Web: <https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en>

- ii. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.
- b. Transportation
 - i. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
 - 1. Residential Projects: 15 percent below the existing VMT per capita
 - 2. Office Projects: 15 percent below the existing VMT per employee
 - 3. Retail Projects: no net increase in existing VMT
 - ii. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

B. Be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

Any new Plan or land use project would have to include either section A or B from the above list, not both, to be considered in compliance with BAAD's GHG thresholds of significance.

Impact GHG-1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Changes to GHG emissions associated with NEASP would occur from temporary construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term changes to operational emissions associated with vehicular traffic within the project vicinity, energy and water usage, and solid waste disposal. Changes to long term GHG emissions are discussed below.

CalEEMod Modeling

CalEEMod was used to predict GHG emissions from operation of the site assuming full build-out of the project, as well as the existing use of the site. The project land use types and size and other project-specific information were input to the model, as described above within the construction and operational period emissions. CalEEMod output is included in *Attachment 1*.

GHG Emissions

The CalEEMod model was used to estimate daily emissions associated with operation of the fully developed site under the proposed project. For informational purposes, the increase in annual GHG emissions resulting from operation of the Plan Area, shown in Table 14, is 28,664 MT of CO₂e.

Table 14. Annual NEASP GHG Emissions (CO₂e) in Metric Tons

Source Category	Existing Uses in 2024	Existing Uses in 2045	Proposed Uses in 2045	Existing Uses to Be Removed	NEASP Build Out in 2045
Mobile	19,693	16,125	28,794	2,151	42,768
Area	38	38	89	6	121
Energy Consumption	7,836	5,712	6,786	819	11,679
Water Usage	603	405	1,136	205	1,336
Solid Waste Generation	2,133	2,133	1,058	182	3,010
Refrigeration	1,468	1,468	66	13	1,521
Total (MT CO₂e/year)	31,772	25,882	37,989	3,376	60,436
Net Increase over 2024 Existing (MT of CO₂e)					28,664

The primary sources of GHG emissions are from vehicle travel, energy consumption, and solid waste. The modeling results using CalEEMod do not incorporate the effect of CMAP strategies and future regulations that would reduce GHG emissions. For example, CalEEMod results are based on regulations in place in 2020 for on-road vehicles and current emission rates of electricity providers. Under new State laws and CMAP strategies, these emissions are anticipated to decrease substantially beyond those levels predicted by CalEEMod. However, emissions may increase in NEASP because there will be more workers and residents in the area.

Redevelopment in the NEASP area would lead to an increase in vehicle emissions due to the increase in vehicle travel. While NEASP is considered a Transit supportive project that is presumed to have a less-than-significant impact on VMT, the amount of expected growth would increase vehicle travel over existing levels.

GHG emissions associated with energy consumption would increase. The level of this increase would depend on whether new projects are constructed all electric or include natural gas appliances. The CalEEMod modeling assumed new residential and commercial uses would be electrified as BAAD regulations will prohibit installation of new water and space heating systems that are natural gas-powered. These regulations will be phased in beginning 2027 but mainly apply to residential uses. Industrial uses were assumed to use natural gas.

Solid waste generation is anticipated to increase due to the increased population supported by the Plan. CalEEMod emissions associated with solid waste are likely overestimated as various programs are designed to reduce solid waste and reduce emissions from solid waste transport and land fill. The CalEEMod model does not consider these future reductions in emissions.

To have less-than-significant GHG emissions, the NEASP must meet State's goals to reduce emissions to 40% below 1990 levels by 2030 and carbon neutrality by 2045 (Threshold 1) or be consistent with a local GHG reduction strategy (Threshold 2). Projects within the Plan Area must be consistent with a local GHG reduction strategy (Threshold B) or meet the minimum project design elements recommended by BAAD (Threshold A). The City has adopted a CAP (*Climate*

Mitigation and Adaptation Plan) that meets the State CEQA Guidelines Section 15183.5(b). Therefore, the NEASP meets the plan level GHG thresholds and would have a less-than-significant GHG impact. If projects within the Plan Area are in compliance with the City's CMAP Consistency Checklist for New Development (included in Attachment 3), then the project would be considered to have a less-than-significant impact on GHG emissions per BAAD GHG Threshold B.

However, U.S. Court of Appeals for the Ninth Circuit struck down Berkeley, California's natural gas ban via reach code in April 2023, and again in January 2024. The City, therefore, does not enforce portions of the reach codes requiring new development projects to be all electric powered. As a result, projects that are developed with natural gas infrastructure would be considered to have a *significant* impact with respect to GHG emissions.

BAAD has developed project level thresholds of significance for projects located in jurisdictions where a qualified Climate Action Plan or GHG reduction strategy is not adopted. These thresholds are intended to address the State's efforts to reduce GHG emissions and attain carbon neutrality. Impacts of the NEASP under the BAAD project thresholds A (see above), are described as follows:

1. Avoid construction of new natural gas connections for the residential building,
 - Since the City does not enforce the reach code, projects that propose natural gas infrastructure would be considered to have a significant impact.
2. Avoid wasteful or inefficient use of electricity,
 - Project's constructed under the Plan would meet CALGreen Building Standards Code requirements that are considered to be energy efficient.
3. Include electric vehicle charging infrastructure that meets current Building Code CALGreen Tier 2 compliance.
 - Projects constructed under the Plan are that meet the City's CAP would include sufficient EV parking.
4. Reduce VMT per service population by 15 percent over regional average.
 - Daily VMT for build-out of the NEASP was screened out from VMT assessment as the entire plan is within a TPA.

Since projects constructed under the NEASP could be approved with natural gas infrastructure that emits GHG in conflict with the City's CAP and BAAD project-level thresholds, the impact would be considered *significant*.

Mitigation Measure GHG-1: Ensure all new development meet City CAP and BAAD project-level thresholds.

NEASP projects shall meet the following measures:

- All new development projects within the NEASP would be required to be all electric.
- Projects that include natural gas appliances would have to enter into an agreement with the City to reduce GHG emissions equivalent to those emitted

by the Project's natural gas appliances. Applicants would have to provide evidence to the City demonstrating that these emissions were properly identified and offset, prior to receiving any approval for construction (e.g., building permit).

Effectiveness of Mitigation Measure GHG-1

With the implementation of all electric infrastructure for new development, the Specific Plan and projects within the Specific Plan would be consistent with GHG thresholds and the impact would be *less-than-significant*.

Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The proposed project would not conflict or otherwise interfere with the statewide GHG reduction measures identified in CARB's Scoping Plan. The City of San Carlos has a CMAP and enforces its building codes, which aim to reduce GHG emissions. Therefore, if individual projects conform to City building Codes, they will conform with the CAP and would not conflict with local plans, policies, or regulations applicable to GHG emissions. The proposed projects would be constructed in conformance with at minimum the 2022 CalGreen and the Title 24 Building Codes, which requires high-efficiency water fixtures, water-efficient irrigation systems, and compliance with current energy efficiency standards. Compliance with these standards ensures compliance with State and federal plans, policies, and regulations applicable to GHG emissions.

SUPPORTING DOCUMENTATION

Attachment 1 includes the CalEEMod output for project operational criteria air pollutants. Also included are any modeling assumptions.

Attachment 2 includes the health risk calculations, modeling results, and screening impacts from sources affecting the proposed future Specific Plan receptors.

Attachment 3 includes the San Carlos CMAP Consistency Checklist for New Development.

Attachment 1: CalEEMod Modeling and Assumptions

Existing 2024 Operational Criteria Air Pollutants				
Unmitigated	ROG	NOX	Total PM10	Total PM2.5
Year	Tons			
Total	22.88	13.22	9.16	2.75
Net Annual Operational Emissions				
Tons/year	22.88	13.22	9.16	2.75
Threshold - Tons/year	10.0	10.0	15.0	10.0
Average Daily Emissions				
Pounds Per Day	125.36	72.45	50.18	15.08
Threshold - lbs/day	54.0	54.0	82.0	54.0
Category	CO2e			
	Project			
Mobile	19693.25			
Area	38.38			
Energy	7835.92			
Water	602.86			
Waste	2133.33			
Refrig.	1468.11			
TOTAL	31771.85	0.00	0.00	0.00
Net GHG Emissions		31771.85		0.00

Existing 2045 Operational Criteria Air Pollutants				
Unmitigated	ROG	NOX	Total PM10	Total PM2.5
Year	Tons			
Total	20.31	9.29	9.10	2.69
Net Annual Operational Emissions				
Tons/year	20.31	9.29	9.10	2.69
Threshold - Tons/year	10.0	10.0	15.0	10.0
Average Daily Emissions				
Pounds Per Day	111.31	50.90	49.84	14.74
Threshold - lbs/day	54.0	54.0	82.0	54.0
Category	CO2e			
	Project			
Mobile	16125.36			
Area	38.38			
Energy	5711.90			
Water	405.27			
Waste	2133.33			
Refrig.	1468.11			
TOTAL	25882.34	0.00	0.00	0.00
Net GHG Emissions		25882.34		0.00

Existing to Be Removed 2045 Operational Criteria Air Pollutants					
Unmitigated	ROG	NOX	Total PM10	Total PM2.5	
Year	Tons				
Total	3.05	1.29	1.22	0.36	
Net Annual Operational Emissions					
Tons/year	3.05	1.29	1.22	0.36	
Threshold - Tons/year	10.0	10.0	15.0	10.0	
Average Daily Emissions					
Pounds Per Day	16.71	7.07	6.68	1.99	
Threshold - lbs/day	54.0	54.0	82.0	54.0	
CO2e					
Category	Project				
Mobile	2151.06				
Area	6.13				
Energy	818.83				
Water	204.87				
Waste	181.68				
Refrig.	13.08				
TOTAL	3375.65	0.00	0.00	0.00	
Net GHG Emissions		3375.65		0.00	

Proposed 2045 Operational Criteria Air Pollutants					
Unmitigated	ROG	NOX	Total PM10	Total PM2.5	
Year	Tons				
Total	45.35	13.82	15.95	4.55	
Net Annual Operational Emissions					
Tons/year	45.35	13.82	15.95	4.55	
Threshold - Tons/year	10.0	10.0	15.0	10.0	
Average Daily Emissions					
Pounds Per Day	248.48	75.74	87.40	24.94	
Threshold - lbs/day	54.0	54.0	82.0	54.0	
CO2e					
Category	Project				
Mobile	28793.95				
Area	88.79				
Energy	6785.70				
Water	1136.10				
Waste	1058.24				
Refrig.	66.20				
TOTAL	37928.98	0.00	0.00	0.00	
Net GHG Emissions		37928.98		0.00	

Full Build Out 2045 Operational Criteria Air Pollutants					
Unmitigated	ROG	NOX	Total PM10	Total PM2.5	
Year	Tons				
Total	62.61	21.82	23.83	6.88	
Net Annual Operational Emissions					
Tons/year	62.61	21.82	23.83	6.88	
Threshold - Tons/year	10.0	10.0	15.0	10.0	
Average Daily Emissions					
Pounds Per Day	343.08	119.57	130.57	37.69	
Threshold - lbs/day	54.0	54.0	82.0	54.0	
Category	CO2e				
	Full Build Out				
Mobile	42768.25				
Area	121.05				
Energy	11678.77				
Water	1336.50				
Waste	3009.89				
Refrig.	1521.22				
TOTAL	60435.67	0.00	0.00	0.00	
Net GHG Emissions		60435.67		0.00	

Land Use	ITE Code	Size	Units	Daily
Existing				
R&D	760	400	<u>kst</u>	4,432
Light Industrial	110	1,264	<u>kst</u>	6,156
General Office	710	58	<u>kst</u>	629
Hospital	610	415	<u>kst</u>	4,470
Automobile Sales	840	27	<u>kst</u>	752
Automobile Care Center	942	14	<u>kst</u>	226
Animal Hospital/Veterinary Clinic	640	10	<u>kst</u>	215
Small Office Building	712	9	<u>kst</u>	130
Single Tenant Office Building	715	84	<u>kst</u>	1,098
Warehousing	150	234	<u>kst</u>	400
Manufacturing	140	104	<u>kst</u>	494
EXISTING TRIPS				19,001

Land Use	ITE Code	Size	Units	AM Peak			PM Peak			Daily
				Total	In	Out	Total	In	Out	
Proposed										
R&D	760	2,964	ksf	3,063	2,503	550	2,905	465	2,440	32,841
Light Industrial	110	700	ksf	518	456	62	455	64	391	3,400
General Office	710	180	ksf	274	241	33	259	44	215	1,951
Retail	821	80	ksf	139	86	53	415	203	212	5,501
Residential (MF Mid-Rise)	226	1,890	units	699	161	538	737	450	287	8,482
Warehousing	150	40	ksf	7	5	2	7	2	5	68
Manufacturing	140	492	ksf	334	254	80	361	113	248	2,337
GROSS PLAN VEHICLE TRIPS				5,024	3,706	1,318	5,139	1,341	3,798	54,589
TDM REDUCTION (25%)				(1,257)	(927)	(330)	(1,285)	(335)	(950)	(13,647)
SUBTOTAL PROJECT TRIPS				3,767	2,779	988	3,854	1,006	2,848	40,942
Existing to be removed										
Light Industrial	110	303	ksf	(224)	(197)	(27)	(197)	(28)	(169)	(1,476)
General Office	710	45	ksf	(66)	(60)	(8)	(65)	(11)	(54)	(488)
Animal Hospital/Veterinary Clinic	640	10	ksf	(36)	(24)	(12)	(35)	(14)	(21)	(215)
Warehousing	150	60	ksf	(10)	(8)	(2)	(11)	(3)	(8)	(103)
EXISTING TRIPS TO BE REMOVED				(338)	(289)	(49)	(308)	(56)	(252)	(2,282)
NET PLAN VEHICLE TRIPS				3,429	2,490	939	3,546	950	2,596	38,660
Notes:										
• Individual parcels' trips are rounded to nearest KSF to generate square footages.										
• Plan area total trip generation are rounded to the nearest trip for each land use.										
• ITE trip generation utilized average rates, general urban context, and AM/PM peak hour of adjacent street traffic.										

