Appendix 4.6-1:

Air Quality/Energy/ Greenhouse Gas Report

Air Quality/Energy/Greenhouse Gas Report

Greentree Project

October 28, 2021






Prepared by

EMC Planning Group

AIR QUALITY/ENERGY/GREENHOUSE GAS REPORT

GREENTREE PROJECT

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1.0
Introduction

This air quality, energy, and greenhouse gas emissions (GHG) report has been prepared as a technical input to the environmental review process for the Greentree Project ("proposed project" or "project"). The report contains analysis of the criteria air pollutant, energy, and GHG effects of implementing the proposed Greentree Project Specific Plan ('specific plan"), which constitutes the primary component of the proposed project description. The project location and description as excerpted from the specific plan are presented first to provide context for the technical analyses which follow.

1.1 Project Location and Setting

The project site is located in northern Solano County in the northeastern portion of the city as shown in Figure 1-1, Location Map. The project site is approximately 185 acres in size. It is divided roughly in half by Sequoia Drive; with about 107 acres to the north and 78 acres to the south. Figure 1-2, Existing Land Uses and Features, shows existing conditions within and adjacent to the project site. Leisure Town Road forms the eastern project site boundary. Rural residential, vacant land and agricultural uses within Solano County that are located within a planned City of Vacaville Growth Area are also adjacent to Leisure Town Road on the east. These areas are anticipated to develop with urban uses over time. Two single-family residential subdivisions located within the city also border the eastern side of the roadway. Commercial uses including a self-storage facility, local-serving commercial uses and a hotel are located to the north. The Vacaville Auto Mall borders the project site on the northeast. Residential uses within the existing Leisure Town senior community are adjacent to the project site on the west, and single-family residential uses and The Mission church are adjacent on the south.

With the exception of about 10 acres of the site located north of the existing Gilley Way, the remainder of the project site was formerly in use as the Greentree Golf Course. The financial viability of the golf course waned in recent years. In February 2016, the golf course was closed.

1.2 Project Description

The project description provided here is taken from information contained in the specific plan. The description information highlights aspects of the proposed project that have specific relevance to modeling criteria air emissions, energy demand, and GHGs; considering project features that serve to reduce air emissions, energy demand, and GHG emissions; and assessing project impacts.