23-003 San Carlos Northeast Area Specific Plan Proposed 2045

Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	23-003 San Carlos Northeast Area Specific Plan Proposed 2045
Operational Year	2045
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.70
Precipitation (days)	3.20
Location	San Carlos, CA, USA
County	San Mateo
City	San Carlos
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1258
EDFZ	1
Electric Utility	Peninsula Clean Energy
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Research & Development	2,964	1000sqft	68.0	2,964,000	0.00	—	—	—

General Heavy Industry	700	1000sqft	16.1	700,000	0.00	—	—	—
General Office Building	180	1000sqft	4.13	180,000	0.00	—	—	—
Regional Shopping Center	80.0	1000sqft	1.84	80,000	0.00	—	—	—
Apartments Mid Rise	1,890	Dwelling Unit	49.7	1,814,400	0.00	—	5,443	—
Unrefrigerated Warehouse-No Rail	40.0	1000sqft	0.92	40,000	0.00	—	—	—
Manufacturing	492	1000sqft	11.3	492,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Unmit.	292	83.1	3.72	109	113	3.58	28.2	31.8	291,027
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Unmit.	250	89.5	3.33	109	113	3.28	28.2	31.5	279,916
Average Daily (Max)	—	—	—	—	—	—	—	—	—
Unmit.	248	75.7	3.36	84.0	87.4	3.27	21.7	24.9	229,093
Annual (Max)	—	—	—	—	—	—	—	—	—
Unmit.	45.3	13.8	0.61	15.3	16.0	0.60	3.96	4.55	37,929

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Mobile	94.8	46.2	0.72	109	110	0.68	28.2	28.9	235,300
Area	195	2.62	0.39	—	0.39	0.30	—	0.30	1,088
Energy	1.88	34.3	2.60	—	2.60	2.60	—	2.60	40,986
Water	—	—	—	—	—	—	—	—	6,862
Waste	—	—	—	—	—	—	—	—	6,392
Refrig.	—	—	—	—	—	—	—	—	400
Total	292	83.1	3.72	109	113	3.58	28.2	31.8	291,027
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Mobile	93.9	55.3	0.72	109	110	0.68	28.2	28.9	225,277
Area	154	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Energy	1.88	34.3	2.60	—	2.60	2.60	—	2.60	40,986
Water	—	—	—	—	—	—	—	—	6,862
Waste	—	—	—	—	—	—	—	—	6,392
Refrig.	—	—	—	—	—	—	—	—	400
Total	250	89.5	3.33	109	113	3.28	28.2	31.5	279,916
Average Daily	—	—	—	—	—	—	—	—	—
Mobile	72.4	40.2	0.56	84.0	84.6	0.52	21.7	22.2	173,917
Area	174	1.29	0.19	—	0.19	0.15	—	0.15	536
Energy	1.88	34.3	2.60	—	2.60	2.60	—	2.60	40,986
Water	—	—	—	—	—	—	—	—	6,862
Waste	—	—	—	—	—	—	—	—	6,392
Refrig.	—	—	—	—	—	—	—	—	400

Total	248	75.7	3.36	84.0	87.4	3.27	21.7	24.9	229,093
Annual	—	—	—	—	—	—	—	—	—
Mobile	13.2	7.34	0.10	15.3	15.4	0.10	3.96	4.05	28,794
Area	31.8	0.24	0.04	—	0.04	0.03	—	0.03	88.8
Energy	0.34	6.25	0.48	—	0.48	0.48	—	0.48	6,786
Water	—	—	—	—	—	—	—	—	1,136
Waste	—	—	—	—	—	—	—	—	1,058
Refrig.	—	—	—	—	—	—	—	—	66.2
Total	45.3	13.8	0.61	15.3	16.0	0.60	3.96	4.55	37,929

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Research & Development	40.9	20.9	0.34	51.8	52.2	0.32	13.4	13.7	111,145
General Heavy Industry	11.9	6.08	0.10	15.0	15.1	0.09	3.88	3.97	32,264
General Office Building	4.15	2.13	0.03	5.27	5.30	0.03	1.36	1.39	11,298
Regional Shopping Center	12.4	4.86	0.06	8.88	8.94	0.06	2.29	2.35	19,543
Apartments Mid Rise	17.3	7.96	0.12	17.8	18.0	0.11	4.60	4.71	38,549

Unrefrigerated Warehouse-No Rail	0.14	0.07	< 0.005	0.18	0.18	< 0.005	0.05	0.05	394
Manufacturing	8.13	4.17	0.07	10.3	10.4	0.06	2.66	2.72	22,107
Total	94.8	46.2	0.72	109	110	0.68	28.2	28.9	235,300
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Research & Development	40.4	25.0	0.34	51.8	52.2	0.32	13.4	13.7	106,381
General Heavy Industry	11.7	7.27	0.10	15.0	15.1	0.09	3.88	3.97	30,881
General Office Building	4.11	2.55	0.03	5.27	5.30	0.03	1.36	1.39	10,814
Regional Shopping Center	12.3	5.80	0.06	8.88	8.94	0.06	2.29	2.35	18,744
Apartments Mid Rise	17.1	9.52	0.12	17.8	18.0	0.11	4.60	4.71	36,920
Unrefrigerated Warehouse-No Rail	0.14	0.09	< 0.005	0.18	0.18	< 0.005	0.05	0.05	377
Manufacturing	8.04	4.98	0.07	10.3	10.4	0.06	2.66	2.72	21,160
Total	93.9	55.3	0.72	109	110	0.68	28.2	28.9	225,277
Annual	—	—	—	—	—	—	—	—	—
Research & Development	5.49	3.23	0.05	7.10	7.15	0.04	1.83	1.88	13,282
General Heavy Industry	1.47	0.86	0.01	1.90	1.91	0.01	0.49	0.50	3,551
General Office Building	0.56	0.33	< 0.005	0.73	0.73	< 0.005	0.19	0.19	1,358
Regional Shopping Center	1.73	0.76	0.01	1.18	1.19	0.01	0.30	0.31	2,283
Apartments Mid Rise	2.93	1.55	0.02	3.09	3.11	0.02	0.80	0.82	5,823

Unrefrigerated Warehouse-No Rail	0.03	0.02	< 0.005	0.03	0.03	< 0.005	0.01	0.01	0.01	62.5
Manufacturing	1.01	0.59	0.01	1.30	1.31	0.01	0.34	0.34	0.34	2,434
Total	13.2	7.34	0.10	15.3	15.4	0.10	3.96	4.05	4.05	28,794

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	0.00
General Heavy Industry	—	—	—	—	—	—	—	—	0.00
General Office Building	—	—	—	—	—	—	—	—	0.00
Regional Shopping Center	—	—	—	—	—	—	—	—	0.00
Apartments Mid Rise	—	—	—	—	—	—	—	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	0.00
Manufacturing	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	0.00

General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	0.00
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	0.00
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	0.00
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	0.00
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	0.00
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Research & Development	1.04	18.9	1.44	—	—	1.44	1.44	—	1.44	22,623
General Heavy Industry	0.45	8.23	0.63	—	—	0.63	0.63	—	0.63	9,851
General Office Building	0.06	1.15	0.09	—	—	0.09	0.09	—	0.09	1,374
Regional Shopping Center	0.01	0.12	0.01	—	—	0.01	0.01	—	0.01	147
Apartments Mid Rise	0.00	0.00	0.00	—	—	0.00	0.00	—	0.00	0.00
Unrefrigerated Warehouse-No Rail	< 0.005	0.06	< 0.005	—	—	< 0.005	< 0.005	—	< 0.005	67.5
Manufacturing	0.32	5.79	0.44	—	—	0.44	0.44	—	0.44	6,924
Total	1.88	34.3	2.60	—	—	2.60	2.60	—	2.60	40,986
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Research & Development	1.04	18.9	1.44	—	—	1.44	1.44	—	1.44	22,623
General Heavy Industry	0.45	8.23	0.63	—	—	0.63	0.63	—	0.63	9,851
General Office Building	0.06	1.15	0.09	—	—	0.09	0.09	—	0.09	1,374
Regional Shopping Center	0.01	0.12	0.01	—	—	0.01	0.01	—	0.01	147
Apartments Mid Rise	0.00	0.00	0.00	—	—	0.00	0.00	—	0.00	0.00
Unrefrigerated Warehouse-No Rail	< 0.005	0.06	< 0.005	—	—	< 0.005	< 0.005	—	< 0.005	67.5
Manufacturing	0.32	5.79	0.44	—	—	0.44	0.44	—	0.44	6,924
Total	1.88	34.3	2.60	—	—	2.60	2.60	—	2.60	40,986
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Research & Development	1.04	18.9	1.44	—	—	1.44	1.44	—	1.44	22,623
General Heavy Industry	0.45	8.23	0.63	—	—	0.63	0.63	—	0.63	9,851
General Office Building	0.06	1.15	0.09	—	—	0.09	0.09	—	0.09	1,374
Regional Shopping Center	0.01	0.12	0.01	—	—	0.01	0.01	—	0.01	147
Apartments Mid Rise	0.00	0.00	0.00	—	—	0.00	0.00	—	0.00	0.00
Unrefrigerated Warehouse-No Rail	< 0.005	0.06	< 0.005	—	—	< 0.005	< 0.005	—	< 0.005	67.5
Manufacturing	0.32	5.79	0.44	—	—	0.44	0.44	—	0.44	6,924
Total	1.88	34.3	2.60	—	—	2.60	2.60	—	2.60	40,986

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	0.19	3.45	0.26	—	0.26	—	0.26	—	—	0.26	—	—	3,746	—
General Heavy Industry	0.08	1.50	0.11	—	0.11	—	0.11	—	—	0.11	—	—	1,631	—
General Office Building	0.01	0.21	0.02	—	0.02	—	0.02	—	—	0.02	—	—	227	—
Regional Shopping Center	< 0.005	0.02	< 0.005	—	< 0.005	—	< 0.005	—	—	< 0.005	—	< 0.005	24.3	—
Apartments Mid Rise	0.00	0.00	0.00	—	0.00	—	0.00	—	—	0.00	—	—	0.00	—
Unrefrigerated Warehouse-No Rail	< 0.005	0.01	< 0.005	—	< 0.005	—	< 0.005	—	—	< 0.005	—	< 0.005	11.2	—
Manufacturing	0.06	1.06	0.08	—	0.08	—	0.08	—	—	0.08	—	—	1,146	—
Total	0.34	6.25	0.48	—	0.48	—	0.48	—	—	0.48	—	—	6,786	—

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Consumer Products	134	—	—	—	—	—	—	—	—
Architectural Coatings	19.7	—	—	—	—	—	—	—	—
Landscape Equipment	41.2	2.62	0.39	—	0.39	0.30	—	0.30	1,088
Total	195	2.62	0.39	—	0.39	0.30	—	0.30	1,088

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	—	0.00
Consumer Products	134	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	19.7	—	—	—	—	—	—	—	—	—	—	—
Total	154	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	—	0.00
Consumer Products	24.5	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	3.60	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	3.71	0.24	0.04	—	0.04	0.03	—	0.03	—	0.03	—	88.8
Total	31.8	0.24	0.04	—	0.04	0.03	—	0.03	—	0.03	—	88.8

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	5,409
General Heavy Industry	—	—	—	—	—	—	—	—	601
General Office Building	—	—	—	—	—	—	—	—	119

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	22.0	
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	254	
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	34.3	
Manufacturing	—	—	—	—	—	—	—	—	—	—	422	
Total	—	—	—	—	—	—	—	—	—	—	6,862	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	
Research & Development	—	—	—	—	—	—	—	—	—	—	5,409	
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	601	
General Office Building	—	—	—	—	—	—	—	—	—	—	119	
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	22.0	
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	254	
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	34.3	
Manufacturing	—	—	—	—	—	—	—	—	—	—	422	
Total	—	—	—	—	—	—	—	—	—	—	6,862	
Annual	—	—	—	—	—	—	—	—	—	—	—	
Research & Development	—	—	—	—	—	—	—	—	—	—	896	
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	99.5	
General Office Building	—	—	—	—	—	—	—	—	—	—	19.7	

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.64
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	42.1
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	5.68
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	69.9
Total	—	—	—	—	—	—	—	—	—	—	—	1,136

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	425
General Heavy Industry	—	—	—	—	—	—	—	—	1,637
General Office Building	—	—	—	—	—	—	—	—	316
Regional Shopping Center	—	—	—	—	—	—	—	—	158
Apartments Mid Rise	—	—	—	—	—	—	—	—	2,635
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	70.9
Manufacturing	—	—	—	—	—	—	—	—	1,150
Total	—	—	—	—	—	—	—	—	6,392

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	425	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	1,637	—
General Office Building	—	—	—	—	—	—	—	—	—	—	316	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	158	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	2,635	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	70.9	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	1,150	—
Total	—	—	—	—	—	—	—	—	—	—	6,392	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	70.3	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	271	—
General Office Building	—	—	—	—	—	—	—	—	—	—	52.3	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	26.2	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	436	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	11.7	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	190	—
Total	—	—	—	—	—	—	—	—	—	—	1,058	—

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	75.7
General Heavy Industry	—	—	—	—	—	—	—	—	182
General Office Building	—	—	—	—	—	—	—	—	0.44
Regional Shopping Center	—	—	—	—	—	—	—	—	0.38
Apartments Mid Rise	—	—	—	—	—	—	—	—	13.0
Manufacturing	—	—	—	—	—	—	—	—	128
Total	—	—	—	—	—	—	—	—	400
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	75.7
General Heavy Industry	—	—	—	—	—	—	—	—	182
General Office Building	—	—	—	—	—	—	—	—	0.44
Regional Shopping Center	—	—	—	—	—	—	—	—	0.38
Apartments Mid Rise	—	—	—	—	—	—	—	—	13.0
Manufacturing	—	—	—	—	—	—	—	—	128
Total	—	—	—	—	—	—	—	—	400

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	12.5	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	30.2	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.07	—
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	0.06	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	2.15	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	21.2	—
Total	—	—	—	—	—	—	—	—	—	—	—	66.2	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
------------	-----	-----	-------	-------	-------	--------	--------	--------	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Research & Development	19,195	3,240	1,891	5,271,904	172,288	29,078	16,973	47,319,226

General Heavy Industry	3,409	5,572	4,417	1,409,630	30,598	50,013	39,646	12,652,469
General Office Building	1,951	443	140	539,115	17,513	3,974	1,260	4,838,959
Regional Shopping Center	5,402	6,600	3,019	1,910,055	21,605	29,511	13,500	7,875,529
Apartments Mid Rise	8,581	7,745	6,452	2,977,393	59,290	53,518	44,585	20,573,050
Unrefrigerated Warehouse-No Rail	68.0	68.0	68.0	24,820	610	610	610	222,778
Manufacturing	2,337	3,818	3,026	966,140	20,976	34,269	27,159	8,671,823

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)							
Apartments Mid Rise	—							
Wood Fireplaces	0							
Gas Fireplaces	0							
Propane Fireplaces	0							
Electric Fireplaces	0							
No Fireplaces	0							
Conventional Wood Stoves	0							
Catalytic Wood Stoves	0							
Non-Catalytic Wood Stoves	0							
Pellet Wood Stoves	0							

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
3674160	1,224,720	6,684,000	2,228,000	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBtu/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBtu/yr)
Research & Development	62,743,829	0.00	0.0000	0.0000	70,395,860
General Heavy Industry	7,637,103	0.00	0.0000	0.0000	30,652,374
General Office Building	3,810,354	0.00	0.0000	0.0000	4,275,052
Regional Shopping Center	683,598	0.00	0.0000	0.0000	455,886
Apartments Mid Rise	11,324,255	0.00	0.0000	0.0000	0.00
Unrefrigerated Warehouse-No Rail	400,713	0.00	0.0000	0.0000	210,171
Manufacturing	5,367,792	0.00	0.0000	0.0000	21,544,240

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Research & Development	1,457,380,860	0.00
General Heavy Industry	161,875,000	0.00

General Office Building	31,992,075	0.00
Regional Shopping Center	5,925,802	0.00
Apartments Mid Rise	68,543,496	0.00
Unrefrigerated Warehouse-No Rail	9,250,000	0.00
Manufacturing	113,775,000	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Research & Development	225	—
General Heavy Industry	868	—
General Office Building	167	—
Regional Shopping Center	84.0	—
Apartments Mid Rise	1,398	—
Unrefrigerated Warehouse-No Rail	37.6	—
Manufacturing	610	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
General Heavy Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Manufacturing	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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5.17. User Defined

Equipment Type		Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.23	annual days of extreme heat
Extreme Precipitation	4.65	annual days with precipitation above 20 mm

Sea Level Rise	—	meters of inundation depth
Wildfire	13.4	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi. Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A

Extreme Precipitation	N/A	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract				
Exposure Indicators	—				
AQ-Ozone	6.38				
AQ-PM	18.7				
AQ-DPM	77.9				
Drinking Water	11.4				
Lead Risk Housing	60.4				
Pesticides	0.00				
Toxic Releases	26.9				
Traffic	55.0				
Effect Indicators	—				

CleanUp Sites	71.9
Groundwater	95.9
Haz Waste Facilities/Generators	88.9
Impaired Water Bodies	0.00
Solid Waste	22.1
Sensitive Population	—
Asthma	11.7
Cardio-vascular	13.3
Low Birth Weights	74.9
Socioeconomic Factor Indicators	—
Education	24.1
Housing	21.6
Linguistic	36.0
Poverty	23.9
Unemployment	25.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	72.1416656
Employed	91.08174002
Median HI	71.96201719
Education	—
Bachelor's or higher	83.65199538
High school enrollment	100
Preschool enrollment	82.71525728
Transportation	—

Auto Access	55.28037983
Active commuting	71.05094315
Social	—
2-parent households	19.08122674
Voting	87.46310792
Neighborhood	—
Alcohol availability	19.2865392
Park access	81.35506224
Retail density	83.10021814
Supermarket access	65.10971385
Tree canopy	87.27062749
Housing	—
Homeownership	20.18478121
Housing habitability	66.13627615
Low-inc homeowner severe housing cost burden	70.11420506
Low-inc renter severe housing cost burden	76.20941871
Uncrowded housing	77.4541255
Health Outcomes	—
Insured adults	70.78147055
Arthritis	0.0
Asthma ER Admissions	79.6
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	89.3

Cognitively Disabled	70.6
Physically Disabled	80.2
Heart Attack ER Admissions	85.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	50.1
Elderly	38.5
English Speaking	45.4
Foreign-born	57.9
Outdoor Workers	75.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	41.3
Traffic Density	46.5
Traffic Access	87.4
Other Indices	—
Hardship	11.1
Other Decision Support	—

2016 Voting	91.2
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7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	26.0
Healthy Places Index Score for Project Location (b)	83.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

- a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
- b: The maximum Healthy Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	Peninsula Clean Energy is San Carlos default clean energy provider. CalEEMod 2045 forecasted factor used.
Operations: Vehicle Data	Provided trip gen with reduction adjustments for TDM.
Operations: Hearths	No hearths.
Operations: Energy Use	No natural gas for residential uses. Convert natural gas to electricity. All other uses stay as natural gas.
Operations: Water and Waste Water	Wastewater treatment 100% aerobic - no septic tanks or lagoons.

Operations: Road Dust	Silt loading factor = 0.0357.
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23-003 San Carlos Northeast Area Specific Plan Existing 2024 Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	23-003 San Carlos Northeast Area Specific Plan Existing 2024
Operational Year	2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.70
Precipitation (days)	3.20
Location	San Carlos, CA, USA
County	San Mateo
City	San Carlos
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1258
EDFZ	1
Electric Utility	Peninsula Clean Energy
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Research & Development	400	1000sqft	9.18	400,000	0.00	—	—	—

General Heavy Industry	1,264	1000sqft	29.0	1,264,000	0.00	—	—	—
General Office Building	151	1000sqft	3.47	151,000	0.00	—	—	—
Hospital	425	1000sqft	9.76	425,000	0.00	—	—	—
Automobile Care Center	41.0	1000sqft	0.94	41,000	0.00	—	—	—
Unrefrigerated Warehouse-No Rail	234	1000sqft	5.37	234,000	0.00	—	—	—
Manufacturing	104	1000sqft	2.39	104,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Unmit.	153	80.9	3.32	62.6	65.9	3.21	16.1	19.3	237,813
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Unmit.	133	89.1	3.12	62.6	65.7	3.05	16.1	19.2	229,687
Average Daily (Max)	—	—	—	—	—	—	—	—	—
Unmit.	125	72.4	2.99	47.2	50.2	2.92	12.2	15.1	191,904
Annual (Max)	—	—	—	—	—	—	—	—	—
Unmit.	22.9	13.2	0.55	8.61	9.16	0.53	2.22	2.75	31,772

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Mobile	69.1	51.1	0.92	62.6	63.6	0.86	16.1	17.0	164,619
Area	82.2	0.96	0.20	—	0.20	0.15	—	0.15	470
Energy	1.59	28.8	2.19	—	2.19	2.19	—	2.19	47,329
Water	—	—	—	—	—	—	—	—	3,641
Waste	—	—	—	—	—	—	—	—	12,885
Refrig.	—	—	—	—	—	—	—	—	8,867
Total	153	80.9	3.32	62.6	65.9	3.21	16.1	19.3	237,813
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Mobile	67.8	60.3	0.93	62.6	63.6	0.86	16.1	17.0	156,963
Area	63.5	—	—	—	—	—	—	—	—
Energy	1.59	28.8	2.19	—	2.19	2.19	—	2.19	47,329
Water	—	—	—	—	—	—	—	—	3,641
Waste	—	—	—	—	—	—	—	—	12,885
Refrig.	—	—	—	—	—	—	—	—	8,867
Total	133	89.1	3.12	62.6	65.7	3.05	16.1	19.2	229,687
Average Daily	—	—	—	—	—	—	—	—	—
Mobile	51.0	43.1	0.70	47.2	47.9	0.65	12.2	12.8	118,948
Area	72.7	0.47	0.10	—	0.10	0.08	—	0.08	232
Energy	1.59	28.8	2.19	—	2.19	2.19	—	2.19	47,329
Water	—	—	—	—	—	—	—	—	3,641
Waste	—	—	—	—	—	—	—	—	12,885
Refrig.	—	—	—	—	—	—	—	—	8,867

Total	125	72.4	2.99	47.2	50.2	2.92	12.2	15.1	191,904
Annual	—	—	—	—	—	—	—	—	—
Mobile	9.31	7.87	0.13	8.61	8.74	0.12	2.22	2.34	19,693
Area	13.3	0.09	0.02	—	0.02	0.01	—	0.01	38.4
Energy	0.29	5.26	0.40	—	0.40	0.40	—	0.40	7,836
Water	—	—	—	—	—	—	—	—	603
Waste	—	—	—	—	—	—	—	—	2,133
Refrig.	—	—	—	—	—	—	—	—	1,468
Total	22.9	13.2	0.55	8.61	9.16	0.53	2.22	2.75	31,772

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Research & Development	13.2	9.75	0.18	12.0	12.1	0.16	3.08	3.25	31,422
General Heavy Industry	29.9	22.1	0.40	27.1	27.5	0.37	6.99	7.37	71,333
General Office Building	5.53	4.09	0.07	5.01	5.08	0.07	1.29	1.36	13,168
Hospital	13.9	10.3	0.19	12.6	12.8	0.17	3.26	3.43	33,205
Automobile Care Center	2.91	2.15	0.04	2.64	2.68	0.04	0.68	0.72	6,933
Unrefrigerated Warehouse-No Rail	1.19	0.88	0.02	1.08	1.10	0.01	0.28	0.29	2,837

Manufacturing	2.40	1.78	0.03	2.18	2.21	0.03	0.56	0.59	5,722	
Total	69.1	51.1	0.92	62.6	63.6	0.86	16.1	17.0	164,619	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	
Research & Development	12.9	11.5	0.18	12.0	12.1	0.16	3.08	3.25	29,961	
General Heavy Industry	29.4	26.1	0.40	27.1	27.5	0.37	6.99	7.37	68,016	
General Office Building	5.43	4.82	0.07	5.01	5.08	0.07	1.29	1.36	12,555	
Hospital	13.7	12.2	0.19	12.6	12.8	0.17	3.26	3.43	31,661	
Automobile Care Center	2.86	2.54	0.04	2.64	2.68	0.04	0.68	0.72	6,610	
Unrefrigerated Warehouse-No Rail	1.17	1.04	0.02	1.08	1.10	0.01	0.28	0.29	2,705	
Manufacturing	2.36	2.10	0.03	2.18	2.21	0.03	0.56	0.59	5,456	
Total	67.8	60.3	0.93	62.6	63.6	0.86	16.1	17.0	156,963	
Annual	—	—	—	—	—	—	—	—	—	
Research & Development	1.75	1.49	0.02	1.64	1.66	0.02	0.42	0.44	3,745	
General Heavy Industry	3.66	3.12	0.05	3.43	3.48	0.05	0.88	0.93	7,832	
General Office Building	0.74	0.63	0.01	0.69	0.70	0.01	0.18	0.19	1,579	
Hospital	2.23	1.90	0.03	2.09	2.12	0.03	0.54	0.57	4,773	
Automobile Care Center	0.44	0.31	< 0.005	0.30	0.30	< 0.005	0.08	0.08	686	
Unrefrigerated Warehouse-No Rail	0.21	0.18	< 0.005	0.20	0.20	< 0.005	0.05	0.05	449	
Manufacturing	0.29	0.25	< 0.005	0.27	0.28	< 0.005	0.07	0.07	628	
Total	9.31	7.87	0.13	8.61	8.74	0.12	2.22	2.34	19,693	

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	2,366
General Heavy Industry	—	—	—	—	—	—	—	—	3,854
General Office Building	—	—	—	—	—	—	—	—	893
Hospital	—	—	—	—	—	—	—	—	4,619
Automobile Care Center	—	—	—	—	—	—	—	—	125
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	655
Manufacturing	—	—	—	—	—	—	—	—	317
Total	—	—	—	—	—	—	—	—	12,829
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	2,366
General Heavy Industry	—	—	—	—	—	—	—	—	3,854
General Office Building	—	—	—	—	—	—	—	—	893
Hospital	—	—	—	—	—	—	—	—	4,619
Automobile Care Center	—	—	—	—	—	—	—	—	125

[illegible]

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Research & Development	0.14	2.55	0.19	—	0.19	0.19	—	0.19	3,053
General Heavy Industry	0.82	14.9	1.13	—	1.13	1.13	—	1.13	17,788
General Office Building	0.05	0.96	0.07	—	0.07	0.07	—	0.07	1,153
Hospital	0.46	8.42	0.64	—	0.64	0.64	—	0.64	10,071

Automobile Care Center	0.03	0.48	0.04	—	0.04	0.04	—	0.04	577
Unrefrigerated Warehouse-No Rail	0.02	0.33	0.03	—	0.03	0.03	—	0.03	395
Manufacturing	0.07	1.22	0.09	—	0.09	0.09	—	0.09	1,464
Total	1.59	28.8	2.19	—	2.19	2.19	—	2.19	34,500
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Research & Development	0.14	2.55	0.19	—	0.19	0.19	—	0.19	3,053
General Heavy Industry	0.82	14.9	1.13	—	1.13	1.13	—	1.13	17,788
General Office Building	0.05	0.96	0.07	—	0.07	0.07	—	0.07	1,153
Hospital	0.46	8.42	0.64	—	0.64	0.64	—	0.64	10,071
Automobile Care Center	0.03	0.48	0.04	—	0.04	0.04	—	0.04	577
Unrefrigerated Warehouse-No Rail	0.02	0.33	0.03	—	0.03	0.03	—	0.03	395
Manufacturing	0.07	1.22	0.09	—	0.09	0.09	—	0.09	1,464
Total	1.59	28.8	2.19	—	2.19	2.19	—	2.19	34,500
Annual	—	—	—	—	—	—	—	—	—
Research & Development	0.03	0.47	0.04	—	0.04	0.04	—	0.04	505
General Heavy Industry	0.15	2.71	0.21	—	0.21	0.21	—	0.21	2,945
General Office Building	0.01	0.18	0.01	—	0.01	0.01	—	0.01	191
Hospital	0.08	1.54	0.12	—	0.12	0.12	—	0.12	1,667
Automobile Care Center	< 0.005	0.09	0.01	—	0.01	0.01	—	0.01	95.5