Land Use and Development Capacity

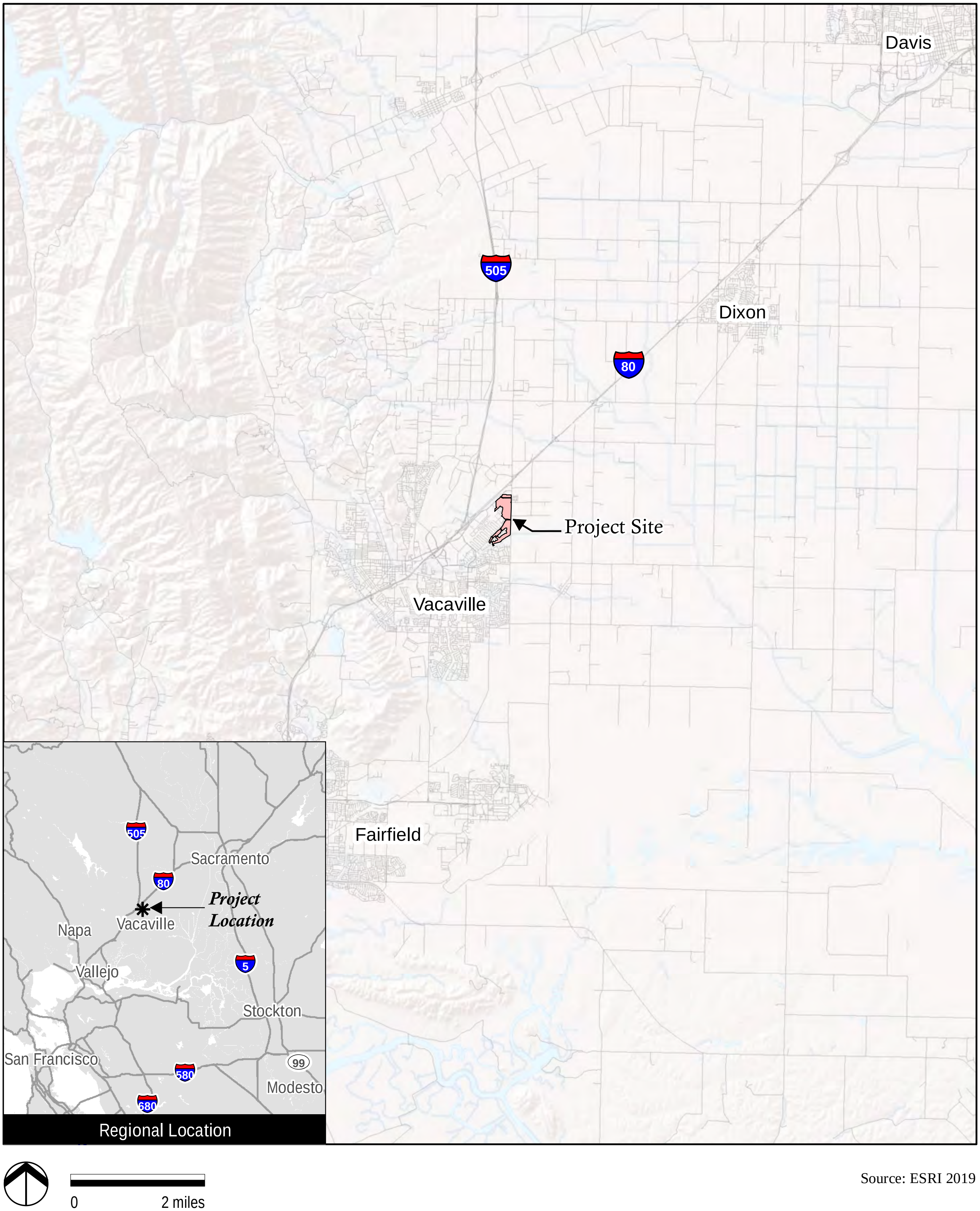
The project site is planned for a mix of uses that include residential, a neighborhood-serving commercial district, public parks, trails, pedestrian facilities, bicycle paths, and an off-street pedestrian/bicycle network. The project site is roughly bisected by Sequoia Drive into a northern portion and a southern portion. For ease of reference, the terms "south of Sequoia Drive" and "north of Sequoia Drive" are used for geographical reference to the respective neighborhoods and features planned on each side of this road.

Residential densities range from an average of about 6.8 units per acre in the south of Sequoia Drive neighborhood, which is planned as a senior adult community, to an average of about 16.9 units per acre in the north of Sequoia Drive neighborhood. The north of Sequoia Drive neighborhood is intentionally planned with substantially higher density to enable flexibility for developing a range of housing product types. The density in the south of Sequoia Drive neighborhood is intentionally lower to ensure that it is consistent with the density of existing senior neighborhoods located adjacent to it. Table 1-1, Land Use/Zoning and Development Capacity Summary, which is taken from the proposed specific plan, summarizes the proposed development plan. Figure 1-3, Overall Site Plan, shows the locations, types, and arrangement of planned land uses.

Connectivity Features and Traffic Calming

The project has been planned with pedestrian and bicycle connectivity as a fundamental design consideration. Pedestrian and bicycle connectivity is created: 1) within and between new neighborhoods; 2) to link planned residential development to commercial, park, and open space uses; and 3) to integrate adjacent existing neighborhoods. Separated pedestrian and bicycle facilities are included along the major backbone streets of Village Way, Yellowstone Drive, and Sequoia Drive, all of which are designed as complete streets, and as part of the Leisure Town Road improvements along the project site frontage. In addition, an off-street multi-use trail system is planned to enhance overall non-vehicular connectivity. Figure 1-4, Circulation and Connectivity Plan, is a composite representation of how non-vehicular circulation features are planned to fully internally integrate the project site, and the project site with adjacent neighborhoods.

Traffic calming features are included in the project design. Sidewalk "bulb-outs" are incorporated into on-site complete street designs in targeted locations. In addition, backbone streets are designed with narrower than standard lane widths. These design features are intended to slow traffic speeds to increase pedestrian and bicycle safety.