Unrefrigerated Warehouse-No Rail	< 0.005	0.06	< 0.005	—	< 0.005	—	< 0.005	—	< 0.005	65.4	
Manufacturing	0.01	0.22	0.02	—	0.02	—	0.02	—	0.02	242	
Total	0.29	5.26	0.40	—	0.40	—	0.40	—	0.40	5,712	

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Consumer Products	56.0	—	—	—	—	—	—	—	—
Architectural Coatings	7.49	—	—	—	—	—	—	—	—
Landscape Equipment	18.7	0.96	0.20	—	0.20	0.15	—	0.15	470
Total	82.2	0.96	0.20	—	0.20	0.15	—	0.15	470
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Consumer Products	56.0	—	—	—	—	—	—	—	—
Architectural Coatings	7.49	—	—	—	—	—	—	—	—
Total	63.5	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Consumer Products	10.2	—	—	—	—	—	—	—	—
Architectural Coatings	1.37	—	—	—	—	—	—	—	—

Landscape Equipment	1.68	0.09	0.02	—	0.02	—	0.01	—	0.01	38.4
Total	13.3	0.09	0.02	—	0.02	—	0.01	—	0.01	38.4

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	1,086
General Heavy Industry	—	—	—	—	—	—	—	—	1,614
General Office Building	—	—	—	—	—	—	—	—	148
Hospital	—	—	—	—	—	—	—	—	294
Automobile Care Center	—	—	—	—	—	—	—	—	21.3
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	299
Manufacturing	—	—	—	—	—	—	—	—	179
Total	—	—	—	—	—	—	—	—	3,641
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	1,086
General Heavy Industry	—	—	—	—	—	—	—	—	1,614
General Office Building	—	—	—	—	—	—	—	—	148

Hospital	—	—	—	—	—	—	—	—	—	—	—	294
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	21.3
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	299
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	179
Total	—	—	—	—	—	—	—	—	—	—	—	3,641
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	180
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	267
General Office Building	—	—	—	—	—	—	—	—	—	—	—	24.5
Hospital	—	—	—	—	—	—	—	—	—	—	—	48.8
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	3.53
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	49.5
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	29.6
Total	—	—	—	—	—	—	—	—	—	—	—	603

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—

Research & Development	—	—	—	—	—	—	—	—	—	57.3	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	2,955	—
General Office Building	—	—	—	—	—	—	—	—	—	265	—
Hospital	—	—	—	—	—	—	—	—	—	8,655	—
Automobile Care Center	—	—	—	—	—	—	—	—	—	295	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	415	—
Manufacturing	—	—	—	—	—	—	—	—	—	243	—
Total	—	—	—	—	—	—	—	—	—	12,885	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	57.3	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	2,955	—
General Office Building	—	—	—	—	—	—	—	—	—	265	—
Hospital	—	—	—	—	—	—	—	—	—	8,655	—
Automobile Care Center	—	—	—	—	—	—	—	—	—	295	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	415	—
Manufacturing	—	—	—	—	—	—	—	—	—	243	—
Total	—	—	—	—	—	—	—	—	—	12,885	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	9.49	—

[illegible]

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

[illegible]

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.2	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	329	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.67	—
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8,500	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.1	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8,867	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.69	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	54.5	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11	—
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,407	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.48	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,468	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Research & Development	4,432	748	436	1,217,223	39,780	6,714	3,913	10,925,473
General Heavy Industry	6,156	10,061	7,976	2,545,389	55,252	90,309	71,589	22,846,744
General Office Building	1,857	421	133	513,121	16,671	3,781	1,193	4,605,636
Hospital	4,683	3,374	2,958	1,551,250	42,038	30,289	26,550	13,923,613
Automobile Care Center	978	978	490	331,475	4,932	8,777	4,398	1,972,765
Unrefrigerated Warehouse-No Rail	400	400	400	146,051	3,592	3,592	3,592	1,310,916
Manufacturing	494	807	640	204,225	4,434	7,244	5,741	1,833,068

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	3,928,500	1,309,500	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Research & Development	8,467,453	100.0	0.0330	0.0040	9,500,116
General Heavy Industry	13,790,425	100.0	0.0330	0.0040	55,349,430
General Office Building	3,196,464	100.0	0.0330	0.0040	3,586,294
Hospital	16,528,048	100.0	0.0330	0.0040	31,337,263
Automobile Care Center	447,316	100.0	0.0330	0.0040	1,795,353
Unrefrigerated Warehouse-No Rail	2,344,168	100.0	0.0330	0.0040	1,229,500
Manufacturing	1,134,655	100.0	0.0330	0.0040	4,554,067

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Research & Development	196,677,579	0.00
General Heavy Industry	292,300,000	0.00
24 / 34		

General Office Building	26,837,796	0.00
Hospital	53,329,228	0.00
Automobile Care Center	3,857,325	0.00
Unrefrigerated Warehouse-No Rail	54,112,500	0.00
Manufacturing	32,375,000	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Research & Development	30.4	—
General Heavy Industry	1,567	—
General Office Building	140	—
Hospital	4,590	—
Automobile Care Center	157	—
Unrefrigerated Warehouse-No Rail	220	—
Manufacturing	129	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
General Heavy Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Hospital	Chillers	R-134a	1,430	< 0.005	2.00	2.00	23.0
Hospital	Household refrigerators and/or freezers	R-134a	1,430	< 0.005	0.60	0.00	1.00
Hospital	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Hospital	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Automobile Care Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Automobile Care Center	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0
Manufacturing	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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5.17. User Defined

Equipment Type	Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.23	annual days of extreme heat
Extreme Precipitation	4.65	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	13.4	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi. Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi. Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure. The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt. The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	6.38
AQ-PM	18.7
AQ-DPM	77.9
Drinking Water	11.4
Lead Risk Housing	60.4

Pesticides	0.00
Toxic Releases	26.9
Traffic	55.0
Effect Indicators	—
CleanUp Sites	71.9
Groundwater	95.9
Haz Waste Facilities/Generators	88.9
Impaired Water Bodies	0.00
Solid Waste	22.1
Sensitive Population	—
Asthma	11.7
Cardio-vascular	13.3
Low Birth Weights	74.9
Socioeconomic Factor Indicators	—
Education	24.1
Housing	21.6
Linguistic	36.0
Poverty	23.9
Unemployment	25.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	72.1416656
Employed	91.08174002
Median HI	71.96201719
Education	—

Bachelor's or higher	83.65199538
High school enrollment	100
Preschool enrollment	82.71525728
Transportation	—
Auto Access	55.28037983
Active commuting	71.05094315
Social	—
2-parent households	19.08122674
Voting	87.46310792
Neighborhood	—
Alcohol availability	19.2865392
Park access	81.35506224
Retail density	83.10021814
Supermarket access	65.10971385
Tree canopy	87.27062749
Housing	—
Homeownership	20.18478121
Housing habitability	66.13627615
Low-inc homeowner severe housing cost burden	70.11420506
Low-inc renter severe housing cost burden	76.20941871
Uncrowded housing	77.4541255
Health Outcomes	—
Insured adults	70.78147055
Arthritis	0.0
Asthma ER Admissions	79.6
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0

Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	89.3
Cognitively Disabled	70.6
Physically Disabled	80.2
Heart Attack ER Admissions	85.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	50.1
Elderly	38.5
English Speaking	45.4
Foreign-born	57.9
Outdoor Workers	75.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	41.3
Traffic Density	46.5

Traffic Access	87.4
Other Indices	—
Hardship	11.1
Other Decision Support	—
2016 Voting	91.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	26.0
Healthy Places Index Score for Project Location (b)	83.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

- a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Healthy Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	San Carlos default clean energy provider is Peninsula Clean Energy.
Operations: Vehicle Data	Provided trip gen.
Operations: Water and Waste Water	Wastewater treatment 100% aerobic - no septic tanks or lagoons.

Operations: Road Dust	Silt loading factor = 0.0357
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23-003 San Carlos Northeast Area Specific Plan Existing 2045 Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	23-003 San Carlos Northeast Area Specific Plan Existing 2045
Operational Year	2045
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.70
Precipitation (days)	3.20
Location	San Carlos, CA, USA
County	San Mateo
City	San Carlos
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1258
EDFZ	1
Electric Utility	Peninsula Clean Energy
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Research & Development	400	1000sqft	9.18	400,000	0.00	—	—	—

General Heavy Industry	1,264	1000sqft	29.0	1,264,000	0.00	—	—	—
General Office Building	151	1000sqft	3.47	151,000	0.00	—	—	—
Hospital	425	1000sqft	9.76	425,000	0.00	—	—	—
Automobile Care Center	41.0	1000sqft	0.94	41,000	0.00	—	—	—
Unrefrigerated Warehouse-No Rail	234	1000sqft	5.37	234,000	0.00	—	—	—
Manufacturing	104	1000sqft	2.39	104,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Unmit.	133	55.1	2.80	62.7	65.5	2.73	16.2	18.9	193,628
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Unmit.	114	59.1	2.60	62.7	65.3	2.57	16.2	18.7	187,395
Average Daily (Max)	—	—	—	—	—	—	—	—	—
Unmit.	111	50.9	2.60	47.2	49.8	2.56	12.2	14.7	156,331
Annual (Max)	—	—	—	—	—	—	—	—	—
Unmit.	20.3	9.29	0.47	8.62	9.10	0.47	2.22	2.69	25,882

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Mobile	49.4	25.3	0.41	62.7	63.1	0.38	16.2	16.6	134,457
Area	82.3	0.96	0.20	—	0.20	0.15	—	0.15	470
Energy	1.59	28.8	2.19	—	2.19	2.19	—	2.19	34,500
Water	—	—	—	—	—	—	—	—	2,448
Waste	—	—	—	—	—	—	—	—	12,885
Refrig.	—	—	—	—	—	—	—	—	8,867
Total	133	55.1	2.80	62.7	65.5	2.73	16.2	18.9	193,628
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Mobile	48.9	30.3	0.41	62.7	63.1	0.38	16.2	16.6	128,695
Area	63.5	—	—	—	—	—	—	—	—
Energy	1.59	28.8	2.19	—	2.19	2.19	—	2.19	34,500
Water	—	—	—	—	—	—	—	—	2,448
Waste	—	—	—	—	—	—	—	—	12,885
Refrig.	—	—	—	—	—	—	—	—	8,867
Total	114	59.1	2.60	62.7	65.3	2.57	16.2	18.7	187,395
Average Daily	—	—	—	—	—	—	—	—	—
Mobile	37.0	21.6	0.31	47.2	47.6	0.29	12.2	12.5	97,398
Area	72.8	0.47	0.10	—	0.10	0.08	—	0.08	232
Energy	1.59	28.8	2.19	—	2.19	2.19	—	2.19	34,500
Water	—	—	—	—	—	—	—	—	2,448
Waste	—	—	—	—	—	—	—	—	12,885
Refrig.	—	—	—	—	—	—	—	—	8,867

Total	111	50.9	2.60	47.2	49.8	2.56	12.2	14.7	156,331
Annual	—	—	—	—	—	—	—	—	—
Mobile	6.75	3.94	0.06	8.62	8.68	0.05	2.22	2.28	16,125
Area	13.3	0.09	0.02	—	0.02	0.01	—	0.01	38.4
Energy	0.29	5.26	0.40	—	0.40	0.40	—	0.40	5,712
Water	—	—	—	—	—	—	—	—	405
Waste	—	—	—	—	—	—	—	—	2,133
Refrig.	—	—	—	—	—	—	—	—	1,468
Total	20.3	9.29	0.47	8.62	9.10	0.47	2.22	2.69	25,882

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Research & Development	9.44	4.84	0.08	12.0	12.0	0.07	3.09	3.16	25,663
General Heavy Industry	21.4	11.0	0.18	27.2	27.3	0.17	7.01	7.17	58,259
General Office Building	3.95	2.03	0.03	5.02	5.05	0.03	1.29	1.32	10,754
Hospital	9.98	5.11	0.08	12.7	12.7	0.08	3.26	3.34	27,129
Automobile Care Center	2.08	1.07	0.02	2.64	2.66	0.02	0.68	0.70	5,662
Unrefrigerated Warehouse-No Rail	0.85	0.44	0.01	1.08	1.09	0.01	0.28	0.29	2,317

Manufacturing	1.72	0.88	0.01	2.18	2.19	0.01	0.56	0.58	4,673
Total	49.4	25.3	0.41	62.7	63.1	0.38	16.2	16.6	134,457
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Research & Development	9.33	5.78	0.08	12.0	12.0	0.07	3.09	3.16	24,563
General Heavy Industry	21.2	13.1	0.18	27.2	27.3	0.17	7.01	7.17	55,762
General Office Building	3.91	2.42	0.03	5.02	5.05	0.03	1.29	1.32	10,293
Hospital	9.87	6.11	0.08	12.7	12.7	0.08	3.26	3.34	25,966
Automobile Care Center	2.06	1.28	0.02	2.64	2.66	0.02	0.68	0.70	5,419
Unrefrigerated Warehouse-No Rail	0.84	0.52	0.01	1.08	1.09	0.01	0.28	0.29	2,218
Manufacturing	1.70	1.05	0.01	2.18	2.19	0.01	0.56	0.58	4,473
Total	48.9	30.3	0.41	62.7	63.1	0.38	16.2	16.6	128,695
Annual	—	—	—	—	—	—	—	—	—
Research & Development	1.27	0.75	0.01	1.64	1.65	0.01	0.42	0.43	3,067
General Heavy Industry	2.65	1.56	0.02	3.43	3.45	0.02	0.88	0.91	6,413
General Office Building	0.53	0.31	< 0.005	0.69	0.70	< 0.005	0.18	0.18	1,293
Hospital	1.61	0.95	0.01	2.09	2.10	0.01	0.54	0.55	3,909
Automobile Care Center	0.32	0.16	< 0.005	0.30	0.30	< 0.005	0.08	0.08	562
Unrefrigerated Warehouse-No Rail	0.15	0.09	< 0.005	0.20	0.20	< 0.005	0.05	0.05	368
Manufacturing	0.21	0.13	< 0.005	0.28	0.28	< 0.005	0.07	0.07	515
Total	6.75	3.94	0.06	8.62	8.68	0.05	2.22	2.28	16,125