Source: ESRI 2019

Figure 1-1
Location Map

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Source: ERSI 2019, Solano County GIS 2016

Figure 1-2

Existing Land Uses and Features

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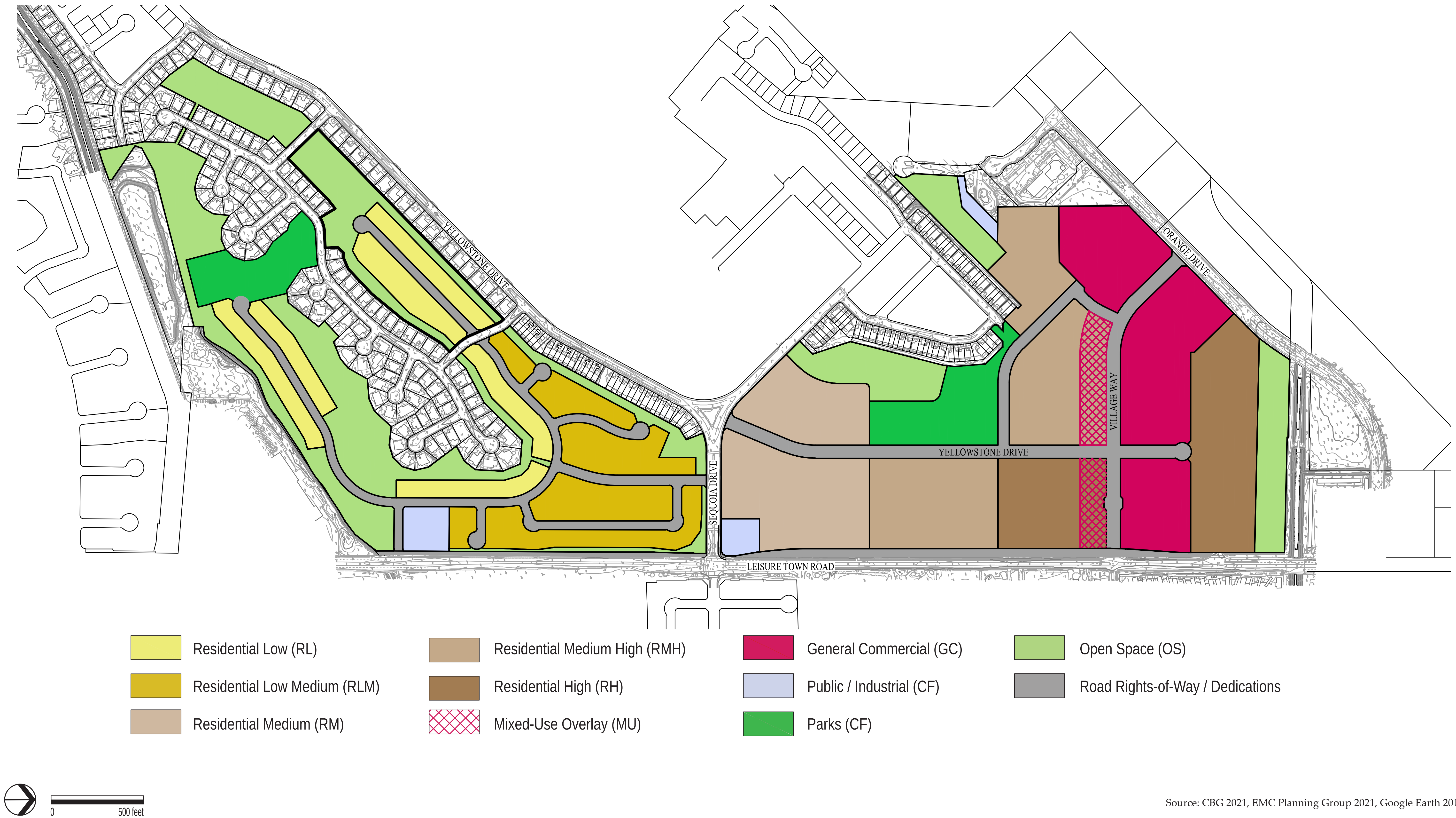

Source: CBG 2021, EMC Planning Group 2021, Google Earth 2019

Figure 1-3

Overall Site Plan

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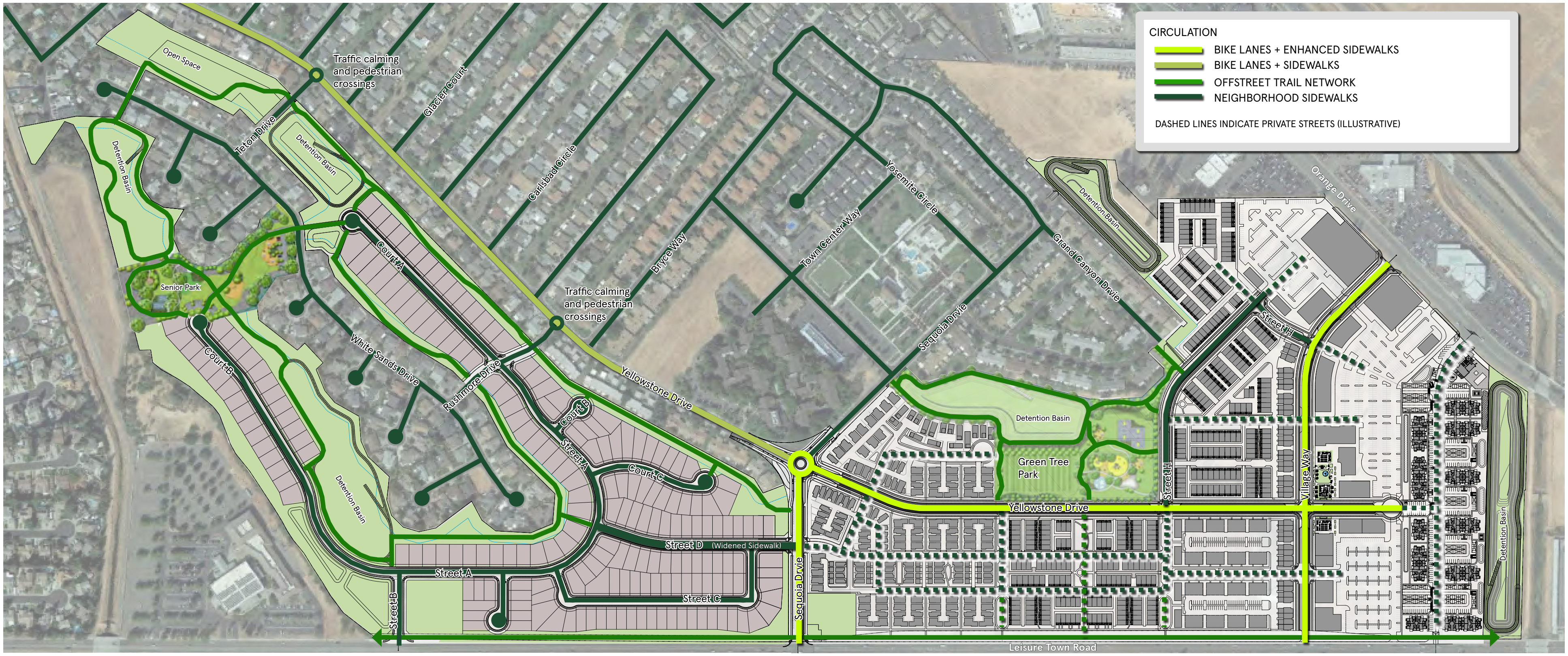

Bike Lanes + Enhanced Sidewalks

Bike Lanes + Sidewalks

Offstreet Trail Network

Neighborhood Sidewalks

Dashed Lines Indicate Private Streets (Illustrative)

Source: ELS 2021

Figure 1-4
Circulation and Connectivity Plan

Greentree Project Air Quality, Energy and GHG Report

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Table 1-1 Land Use/Zoning and Development Capacity Summary

General Plan Land Use	Zoning	Land Area (Acres)	Dwelling Units	Average Residential Density	Building Square Footage
North of Sequoia Drive					
General Commercial	GC	19.9	---	---	300,000[1]
Residential Medium	RM	15.8	172	10.9 du/ac	---
Residential Medium High	RMH	22.1	375	17.0 du/ac	---
Residential High	RH	17.9	403	22.5 du/ac	---
Park	CF	6.0	---	---	---
Open Space[2]	OS	11.5	---	---	---
Public[3]	CF	1.6	---	---	---
General Land[4]	---	12.7	---	---	---
Subtotal		107.5	950		299,345
South of Sequoia Drive					
Residential Low	RL	12.9	82	6.4 du/ac	---
Residential Low Medium	RLM – 4.5	15.1	117	7.7 du/ac	---
Parks	CF	4.5	---	---	---
Open Space[2]	OS	30.9	---	---	---
Public[3]	CF	1.5	---	---	---
General Land[4]	---	13.0	---	---	---
Subtotal		77.9	199		0
TOTAL		185.4[5]	1,149		299,345

SOURCE: CBG 2021, EMC Planning Group 2021
NOTES:
1. Building square footage based on a floor-to-area ratio of 0.346
2. Open space includes detention/water quality facilities
3. Applies to planned water well sites and sewer pump station site
4. Includes roadway right-of-way and roadway land dedication
5. Total acreage doffers by 0.6 acres relative to Assessor Parcel data in Table 1-1 of the specific plan. Total acreage in Table 2-1 is considered to be the more accurate figure.