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	0.00
General Heavy Industry	—	—	—	—	—	—	—	—	0.00
General Office Building	—	—	—	—	—	—	—	—	0.00
Hospital	—	—	—	—	—	—	—	—	0.00
Automobile Care Center	—	—	—	—	—	—	—	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	0.00
Manufacturing	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	0.00
General Heavy Industry	—	—	—	—	—	—	—	—	0.00
General Office Building	—	—	—	—	—	—	—	—	0.00
Hospital	—	—	—	—	—	—	—	—	0.00
Automobile Care Center	—	—	—	—	—	—	—	—	0.00

Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Research & Development	0.14	2.55	0.19	—	0.19	0.19	—	0.19	3,053
General Heavy Industry	0.82	14.9	1.13	—	1.13	1.13	—	1.13	17,788
General Office Building	0.05	0.96	0.07	—	0.07	0.07	—	0.07	1,153
Hospital	0.46	8.42	0.64	—	0.64	0.64	—	0.64	10,071

Automobile Care Center	0.03	0.48	0.04	—	0.04	0.04	—	0.04	577
Unrefrigerated Warehouse-No Rail	0.02	0.33	0.03	—	0.03	0.03	—	0.03	395
Manufacturing	0.07	1.22	0.09	—	0.09	0.09	—	0.09	1,464
Total	1.59	28.8	2.19	—	2.19	2.19	—	2.19	34,500
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Research & Development	0.14	2.55	0.19	—	0.19	0.19	—	0.19	3,053
General Heavy Industry	0.82	14.9	1.13	—	1.13	1.13	—	1.13	17,788
General Office Building	0.05	0.96	0.07	—	0.07	0.07	—	0.07	1,153
Hospital	0.46	8.42	0.64	—	0.64	0.64	—	0.64	10,071
Automobile Care Center	0.03	0.48	0.04	—	0.04	0.04	—	0.04	577
Unrefrigerated Warehouse-No Rail	0.02	0.33	0.03	—	0.03	0.03	—	0.03	395
Manufacturing	0.07	1.22	0.09	—	0.09	0.09	—	0.09	1,464
Total	1.59	28.8	2.19	—	2.19	2.19	—	2.19	34,500
Annual	—	—	—	—	—	—	—	—	—
Research & Development	0.03	0.47	0.04	—	0.04	0.04	—	0.04	505
General Heavy Industry	0.15	2.71	0.21	—	0.21	0.21	—	0.21	2,945
General Office Building	0.01	0.18	0.01	—	0.01	0.01	—	0.01	191
Hospital	0.08	1.54	0.12	—	0.12	0.12	—	0.12	1,667
Automobile Care Center	< 0.005	0.09	0.01	—	0.01	0.01	—	0.01	95.5

Unrefrigerated Warehouse-No Rail	< 0.005	0.06	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	65.4
Manufacturing	0.01	0.22	0.02	—	0.02	—	0.02	0.02	0.02	242
Total	0.29	5.26	0.40	—	0.40	—	0.40	0.40	0.40	5,712

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Consumer Products	56.0	—	—	—	—	—	—	—	—
Architectural Coatings	7.49	—	—	—	—	—	—	—	—
Landscape Equipment	18.7	0.96	0.20	—	0.20	0.15	—	0.15	470
Total	82.3	0.96	0.20	—	0.20	0.15	—	0.15	470
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Consumer Products	56.0	—	—	—	—	—	—	—	—
Architectural Coatings	7.49	—	—	—	—	—	—	—	—
Total	63.5	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Consumer Products	10.2	—	—	—	—	—	—	—	—
Architectural Coatings	1.37	—	—	—	—	—	—	—	—

Landscape Equipment	1.69	0.09	0.02	—	0.02	—	0.01	—	0.01	38.4
Total	13.3	0.09	0.02	—	0.02	—	0.01	—	0.01	38.4

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	730
General Heavy Industry	—	—	—	—	—	—	—	—	1,085
General Office Building	—	—	—	—	—	—	—	—	99.6
Hospital	—	—	—	—	—	—	—	—	198
Automobile Care Center	—	—	—	—	—	—	—	—	14.3
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	201
Manufacturing	—	—	—	—	—	—	—	—	120
Total	—	—	—	—	—	—	—	—	2,448
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	730
General Heavy Industry	—	—	—	—	—	—	—	—	1,085
General Office Building	—	—	—	—	—	—	—	—	99.6

Hospital	—	—	—	—	—	—	—	—	—	—	—	198
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	14.3
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	201
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	120
Total	—	—	—	—	—	—	—	—	—	—	—	2,448
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	121
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	180
General Office Building	—	—	—	—	—	—	—	—	—	—	—	16.5
Hospital	—	—	—	—	—	—	—	—	—	—	—	32.8
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	2.37
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	33.3
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	19.9
Total	—	—	—	—	—	—	—	—	—	—	—	405

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—

Research & Development	—	—	—	—	—	—	—	—	—	—	57.3	
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	2,955	
General Office Building	—	—	—	—	—	—	—	—	—	—	265	
Hospital	—	—	—	—	—	—	—	—	—	—	8,655	
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	295	
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	415	
Manufacturing	—	—	—	—	—	—	—	—	—	—	243	
Total	—	—	—	—	—	—	—	—	—	—	12,885	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	
Research & Development	—	—	—	—	—	—	—	—	—	—	57.3	
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	2,955	
General Office Building	—	—	—	—	—	—	—	—	—	—	265	
Hospital	—	—	—	—	—	—	—	—	—	—	8,655	
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	295	
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	415	
Manufacturing	—	—	—	—	—	—	—	—	—	—	243	
Total	—	—	—	—	—	—	—	—	—	—	12,885	
Annual	—	—	—	—	—	—	—	—	—	—	—	
Research & Development	—	—	—	—	—	—	—	—	—	—	9.49	

[illegible]

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

[illegible]

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	10.2	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	329	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	0.37	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	0.67	—
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	8,500	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	27.1	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	8,867	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Research & Development	—	—	—	—	—	—	—	—	—	—	—	—	1.69	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	—	54.5	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	0.06	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	0.11	—
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	1,407	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	4.48	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,468	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Research & Development	4,432	748	436	1,217,223	39,780	6,714	3,913	10,925,473
General Heavy Industry	6,156	10,061	7,976	2,545,389	55,252	90,309	71,589	22,846,744
General Office Building	1,857	421	133	513,121	16,671	3,781	1,193	4,605,636
Hospital	4,685	3,374	2,959	1,551,715	42,053	30,285	26,558	13,927,790
Automobile Care Center	978	978	490	331,475	4,932	8,777	4,398	1,972,765
Unrefrigerated Warehouse-No Rail	400	400	400	146,051	3,592	3,592	3,592	1,310,916
Manufacturing	494	807	640	204,225	4,434	7,244	5,741	1,833,068

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	3,928,500	1,309,500	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Research & Development	8,467,453	0.00	0.0000	0.0000	9,500,116
General Heavy Industry	13,790,425	0.00	0.0000	0.0000	55,349,430
General Office Building	3,196,464	0.00	0.0000	0.0000	3,586,294
Hospital	16,528,048	0.00	0.0000	0.0000	31,337,263
Automobile Care Center	447,316	0.00	0.0000	0.0000	1,795,353
Unrefrigerated Warehouse-No Rail	2,344,168	0.00	0.0000	0.0000	1,229,500
Manufacturing	1,134,655	0.00	0.0000	0.0000	4,554,067

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Research & Development	196,677,579	0.00
General Heavy Industry	292,300,000	0.00
24 / 34		

General Office Building	26,837,796	0.00
Hospital	53,329,228	0.00
Automobile Care Center	3,857,325	0.00
Unrefrigerated Warehouse-No Rail	54,112,500	0.00
Manufacturing	32,375,000	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Research & Development	30.4	—
General Heavy Industry	1,567	—
General Office Building	140	—
Hospital	4,590	—
Automobile Care Center	157	—
Unrefrigerated Warehouse-No Rail	220	—
Manufacturing	129	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Research & Development	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Research & Development	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
General Heavy Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Hospital	Chillers	R-134a	1,430	< 0.005	2.00	2.00	23.0
Hospital	Household refrigerators and/or freezers	R-134a	1,430	< 0.005	0.60	0.00	1.00
Hospital	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Hospital	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Automobile Care Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Automobile Care Center	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0
Manufacturing	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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5.17. User Defined

Equipment Type	Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.23	annual days of extreme heat
Extreme Precipitation	4.65	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	13.4	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi. Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi. Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure. The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt. The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	6.38
AQ-PM	18.7
AQ-DPM	77.9
Drinking Water	11.4
Lead Risk Housing	60.4

Pesticides	0.00
Toxic Releases	26.9
Traffic	55.0
Effect Indicators	—
CleanUp Sites	71.9
Groundwater	95.9
Haz Waste Facilities/Generators	88.9
Impaired Water Bodies	0.00
Solid Waste	22.1
Sensitive Population	—
Asthma	11.7
Cardio-vascular	13.3
Low Birth Weights	74.9
Socioeconomic Factor Indicators	—
Education	24.1
Housing	21.6
Linguistic	36.0
Poverty	23.9
Unemployment	25.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	72.1416656
Employed	91.08174002
Median HI	71.96201719
Education	—

Bachelor's or higher	83.65199538
High school enrollment	100
Preschool enrollment	82.71525728
Transportation	—
Auto Access	55.28037983
Active commuting	71.05094315
Social	—
2-parent households	19.08122674
Voting	87.46310792
Neighborhood	—
Alcohol availability	19.2865392
Park access	81.35506224
Retail density	83.10021814
Supermarket access	65.10971385
Tree canopy	87.27062749
Housing	—
Homeownership	20.18478121
Housing habitability	66.13627615
Low-inc homeowner severe housing cost burden	70.11420506
Low-inc renter severe housing cost burden	76.20941871
Uncrowded housing	77.4541255
Health Outcomes	—
Insured adults	70.78147055
Arthritis	0.0
Asthma ER Admissions	79.6
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0

Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	89.3
Cognitively Disabled	70.6
Physically Disabled	80.2
Heart Attack ER Admissions	85.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	50.1
Elderly	38.5
English Speaking	45.4
Foreign-born	57.9
Outdoor Workers	75.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	41.3
Traffic Density	46.5

Traffic Access	87.4
Other Indices	—
Hardship	11.1
Other Decision Support	—
2016 Voting	91.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	26.0
Healthy Places Index Score for Project Location (b)	83.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

- a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Healthy Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	San Carlos default clean energy provider is Peninsula Clean Energy. CalEEMod 2045 forecasted factor used.
Operations: Vehicle Data	Provided trip gen.

Operations: Water and Waste Water	Wastewater treatment 100% aerobic - no septic tanks or lagoons.
Operations: Road Dust	Silt loading factor = 0.0357

23-003 San Carlos Northeast Specific Plan Existing To Be Removed 2045 Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	23-003 San Carlos Northeast Specific Plan Existing To Be Removed 2045
Operational Year	2045
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.70
Precipitation (days)	3.20
Location	San Carlos, CA, USA
County	San Mateo
City	San Carlos
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1258
EDFZ	1
Electric Utility	Peninsula Clean Energy
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Heavy Industry	303	1000sqft	6.96	303,000	0.00	—	—	—

General Office Building	45.0	1000sqft	1.03	45,000	0.00	—	—	—
Hospital	10.0	1000sqft	0.23	10,000	0.00	—	—	—
Unrefrigerated Warehouse-No Rail	60.0	1000sqft	1.38	60,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Unmit.	20.2	7.80	0.40	8.69	9.09	0.39	2.24	2.63	26,067
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Unmit.	17.1	8.33	0.37	8.69	9.06	0.37	2.24	2.61	25,194
Average Daily (Max)	—	—	—	—	—	—	—	—	—
Unmit.	16.7	7.07	0.37	6.31	6.68	0.36	1.63	1.99	20,389
Annual (Max)	—	—	—	—	—	—	—	—	—
Unmit.	3.05	1.29	0.07	1.15	1.22	0.07	0.30	0.36	3,376

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—
Mobile	6.85	3.51	0.06	8.69	8.75	0.05	2.24	2.29	18,633	—
Area	13.1	0.15	0.03	—	0.03	0.02	—	0.02	75.0	—
Energy	0.23	4.13	0.31	—	0.31	0.31	—	0.31	4,946	—
Water	—	—	—	—	—	—	—	—	1,237	—
Waste	—	—	—	—	—	—	—	—	1,097	—
Refrig.	—	—	—	—	—	—	—	—	79.0	—
Total	20.2	7.80	0.40	8.69	9.09	0.39	2.24	2.63	26,067	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
Mobile	6.78	4.20	0.06	8.69	8.75	0.05	2.24	2.29	17,834	—
Area	10.1	—	—	—	—	—	—	—	—	—
Energy	0.23	4.13	0.31	—	0.31	0.31	—	0.31	4,946	—
Water	—	—	—	—	—	—	—	—	1,237	—
Waste	—	—	—	—	—	—	—	—	1,097	—
Refrig.	—	—	—	—	—	—	—	—	79.0	—
Total	17.1	8.33	0.37	8.69	9.06	0.37	2.24	2.61	25,194	—
Average Daily	—	—	—	—	—	—	—	—	—	—
Mobile	4.87	2.86	0.04	6.31	6.35	0.04	1.63	1.66	12,993	—
Area	11.6	0.08	0.02	—	0.02	0.01	—	0.01	37.0	—
Energy	0.23	4.13	0.31	—	0.31	0.31	—	0.31	4,946	—
Water	—	—	—	—	—	—	—	—	1,237	—
Waste	—	—	—	—	—	—	—	—	1,097	—
Refrig.	—	—	—	—	—	—	—	—	79.0	—
Total	16.7	7.07	0.37	6.31	6.68	0.36	1.63	1.99	20,389	—
Annual	—	—	—	—	—	—	—	—	—	—
Mobile	0.89	0.52	0.01	1.15	1.16	0.01	0.30	0.30	2,151	—
Area	2.12	0.01	< 0.005	—	< 0.005	< 0.005	—	< 0.005	6.13	—