Applicant-Proposed Measures for Reducing Criteria Air Pollutants, Energy Demand and GHG Emissions

The applicant has included an array of on-site GHG emissions reduction measures in Chapter 7.0, Infrastructure, of the specific plan. The measures represent applicable, feasible actions that are within the applicant's control, and consequently, can be enforced by the City through conditions of approval and/or a development agreement. Implementing the measures would reduce criteria air emissions, energy demand, and/or GHG emissions from constructing and operating future development projects within the project site. Several of these measures are inherent to the overall project design, while others are applicable specifically at the individual future project level.

The applicant considered a multitude of potential on-site reduction measures based largely on reference to multiple resources, the most widely recognized of which is *Quantifying Greenhouse Gas Mitigation Measures* (California Air Pollution Control Officers Association 2010). The applicant also reviewed Appendix B of the *California's 2017 Climate Change Scoping Plan* (California Air Resources Board 2017), the CEQA guidance documents of adjacent air districts, other recent CEQA documents for similar projects in the region, and consulted with City staff regarding other measures that could be considered. The applicant also reviewed the City's *Energy Conservation and Action Strategy* (City of Vacaville 2021) (ECAS) to identify GHG reduction measures that are applicable to and should be incorporated into the project description.

Criteria air emission, energy demand, and GHG emissions reductions from several of the applicant-proposed measures can be quantified using the California Emissions Estimator Model (CalEEMod), while several cannot. The measures are listed below based on this distinction. Measures that originate from the ECAS are so noted. Developers of individual future projects within the specific plan boundary would be required to implement the measures that are applicable to their respective projects.

Quantifiable Applicant-Proposed Measures

GHG emissions that would accrue from applicant-proposed measures whose reductions can be calculated using CalEEMod, include:

- Pedestrian network improvements which promote a shift from vehicles to non-motorized modes of transportation, thereby reducing vehicle trips and vehicle miles traveled.
- Traffic calming features (e.g., bulb-outs and other features at several major intersections, and narrower than standard vehicle travel lanes) to reduce vehicle speeds and improve pedestrian safety, with the goal of promoting pedestrian movement.
- For businesses with 15 or more employees, transit subsidies of a minimum of 50 percent of the average daily transit cost for a minimum of 50 percent of the employees (ECAS measure).
- For businesses with 15 or more employees, employee parking "cash out" for a minimum of 50 percent of the employees (ECAS measure).
- No woodstoves or natural gas hearths.

- Prohibition on use of natural gas in all residential units.
- Water efficient landscaping.

Non-Quantified Applicant-Proposed Measures

The energy and emissions reductions from the applicant-proposed measures listed below are not quantified for one more of the following reasons: 1) CalEEMod does not include the measure in its default set of potential mitigation options; 2) “off-model” (manual calculation) methodologies may exist in-lieu of CalEEMod, but may not be considered reliable; and/or 3) should not be quantified due to uncertainty about the extent to which the measure would be implemented, thereby potentially leading to an unreliable reduction determination. Because these measures have emissions and energy reduction value but are not quantified, the total quantified GHG emissions reduction volume from all applicant-proposed measures is considered to be conservative. The non-quantified measures are as follows:

- Construction phase control measures to reduce particulate (PM_{10}) dust. Applicable measures include:

  a. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered at least twice daily based on the construction activity, soil, and wind conditions.

  b. All haul trucks transporting soil, sand, or other loose material shall maintain at least two feet of freeboard.

  c. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. Dry power sweeping is prohibited.

  d. All vehicle speeds on unpaved roads shall be limited to 15 mph.

  e. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

  f. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District’s phone number shall also be visible to ensure compliance with applicable regulations.

  g. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph and visible dust extends beyond site boundaries.

h. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction adjacent to sensitive receptors. Wind breaks should have at maximum fifty percent air porosity.

i. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.

j. Construction activities shall be phased to reduce the area of disturbed surfaces at any one time.

k. Avoid tracking of visible soil material on to public roadways by treating site accesses to a distance of 100 feet from public paved roads with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel.

l. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.

- Construction phase equipment exhaust control measures that reduce NOx and PM emissions, but also have the co-benefit of reducing GHG emissions. Applicable control measures include: Tier 4 engines for construction equipment, minimizing construction equipment idling time, and using grid-supplied electricity to power both stationary and portable construction equipment.
- Bicycle network improvements for off-street bike trails to promote a shift from vehicles to non-motorized modes of transportation, thereby reducing vehicle trips and vehicle miles traveled.
- Bicycle parking facilities at non-residential uses that exceeds minimum requirements in the California Green Building Standards Code (Tier 1/Tier 2).
- Bicycle parking facilities at multi-family residential uses that exceeds minimum requirements in the California Green Building Standards Code (Tier 1/Tier 2).
- Electric vehicle support infrastructure that exceeds minimum requirements in the California Green Building Standards Code. This includes level 2 charging stations at each single-family home (Tier 1), changing stations at 20 percent of parking spaces within multi-family residential development (Tier 1), charging stations at 15 percent of commercial building parking spaces (Tier 1), and designated parking spaces for fuel efficient vehicles (Tier 1).
- Bus stops/shelters to be constructed as deemed necessary by City Coach through required consultations between developers of individual projects and City Coach.
- Energy demand reduction measures that include:

a. Cool roofs on all non-residential buildings to reduce building cooling needs;

b. Electrical outlets on all exterior walls of residential units to promote using electric landscape equipment;

c. Energy Star appliances in all non-residential buildings;

d. Programmable thermostats in residential units; and

e. Landscape trees in all non-residential parking lots to achieve 50 percent shading of parking areas within 10 years.

Additional Energy and Emissions Reduction Project Features

By design, the project inherently includes a major criteria air pollutant and GHG emissions reduction feature. The project is intentionally planned with a mix of land uses. Such projects generally generate fewer vehicle trips and fewer vehicle miles traveled than those which do not include a mix of uses. Additionally, the infill location of the project site will result in reduced vehicle trip lengths relative to greenfield development on a site located at the edge of the city that must be annexed to the city. The mixed-use benefit of the project is not included here as an applicant-proposed measure to avoid double counting the reduction benefit. That benefit is largely captured in assumptions about reduced vehicle trip volume that are used to model air and GHG emissions.

The proposed project would also, by design, reduce energy demand for water management by providing on-site recycled water infrastructure to supply recycled irrigation water to the two proposed parks. This would occur once a recycled water supply becomes available through the City's planned recycled water project. However, since the recycled water supply is not yet certain, the GHG reduction benefit has conservatively not been assumed.

Project Buildout Period and Phasing

Chapter 9.0, Implementation, and Appendix B in the specific plan contain information about the anticipated project buildout period and phasing. The project site is anticipated to build out over an approximately 10-year period from the date it is approved, though the period could be influenced by market conditions that cannot be known at this time. The overall timeframe and the sequence of development within individual use areas or blocks may change in response to changes in local employment, market demand, infrastructure timing, and other factors. Development phases may proceed individually or be joined together based on these factors. Ancillary improvements (parks, public facilities, infrastructure) would be constructed in parallel with the residential and commercial development phases.

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2.0
Air Quality

This section includes a discussion of the regional climate and topography, common criteria air pollutants, toxic air contaminants, and applicable regulations, and provides an evaluation of criteria air pollutant emissions that could be generated during construction and operation of the proposed project.

The background information and impact analysis presented in this section is based on proposed project plans, the *Greentree Development Project – Air Quality & Greenhouse Gas Modeling Assessment* (Illingworth & Rodkin 2021) ("AQ/GHG modeling assessment") contained in Appendix A, the "Mitigated GHG Emissions" memo (Illingworth & Rodkin 2021) contained in Appendix B, the "Exposure of New Project Residents to Existing TAC Sources Memo" (Illingworth & Rodkin 2021a) in Appendix C, the *City of Vacaville General Plan* (City of Vacaville 2015) and *City of Vacaville General Plan and Energy and Conservation Action Strategy Final EIR* (City of Vacaville 2014) (ECAS) and the *YSAQMD Handbook for Assessing and Mitigating Air Quality Impact*s (Yolo-Solano Air Quality Management District 2007).