Energy	0.04	0.75	0.06	—	0.06	—	0.06	—	0.06	819
Water	—	—	—	—	—	—	—	—	—	205
Waste	—	—	—	—	—	—	—	—	—	182
Refrig.	—	—	—	—	—	—	—	—	—	13.1
Total	3.05	1.29	0.07	1.15	1.22	0.30	0.07	0.36	0.36	3,376

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
General Heavy Industry	5.14	2.63	0.04	6.51	6.56	0.04	1.68	1.72	13,966
General Office Building	1.04	0.53	0.01	1.32	1.33	0.01	0.34	0.35	2,825
Hospital	0.46	0.23	< 0.005	0.58	0.58	< 0.005	0.15	0.15	1,245
Unrefrigerated Warehouse-No Rail	0.22	0.11	< 0.005	0.28	0.28	< 0.005	0.07	0.07	598
Total	6.85	3.51	0.06	8.69	8.75	0.05	2.24	2.29	18,633
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
General Heavy Industry	5.08	3.15	0.04	6.51	6.56	0.04	1.68	1.72	13,367
General Office Building	1.03	0.64	0.01	1.32	1.33	0.01	0.34	0.35	2,703
Hospital	0.45	0.28	< 0.005	0.58	0.58	< 0.005	0.15	0.15	1,192

Unrefrigerated Warehouse-No Rail	0.22	0.13	< 0.005	0.28	0.28	< 0.005	0.07	0.07	572
Total	6.78	4.20	0.06	8.69	8.75	0.05	2.24	2.29	17,834
Annual	—	—	—	—	—	—	—	—	—
General Heavy Industry	0.63	0.37	0.01	0.82	0.83	0.01	0.21	0.22	1,537
General Office Building	0.14	0.08	< 0.005	0.18	0.18	< 0.005	0.05	0.05	340
Hospital	0.07	0.04	< 0.005	0.10	0.10	< 0.005	0.02	0.03	179
Unrefrigerated Warehouse-No Rail	0.04	0.02	< 0.005	0.05	0.05	< 0.005	0.01	0.01	94.9
Total	0.89	0.52	0.01	1.15	1.16	0.01	0.30	0.30	2,151

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	0.00
General Office Building	—	—	—	—	—	—	—	—	0.00
Hospital	—	—	—	—	—	—	—	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—

General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	0.00
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00
Hospital	—	—	—	—	—	—	—	—	—	—	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	0.00
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00
Hospital	—	—	—	—	—	—	—	—	—	—	—	0.00
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
General Heavy Industry	0.20	3.56	0.27	—	0.27	0.27	—	0.27	4,264
General Office Building	0.02	0.29	0.02	—	0.02	0.02	—	0.02	343
Hospital	0.01	0.20	0.02	—	0.02	0.02	—	0.02	237
Unrefrigerated Warehouse-No Rail	< 0.005	0.08	0.01	—	0.01	0.01	—	0.01	101

Total	0.23	4.13	0.31	—	0.31	0.31	—	0.31	—	4,946
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	0.20	3.56	0.27	—	0.27	0.27	—	0.27	—	4,264
General Office Building	0.02	0.29	0.02	—	0.02	0.02	—	0.02	—	343
Hospital	0.01	0.20	0.02	—	0.02	0.02	—	0.02	—	237
Unrefrigerated Warehouse-No Rail	< 0.005	0.08	0.01	—	0.01	0.01	—	0.01	—	101
Total	0.23	4.13	0.31	—	0.31	0.31	—	0.31	—	4,946
Annual	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	0.04	0.65	0.05	—	0.05	0.05	—	0.05	—	706
General Office Building	< 0.005	0.05	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	56.9
Hospital	< 0.005	0.04	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	39.2
Unrefrigerated Warehouse-No Rail	< 0.005	0.02	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.8
Total	0.04	0.75	0.06	—	0.06	0.06	—	0.06	—	819

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Consumer Products	8.95	—	—	—	—	—	—	—	—

Architectural Coatings	1.19	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.99	0.15	0.03	—	—	0.03	0.02	—	0.02	—	0.02	75.0	75.0
Total	13.1	0.15	0.03	—	—	0.03	0.02	—	0.02	—	0.02	75.0	75.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	8.95	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.19	—	—	—	—	—	—	—	—	—	—	—	—
Total	10.1	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.63	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.22	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.27	0.01	< 0.005	—	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	6.13	6.13
Total	2.12	0.01	< 0.005	—	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	6.13	6.13

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	825
General Office Building	—	—	—	—	—	—	—	—	69.9

Hospital	—	—	—	—	—	—	—	—	—	—	—	193
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	149
Total	—	—	—	—	—	—	—	—	—	—	—	1,237
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	825
General Office Building	—	—	—	—	—	—	—	—	—	—	—	69.9
Hospital	—	—	—	—	—	—	—	—	—	—	—	193
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	149
Total	—	—	—	—	—	—	—	—	—	—	—	1,237
Annual	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	137
General Office Building	—	—	—	—	—	—	—	—	—	—	—	11.6
Hospital	—	—	—	—	—	—	—	—	—	—	—	32.0
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	24.7
Total	—	—	—	—	—	—	—	—	—	—	—	205

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
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Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	708	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	78.9	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	204	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	106	—
Total	—	—	—	—	—	—	—	—	—	—	—	1,097	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	708	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	78.9	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	204	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	106	—
Total	—	—	—	—	—	—	—	—	—	—	—	1,097	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	—	—	—	117	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	13.1	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	33.7	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	17.6	—
Total	—	—	—	—	—	—	—	—	—	—	—	182	—

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	78.9
General Office Building	—	—	—	—	—	—	—	—	0.11
Hospital	—	—	—	—	—	—	—	—	0.02
Total	—	—	—	—	—	—	—	—	79.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	78.9
General Office Building	—	—	—	—	—	—	—	—	0.11
Hospital	—	—	—	—	—	—	—	—	0.02
Total	—	—	—	—	—	—	—	—	79.0
Annual	—	—	—	—	—	—	—	—	—
General Heavy Industry	—	—	—	—	—	—	—	—	13.1
General Office Building	—	—	—	—	—	—	—	—	0.02
Hospital	—	—	—	—	—	—	—	—	< 0.005
Total	—	—	—	—	—	—	—	—	13.1

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Heavy Industry	1,476	2,412	1,912	610,168	13,245	21,648	17,161	5,476,712
General Office Building	488	111	35.1	134,779	4,378	994	315	1,209,740
Hospital	215	155	136	71,206	1,930	1,389	1,219	639,129
Unrefrigerated Warehouse-No Rail	103	103	103	37,668	926	926	926	338,098

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	627,000	209,000	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBtu/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBtu/yr)
General Heavy Industry	3,305,774	0.00	0.0000	0.0000	13,268,099
General Office Building	952,588	0.00	0.0000	0.0000	1,068,763
Hospital	388,895	0.00	0.0000	0.0000	737,347
Unrefrigerated Warehouse-No Rail	601,069	0.00	0.0000	0.0000	315,256

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Heavy Industry	222,231,250	0.00
General Office Building	18,839,777	0.00
Hospital	52,074,423	0.00
Unrefrigerated Warehouse-No Rail	40,237,500	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Heavy Industry	376	—
General Office Building	41.9	—
Hospital	108	—
Unrefrigerated Warehouse-No Rail	56.4	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Heavy Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Hospital	Chillers	R-134a	1,430	< 0.005	2.00	2.00	23.0
Hospital	Household refrigerators and/or freezers	R-134a	1,430	< 0.005	0.60	0.00	1.00
Hospital	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Hospital	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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5.17. User Defined

Equipment Type	Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.23	annual days of extreme heat
Extreme Precipitation	4.65	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	13.4	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi. Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi. Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A

Flooding	N/A	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	6.38
AQ-PM	18.7
AQ-DPM	77.9
Drinking Water	11.4
Lead Risk Housing	60.4
Pesticides	0.00
Toxic Releases	26.9
Traffic	55.0
Effect Indicators	—
CleanUp Sites	71.9
Groundwater	95.9
Haz Waste Facilities/Generators	88.9
Impaired Water Bodies	0.00
Solid Waste	22.1
Sensitive Population	—
Asthma	11.7
Cardio-vascular	13.3
Low Birth Weights	74.9
Socioeconomic Factor Indicators	—
Education	24.1
Housing	21.6
Linguistic	36.0
Poverty	23.9
Unemployment	25.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	72.1416656
Employed	91.08174002
Median HI	71.96201719
Education	—
Bachelor's or higher	83.65199538
High school enrollment	100
Preschool enrollment	82.71525728
Transportation	—
Auto Access	55.28037983
Active commuting	71.05094315
Social	—
2-parent households	19.08122674
Voting	87.46310792
Neighborhood	—
Alcohol availability	19.2865392
Park access	81.35506224
Retail density	83.10021814
Supermarket access	65.10971385
Tree canopy	87.27062749
Housing	—
Homeownership	20.18478121
Housing habitability	66.13627615
Low-inc homeowner severe housing cost burden	70.11420506
Low-inc renter severe housing cost burden	76.20941871

Uncrowded housing	77.4541255
Health Outcomes	—
Insured adults	70.78147055
Arthritis	0.0
Asthma ER Admissions	79.6
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	89.3
Cognitively Disabled	70.6
Physically Disabled	80.2
Heart Attack ER Admissions	85.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0

Children	50.1
Elderly	38.5
English Speaking	45.4
Foreign-born	57.9
Outdoor Workers	75.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	41.3
Traffic Density	46.5
Traffic Access	87.4
Other Indices	—
Hardship	11.1
Other Decision Support	—
2016 Voting	91.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	26.0
Healthy Places Index Score for Project Location (b)	83.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

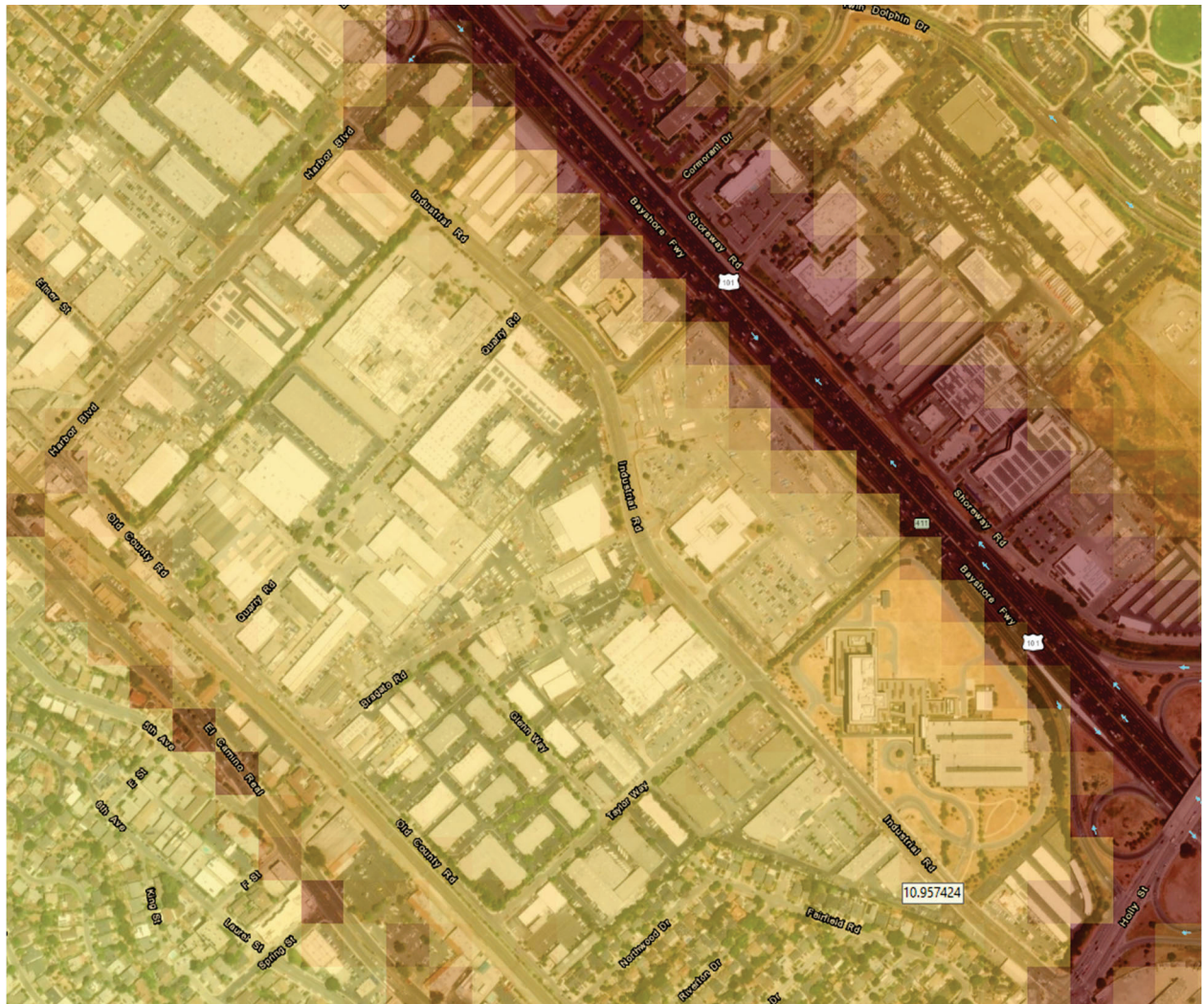
No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	San Carlos default clean energy provider is Peninsula Clean Energy. 2045 CalEEMod default forecasted factors used.
Operations: Vehicle Data	Provided trip gen for existing to be removed.
Operations: Water and Waste Water	Wastewater treatment 100% aerobic - no septic tanks or lagoons.
Operations: Road Dust	Silt loading factor = 0.0357

Attachment 2: Health Risk Assessment Information

BAAQMD RASTER Screening Data – Maximum Roadway Cancer Risk Impacts within
San Carlos Northeast Specific Plan Area



BAAQMD RASTER Screening Data – Maximum Roadway PM_{2.5} Concentration Impacts within San Carlos Northeast Specific Plan Area



An aerial photograph of an industrial district in San Diego. The map shows a grid of streets including Harbor Blvd, Industrial Rd, Quarry Rd, and Old County Rd. A specific parcel is highlighted with a yellow border and labeled with the number 0.040705. The area is characterized by large, flat-roofed industrial buildings and extensive parking lots. A highway, likely I-15, runs diagonally across the upper right portion of the image. The overall color palette is dominated by the grays of buildings and the greens of some vegetation.