2.1 Environmental Setting

Regional Climate and Topography

The City of Vacaville is located within the Sacramento Valley Air Basin ("air basin"), which includes all of Shasta, Tehama, Glenn, Colusa, Butte, Sutter, Yuba, Sacramento, and Yolo counties, the westernmost portion of Placer County and the northeastern half of Solano County. The regional climate can be generally characterized as Mediterranean, with hot, dry summers and cooler, wet winters. During the year the temperature may range from 20 to 115 degrees Fahrenheit (°F) with summer highs usually in the 90s and winter lows occasionally below freezing. The high average summer temperatures, combined with very low relative humidity, produces hot, dry summers that contribute to ozone (O_3) buildup. Average annual rainfall is about 20 inches with snowfall being very rare. The prevailing winds are moderate in strength and vary from moist clean breezes from the south to dry land flows from the north.

The air basin is bound by the North Coast Ranges on the west and Northern Sierra Nevada Mountains on the east. The intervening terrain is relatively flat.

Mountain ranges tend to buffer the basin from the marine weather systems that originate over the Pacific. However, the Carquinez Strait creates a breach in the Coast Range on the west of this basin, which exposes the midsection of the air basin to marine weather. This marine influence moderates climatic extremes, such as the cooling that sea breezes provide in summer evenings. These breezes also help to move pollutants out of the valley. During about half of the days from July to September, however, a phenomenon called the “Schultz Eddy” prevents this from occurring (City of Vacaville 2014). Instead of allowing for the prevailing wind patterns to move north carrying the pollutants out of the valley, the Schultz Eddy causes the wind pattern to circle back south. This effect exacerbates the pollution levels in the area and increases the likelihood of violating federal or state standards. The effect normally dissipates around noon when the delta sea breeze arrives.

The mountains surrounding the valley can also contribute to elevated pollutant concentrations during periods of surface of elevated surface inversions. These inversions are most common in late summer and fall. Surface inversions are formed when the air close to the surface cools more rapidly than the warm layer of air above it. Elevated inversions occur when a layer of cool air is suspended between warm air layers above and below it. Both situations result in air stagnation. Air pollutants accumulate under and within inversions, subjecting people in the region to elevated pollution levels and associated health concerns. The surface concentrations of pollutants are highest when these conditions are combined with smoke from agricultural burning or when temperature inversions trap cool air, fog, and pollutants near the ground.

Criteria Air Pollutants and Their Effects on Human Health

The six most common and widespread air pollutants of concern, or “criteria pollutants,” are ground level ozone, nitrogen oxides, particulate matter, carbon monoxide, sulfur dioxide, and lead. In addition, reactive organic gases are a key contributor to the criteria pollutants because they react with other substances to form ground level ozone. The common properties, sources, and related health and environmental effects of these pollutants are summarized in Table 2-1, Common Criteria Air Pollutants.

Health effects of criteria air pollutants include, but are not limited to, asthma, bronchitis, chest pain, coughing, throat irritation, and airway inflammation. Currently available modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual development project’s criteria air pollutant emissions and specific human health impacts. The thresholds of significance for criteria air pollutants crafted by local air districts are not intended to be indicative of any localized human health impact that an individual project may have. The CEQA air quality analysis for criteria air pollutants is not really a localized, project-level impact analysis but one of regional, cumulative impacts. For these reasons, it is not the norm to conduct an analysis of the localized health impacts associated with a project’s criteria air pollutant emissions as part of the CEQA process.