San Carlos Northeast Area Specific Plan, San Carlos, CA
DPM Modeling - Rail Line Information and DPM Emission Rates
Caltrain Electrification and Diesel-Powered Freight

Year		Modeled No. Lines	Link Width ^a (ft)	Linkd Width (m)	Link Length (ft)	Link Length (miles)	Link Length (m)	Release Height ^a (m)	No. Diesel Trains per Day	Train Travel Speed (mph)	DPM Emission Rates		
											Average Daily Emission Rate (g/mi/day)	Link Emission Rate (g/s)	Link Emission Rate (lb/hr)
2030	Caltrain	1	36.1	11	4,358	0.83	1,328	5	21	40	47.6	4.54E-04	3.61E-03
	Freight	1	36.1	11	4,358	0.83	1,328	5	4	40	15.8	1.51E-04	1.20E-03
	Total	-	-	-	-	-	-	-	25	-	63.4	6.06E-04	4.81E-03

Notes: ^a Emission source modeling parameters from BAAQMD Air Quality Guidelines Appendix E, 2022.

Emissions based on Emission Factors for Locomotives USEPA 2009 (EPA-420-F-09-025)

Passenger trains assumed to operate for 24 hours per day

Freight trains assumed to operate for 24 hours per day

DPM Locomotive Emission Factors (g/hr)

Train Type	2030
Passenger	65.9
Freight	115

2030 (with Electrification)	
Caltrain Passenger Trains	Diesel Trains
Weekday	20
Weekend	21
Sat Only	0
Total Trains	41
Annual Average Daily Trains	21
Locomotive Horsepower	3467
Locomotives per train	1
Engine Load	1
Freight	
Freight trains per day	4
Locomotive horsepower	2300
Locomotives per train	2
Total Horsepower	4600
Locomotive Engine Load	0.5

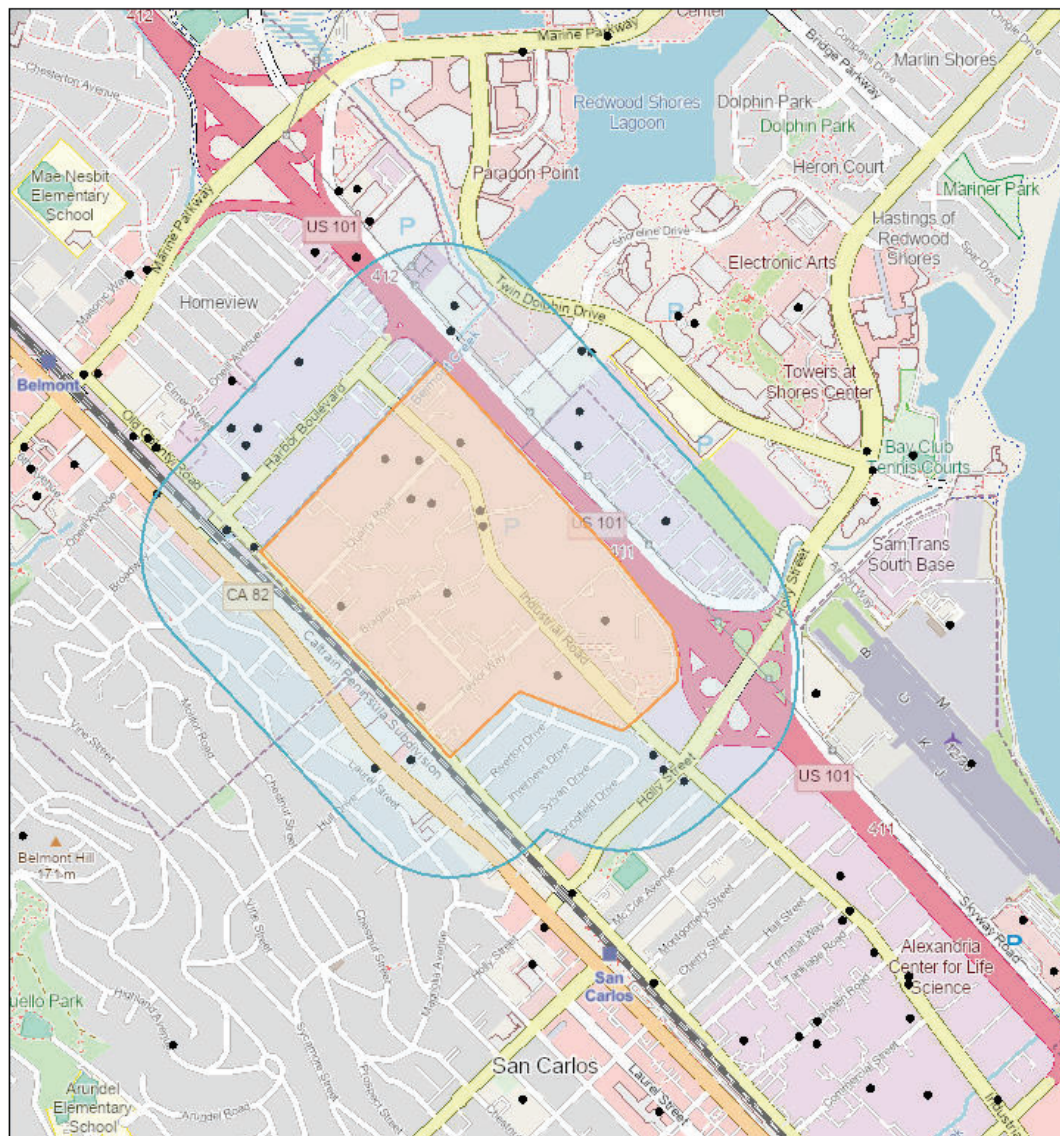


Screening Report

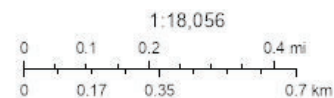
Area of Interest (AOI) Information

Area : 19,692,982.59 ft²

Jan 23 2025 13:57:29 Pacific Standard Time



- Permitted Stationary Sources



Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri

Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Stationary Sources	32	N/A	N/A

Permitted Stationary Sources

#	Address	Cancer_Ris	Chronic_Ha	City	County
1	171 Industrial Rd	0.00	0.00	San Carlos	San Mateo
2	361 Quarry Rd	0.00	0.00	San Carlos	San Mateo
3	1438 Old County Rd	0.00	0.00	Belmont	San Mateo
4	555 Harbor Boulevard	0.00	0.00	Belmont	San Mateo
5	270 Industrial Road	0.00	0.01	San Carlos	San Mateo
6	275 Industrial Road	3.38	0.00	San Carlos	San Mateo
7	400 Harbor Blvd Bldg C	1.45	0.00	Belmont	San Mateo
8	1305 Elmer Street	0.00	0.00	Belmont	San Mateo
9	1355 Shoreway Road	2.22	0.00	Belmont	San Mateo
10	1385 Shoreway Road	4.59	0.00	Belmont	San Mateo
11	333 Shoreway Road	0.10	0.00	San Carlos	San Mateo
12	150 Shoreline Drive	4.91	0.00	Redwood City	San Mateo
13	236 Industrial Rd	0.00	0.00	San Carlos	San Mateo
14	244 Industrial Rd	0.00	0.00	San Carlos	San Mateo
15	301 Industrial Road	2.24	0.00	San Carlos	San Mateo
16	219 Old County Rd #C	0.00	0.00	San Carlos	San Mateo
17	195 El Camino Real	11.37	0.05	San Carlos	San Mateo
18	150 SHORELINE DR	0.09	0.00	Redwood City	San Mateo
19	1309 Elmer Street	0.00	0.00	Belmont	San Mateo
20	125 SHOREWAY RD STE D	2.91	0.00	San Carlos	San Mateo
21	201 Industrial Road	2.50	0.00	San Carlos	San Mateo
22	75 Shoreway Road	0.64	0.00	San Carlos	San Mateo
23	201 Industrial Road	9.25	0.00	San Carlos	San Mateo
24	150 Industrial Road	0.88	0.00	San Carlos	San Mateo
25	360 Industrial Road	0.98	0.00	San Carlos	San Mateo
26	299 Old County Rd Unit 11	0.00	0.00	San Carlos	San Mateo
27	90 El Camino Real	16.68	0.07	San Carlos	San Mateo
28	701 Harbor Blvd	23.03	0.10	Belmont	San Mateo
29	907 Holly St	28.31	0.12	San Carlos	San Mateo
30	610 Harbor Blvd	10.26	0.04	Belmont	San Mateo
31	275 Industrial Road	7.36	0.03	San Carlos	San Mateo
32	906 Holly St	33.72	0.15	San Carlos	San Mateo

#	Details	Facility_I	Facility_N	Latitude	Longitude
1	No Data	14841	Caliber Fleet Solutions	37.52	-122.27
2	No Data	9138	Chilton Autobody	37.52	-122.27
3	No Data	11832	Bartlett's Auto Body & Paint Shop Inc	37.52	-122.27
4	No Data	12166	Moquin Press Inc	37.52	-122.27
5	No Data	528	Delta Star Inc	37.52	-122.27
6	Generator	3174	Pacific Gas and Electric Company	37.52	-122.26
7	Generator	15882	County of San Mateo	37.52	-122.27
8	No Data	16113	Bay Pacific A/B	37.52	-122.27
9	Generator	13347	Jameco Electronics	37.52	-122.26
10	Generator	14035	Silicon Valley Clean Water Belmont Pump Stn	37.52	-122.26
11	No Data	20577	South Bay Recycling LLC (SBR)	37.52	-122.26
12	Generator	20879	ABS-CBN International	37.52	-122.26
13	No Data	17263	San Carlos Collision	37.52	-122.26
14	No Data	17281	Cambron Auto Body Inc	37.52	-122.26
15	Generator	21902	Palo Alto Medical Foundation - San Carlos Center	37.52	-122.26
16	No Data	21994	Pang Pang Auto Body Shop	37.52	-122.27
17	Gas Dispensing Facility	103150-1	Auto Pride Wash	37.51	-122.27
18	Generator	200840	Auris Health Inc.	37.52	-122.26
19	No Data	22592	AW Collision Autobahn	37.52	-122.27
20	Generator	200957	ARE - San Francisco No. 71 HOLDING LLC	37.52	-122.26
21	No Data	23729	BMR 201 Industrial Road LP	37.52	-122.27
22	Generator	24842	GI ETS SHOREWAY LLC	37.52	-122.26
23	Generator	22955	Natera Inc	37.52	-122.26
24	Generator	25254	BGOGC 150 Industrial Owner LLC	37.51	-122.26
25	Generator	23072	Sequoia Realty Services	37.51	-122.26
26	No Data	24261	Silicon Valley Coffee LLC	37.51	-122.27
27	Gas Dispensing Facility	107089-1	Justin Chevron	37.51	-122.27
28	Gas Dispensing Facility	112510-1	Double Time	37.52	-122.27
29	Gas Dispensing Facility	110743-1	A & A Gas Inc DBA A&A Gas & Food Mart	37.51	-122.26
30	Gas Dispensing Facility	110968-1	Flyers #489	37.52	-122.27
31	Gas Dispensing Facility	3174-6	Pacific Gas and Electric Company	37.52	-122.26
32	Gas Dispensing Facility	111955-1	Bay Petroleum dba Holly 76	37.51	-122.26

#	NAICS	NAICS_Indu	NAICS_Sect	NAICS_Subs	PM25
1	811121	Automotive Body, Paint, and Interior Repair and Maintenance	Other Services (except Public Administration)	Repair and Maintenance	0.00
2	811121	Automotive Body, Paint, and Interior Repair and Maintenance	Other Services (except Public Administration)	Repair and Maintenance	0.00
3	811121	Automotive Body, Paint, and Interior Repair and Maintenance	Other Services (except Public Administration)	Repair and Maintenance	0.00
4	323110	Commercial Lithographic Printing	Manufacturing	Printing and Related Support Activities	0.00
5	335311	Power, Distribution, and Specialty Transformer Manufacturing	Manufacturing	Electrical Equipment, Appliance, and Component Manufacturing	0.02
6	221112	Fossil Fuel Electric Power Generation	Utilities	Utilities	0.00
7	221112	Fossil Fuel Electric Power Generation	Utilities	Utilities	0.00
8	811121	Automotive Body, Paint, and Interior Repair and Maintenance	Other Services (except Public Administration)	Repair and Maintenance	0.00
9	221112	Fossil Fuel Electric Power Generation	Utilities	Utilities	0.00
10	221320	Sewage Treatment Facilities	Utilities	Utilities	0.01
11	562211	Hazardous Waste Treatment and Disposal	Administrative and Support and Waste Management and Remediation Services	Waste Management and Remediation Services	65.42
12	531120	Lessors of Nonresidential Buildings (except Miniwarehouses)	Real Estate and Rental and Leasing	Real Estate	0.01
13	811121	Automotive Body, Paint, and Interior Repair and Maintenance	Other Services (except Public Administration)	Repair and Maintenance	0.00
14	811121	Automotive Body, Paint, and Interior Repair and Maintenance	Other Services (except Public Administration)	Repair and Maintenance	0.00
15	621111	Offices of Physicians (except Mental Health Specialists)	Health Care and Social Assistance	Ambulatory Health Care Services	0.00
16	811121	Automotive Body, Paint, and Interior Repair and Maintenance	Other Services (except Public Administration)	Repair and Maintenance	0.00
17	811192	Car Washes	Other Services (except Public Administration)	Repair and Maintenance	0.00
18	339112	Surgical and Medical Instrument Manufacturing	Manufacturing	Miscellaneous Manufacturing	0.00
19	811121	Automotive Body, Paint, and Interior Repair and Maintenance	Other Services (except Public Administration)	Repair and Maintenance	0.00
20	238160	Roofing Contractors	Construction	Specialty Trade Contractors	0.00

21	541720	Research and Development in the Social Sciences and Humanities	Professional, Scientific, and Technical Services	Professional, Scientific, and Technical Services	0.00
22	531312	Nonresidential Property Managers	Real Estate and Rental and Leasing	Real Estate	0.00
23	541711	Research and Development in Biotechnology	Professional, Scientific, and Technical Services	Professional, Scientific, and Technical Services	0.01
24	325411	Medicinal and Botanical Manufacturing	Manufacturing	Chemical Manufacturing	0.00
25	444130	Hardware Stores	Retail Trade	Building Material and Garden Equipment and Supplies Dealers	0.00
26	311920	Coffee and Tea Manufacturing	Manufacturing	Food Manufacturing	0.00
27	447110	Gasoline Stations with Convenience Stores	Retail Trade	Gasoline Stations	0.00
28	447190	Other Gasoline Stations	Retail Trade	Gasoline Stations	0.00
29	447110	Gasoline Stations with Convenience Stores	Retail Trade	Gasoline Stations	0.00
30	424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	Wholesale Trade	Merchant Wholesalers, Nondurable Goods	0.00
31	221112	Fossil Fuel Electric Power Generation	Utilities	Utilities	0.00
32	447110	Gasoline Stations with Convenience Stores	Retail Trade	Gasoline Stations	0.00

#	State	Zip	Count
1	CA	94070	1
2	CA	94070	1
3	CA	94002	1
4	CA	94002	1
5	CA	94070	1
6	CA	94070	1
7	CA	94002	1
8	CA	94002	1
9	CA	94002	1
10	CA	94002	1
11	CA	94070	1
12	CA	94065	1
13	CA	94070	1
14	CA	94070	1
15	CA	94070	1
16	CA	94070	1
17	CA	94070	1
18	CA	94065	1
19	CA	94002	1
20	CA	94070	1
21	CA	94070	1
22	CA	94070	1
23	CA	94070	1
24	CA	94070	1
25	CA	94070	1
26	CA	94070	1
27	CA	94070	1
28	CA	94002	1
29	CA	94070	1
30	CA	94002	1
31	CA	94070	1
32	CA	94070	1

NOTE: A larger buffer than 1,000 may be warranted depending on proximity to significant sources.



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD

This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

[Click here for guidance on conducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.](#)

[Click here for District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.](#)

Table A: Requester Contact Information

Date of Request	2/10/2025
Contact Name	Jordyn Bauer
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x106
Email	jbauer@illingworthrodkin.com
Project Name	San Carlos North East Area Specific Plan
Address	
City	San Carlos
County	San Mateo
Type (residential, commercial, mixed use, industrial, etc.)	
Project Size (# of units or building square feet)	
Comments:	

For Air District assistance, the following steps must be completed:

1. Complete all the contact and project information requested in **Table A**. Incomplete forms will not be processed. Please include a project site map.
2. Download and install the free program Google Earth, <http://www.google.com/earth/download/ge/>, and then download the county specific Google Earth stationary source application files from the District's website, <http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx>. The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.
3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.
4. Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.
5. List the stationary source information in **Table B** - Value section only.
6. Note that a small percentage of the stationary sources have Health Risk Screening Assessment (HRS) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (**Map B on right**). If HRS values are presented, these values have already been modeled and cannot be adjusted further.
7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Matthew Hanson at 415-749-8733, or mhanson@baaqmd.gov

Table B: Google Earth data										
Distance from Receptor (feet) or MEI ¹	Plant No.	Facility Name	Address	Cancer Risk ²	Hazard Risk ³	PM _{2.5} ²	Source No. ³	Type of Source ⁴	Fuel Code ⁵	Status/Comments
919	20577	South Bay Recycling LLC (SBR)	333 Shoreway Road	0.1	0	6542		Hazardous Waste Treatment and Disposal		2022 Dataset
15	103150-1	Auto Pride Wash	195 El Camino Real	11.37	0.05	0		Car Washes		2022 Dataset
98	107089-1	Justin Chevron	90 El Camino Real	16.68	0.07	0		Gas Dispensing Facility		2022 Dataset
131	112510-1	Double Time	701 Harbor Blvd	23.03	0.1	0		Gas Dispensing Facility		2022 Dataset
148	110743-1	A & A Gas Inc DBA A&A Gas & 1907 Holly St		28.31	0.12	0		Gas Dispensing Facility		2022 Dataset
82	110968-1	Flyers #489	610 Harbor Blvd	10.26	0.04	0		Gas Dispensing Facility		2022 Dataset
164	111955-1	Bay Petroleum dba Holly 76	906 Holly St	33.72	0.15	0		Gas Dispensing Facility		2022 Dataset

Footnotes:

- Maximally exposed individual
- These Cancer Risk, Hazard Index, and PM_{2.5} columns represent the values in the Google Earth Plant Information Table.
- Each plant may have multiple permits and sources.
- Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
- Fuel codes: 98 = diesel, 189 = Natural Gas.
- If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.
- The date that the HRSA was completed.
- Engineer who completed the HRSA. For District purposes only.
- All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
- The HRSA "Chronic Health" number represents the Hazard Index.
- Further information about common sources:
 - Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
 - The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard index of 0.003 or less.
 - BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010. Therefore, there is no cancer risk, hazard or PM_{2.5} concentrations from co-residential dry cleaning businesses in the BAAQMD.
 - Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but instead should reflect the risk from these dry cleaners after 2023.
 - Gas stations can be adjusted using BAAQMD's Gas Station Distance Multiplier worksheet.
 - Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
 - This spray booth is considered to be insignificant.

Date last updated:
03/13/2018

Attachment 3: San Carlos CMAP Consistency Checklist for New Development



City of San Carlos Climate Mitigation and Adaptation Plan Consistency Checklist for New Development

Updated as of 5/20/2022

The purpose of this Checklist is to ensure that development projects comply with San Carlos' Climate Mitigation and Adaptation Plan (CMAP) and may be eligible for streamlining the greenhouse gas (GHG) analysis for California Environmental Quality Act (CEQA) review. To be considered consistent with San Carlos' CMAP, projects must comply with the land use designations in San Carlos' General Plan and implement at minimum the required CMAP measures listed in the Checklist. Projects may then rely on the City's CMAP and related environmental review for the impact analysis of GHG emissions, as allowable under CEQA.

The Checklist contains measures from the CMAP that pertain to new development. Each measure is noted as either required or voluntary. Required measures are mandated by local or state ordinances. The voluntary measures represent goals of the City and projects are encouraged to address them. Proposed projects that require a General Plan amendment or rezoning and/or do not address the required measures may have to prepare a project-specific GHG analysis and identify appropriate mitigation measures.

San Carlos' Climate Mitigation and Adaptation Plan: cityofsancarlos.org/climate

San Carlos' General Plan: cityofsancarlos.org/generalplan

San Carlos' All-Electric Reach Codes: cityofsancarlos.org/reachcodes

San Carlos' Municipal Code: <https://www.codepublishing.com/CA/SanCarlos/>

For questions regarding this Checklist or the CMAP, please contact Adam Lokar, Sustainability Specialist at alokar@cityofsancarlos.org

Contact Information

Project Name: _____

Property Address: _____

If a consultant was used to complete this checklist, please provide their contact information:

Consultant Name & Company: _____

Consultant Phone & Email: _____

Project Information

Proposed land use (residential, commercial, industrial, mixed use, or other): _____

Brief project description: _____

Project size (sq. ft. and/or unit size): _____

Is the proposed project seeking a General Plan amendment or rezoning? ☐ Yes ☐ No

If yes, briefly explain: _____

Climate Mitigation and Adaptation Plan Measure	Project Compliance
REQUIRED STRATEGIES	
CMAP Strategy 5. Building Codes. Advance electrification through local amendments to the California Building Code. San Carlos' reach codes: cityofsancarlos.org/reachcodes	Required Measure Is the project an all-electric design? ☐ Yes ☐ No If not, under what exception is the project allowed gas? Please note that an exception for scientific laboratories requires a third party cost effectiveness study. For exceptions visit cityofsancarlos.org/reachcodes. _____
CMAP Strategy 6. Solar Power. Continue to support and increase participation in rooftop and onsite solar energy systems in the community and at City facilities. San Carlos' reach codes: cityofsancarlos.org/reachcodes	Required Measure Does the project include a photovoltaic solar system as required by the City's reach code? ☐ Yes ☐ No
CMAP Strategy 17. Vehicle Miles Traveled. Reduce community-wide transportation-related emissions per resident and employee, with an emphasis on reductions from existing and new development in the city's core commercial, office, and industrial area, including development on the east side. San Carlos Municipal Code Section 18.25, https://www.codepublishing.com/CA/SanCarlos/#!/SanCarlos18/SanCarlos1825.html#18.25 San Carlos Municipal Code Section 18.25, https://www.codepublishing.com/CA/SanCarlos/#!/SanCarlos18/SanCarlos1825.html#18.25	Required Measure Will the project have a TDM program that meets the 20% reduction in trip generation rates when compared to standard ITE trip generation rates? ☐ Yes ☐ No
CMAP Strategy 18. Electric Vehicles. Support residents and business owners to transition to electric and plug-in hybrid vehicles. San Carlos' reach codes: cityofsancarlos.org/reachcodes	Required Measure Does the project comply with the City's EV charging requirements in the reach code? ☐ Yes ☐ No List total number and type of EV charging ports to be installed: _____

CMAP Strategy 27. Construction and Demolition Waste. Increase the amount of waste recycled during construction and demolition of buildings. San Carlos Municipal Code Section 8.05 https://www.codepublishing.com/CA/SanCarlos/#!/SanCarlos08/SanCarlos0805.html	Required Measure Will the project comply with the required diversion rates of construction and demolition waste? ☐ Yes ☐ No
CMAP Strategy 28. Composting and Recycling. Partner with RethinkWaste to expand commercial and multi-family residential recycling and composting programs. San Carlos Municipal Code Section 8.04: https://www.codepublishing.com/CA/SanCarlos/#!/html/SanCarlos08/SanCarlos0804.html San Carlos Municipal Code Section 18.15.110: https://www.codepublishing.com/CA/SanCarlos/#!/SanCarlos18/SanCarlos1815.html#18.15.110	Required Measure Does the project include facilities for collecting recycling and composting? ☐ Yes ☐ No
CMAP Strategy 32. Water-wise Landscaping. Promote drought tolerant and firewise landscaping. San Carlos Municipal Code Section 18.18: https://www.codepublishing.com/CA/SanCarlos/#!/SanCarlos18/SanCarlos1818.html#18.18	Required Measure Does the project's landscape include native and drought-resistant plants to the maximum extent feasible? ☐ Yes ☐ No
CMAP Strategy 37. Heat Island Effect. Minimize the urban heat island effect. San Carlos Municipal Code Section 18.20.100-K: https://www.codepublishing.com/CA/SanCarlos/#!/SanCarlos18/SanCarlos1820.html#18.20.100	Required Measure Will at least fifty percent of the project's paved parking areas be shaded or of light colored material? ☐ Yes ☐ No
VOLUNTARY MEASURES	
CMAP Strategy 7. Peninsula Clean Energy ECO100. Continue to support and promote PCE as the community's official electricity provider with a goal to provide 100% carbon-free renewable energy by 2025. peninsulacleanenergy.com/opt-up	Voluntary Measure Will the project enroll in PCE as its energy provider? ☐ Yes ☐ No Which PCE option? ECOplus (default) or ECO100? _____
CMAP Strategy 11. Transit Oriented Development. Encourage development of mixed-use projects, higher-density housing, and job growth within the General Plan's recognized Transit-Oriented Development (TOD) corridor	Voluntary Measure Is the project located in the Transit-Oriented Development (TOD) corridor? ☐ Yes ☐ No

(Planning Areas 1, 2, and 3) while being mindful of surrounding uses. (See Figure 1)	If yes, how does the project improve the mobility of people and vehicles along and across the corridor through safety considerations such as separated sidewalks and bike lanes or traffic calming measures? _____ _____ _____
CMAP Strategy 12. Active Transportation. Prioritize bicycling and walking as safe, practical, and attractive travel options citywide, as directed by the Bicycle and Pedestrian Master Plan. San Carlos' Bicycle and Pedestrian Master Plan: cityofsancarlos.org/bikepedplan	<u>Voluntary Measure</u> Will the project provide upgrades to active transportation infrastructure consistent with the Bicycle and Pedestrian Master Plan? ☐ Yes ☐ No If yes, please describe. _____ _____ _____
CMAP Strategy 25. Carbon Offset. Explore local and regional opportunities to offset carbon emissions that cannot be reduced to zero.	<u>Voluntary Measure</u> Will the project be investing in carbon offsets? ☐ Yes ☐ No If yes, please describe. _____ _____ _____

Figure 1:

FIGURE 3-1

Planning Areas

-  City Limit
-  Sphere of Influence Areas
-  Planning Area 1
-  Planning Area 2
-  Planning Area 3
-  Planning Area 4
-  Planning Area 5
-  Planning Area 6
-  Planning Area 7
-  Planning Area 8
-  Planning Area 9