Table 2-1 Common Criteria Air Pollutants

Pollutant	Properties	Major Sources	Related Health & Environmental Effects
Ozone (O_3)	Ground level ozone is not emitted directly into the air. It results from chemical reactions between nitrogen oxides (NOx) and reactive organic gases (ROG) in presence of sunlight.	▪ Automobiles; ▪ Industrial facilities; ▪ Gasoline vapors; ▪ Chemical solvents; ▪ Electric utilities.	▪ Chest pain, coughing, throat irritation, and airway inflammation ▪ Worsens bronchitis, emphysema, and asthma. ▪ Affects sensitive vegetation and ecosystems
Nitrogen oxides (NO_X)	Group of highly reactive gases including nitrogen dioxide (NO_2).	▪ Combustion of fuel; ▪ Automobiles; ▪ Power plant; ▪ Off-road Equipment.	▪ Irritate respiratory system / increase respiratory infections ▪ Development of asthma ▪ Forms acid rain – harms sensitive ecosystems ▪ Creates hazy air ▪ Contributes to nutrient pollution in coastal waters
Respirable and Fine Particulate Matter (PM_{10}) ($PM_{2.5}$)	Mixture of solid particles and liquid droplets found in the air. Some particles, such as dust, soot, dirt, or smoke can be seen with the naked eye. Others are so small that they can only be detected with an electron microscope.	▪ Automobiles; ▪ Power Plants; ▪ Construction sites; ▪ Tilled farm fields; ▪ Unpaved roads; ▪ Smokestacks.	▪ Aggravated asthma; ▪ Irritation of the airways, coughing, and difficulty breathing; ▪ Decreased lung function; ▪ Premature death; ▪ Reduced visibility.
Carbon Monoxide (CO)	Colorless, odorless gas released when something is burned.	▪ Fuel combustion; ▪ Industrial processes; ▪ Highly congested traffic.	▪ Chest pain for those with heart disease; ▪ Vision problems; ▪ Dizziness, unconsciousness, and death (at high levels).
Sulfur Oxides (SO_X)	In the entire group of sulfur oxides (SO_X), sulfur dioxide (SO_2) is the component of the greatest concern.	▪ Fuel combustion; ▪ Industrial processes; ▪ Locomotives, ships, and other heavy equipment; ▪ Volcanoes.	▪ Makes breathing difficult; ▪ Worsens asthma; ▪ Contributes to acid rain; ▪ Reduced visibility; ▪ Damages statues and monuments.
Lead (Pb)	Lead is a naturally occurring element found in small amounts in the earth's crust.	▪ Ore and metal processing; ▪ Leaded aviation fuel; ▪ Waste Incinerators; ▪ Utilities; ▪ Lead-acid battery manufacturers.	▪ High blood pressure and heart disease in adults; ▪ Behavioral problems, learning deficits, and lowered IQ in infants and young children; ▪ Decreased plant and animal growth; ▪ Neurological effects in vertebrates.

SOURCE: United States Environmental Protection Agency 2018

Ozone (O_3)

Ground-level ozone is created by complex chemical reactions between nitrogen oxides and reactive organic gases in the presence of sunlight. Since ground-level ozone is not emitted directly into the atmosphere, but is formed because of photochemical reactions, it is considered a secondary pollutant.

Ozone is a strong irritant that attacks the respiratory system, leading to the damage of lung tissue. Asthma, bronchitis, and other respiratory ailments, as well as cardiovascular diseases, are aggravated by exposure to ozone. A healthy person exposed to high concentrations may become nauseated or dizzy, may develop a headache or cough, or may experience a burning sensation in the chest. Research has shown that exposure to ozone damages the alveoli (the individual air sacs in the lung where the exchange of oxygen and carbon dioxide between the air and blood takes place). Research has shown that ozone also damages vegetation.

If project-generated concentrations of reactive organic gases and/or nitrogen oxides exceed the applicable thresholds of significance, concentrations of ground level ozone resulting from these pollutants could potentially result in significant resulting in adverse human health impacts.

Reactive Organic Gases (ROG)

Reactive organic gases are emitted from a variety of sources, including liquid and solid fuel combustion, evaporation of organic solvents, and waste disposal.

Nitrogen Oxides (NO_X)

Most nitrogen oxides are created during combustion of fuels. Nitrogen oxides are a major contributor to ozone formation. Nitrogen dioxide is a reddish-brown gas that can irritate the lungs and can cause breathing difficulties at high concentrations. Like ozone, nitrogen dioxide is not directly emitted, but is formed through a reaction between nitric oxides and atmospheric oxygen. Nitrogen dioxide also contributes to the formation of particulate matter (see discussion below). Nitrogen dioxide concentrations in the air basin have been well below ambient air quality standards; therefore, nitrogen dioxide concentrations from land use projects are not a concern.

Particulate Matter (PM_{10} and $PM_{2.5}$)

Particulate matter refers to a wide range of solid or liquid particles in the atmosphere, including smoke, dust, aerosols, and metallic oxides. Particulate matter with diameter of 10 micrometers or less is referred to as PM_{10}. $PM_{2.5}$ includes a subgroup of finer particles that have a diameter of 2.5 micrometers or less. Particulate matter is directly emitted to the atmosphere as a byproduct of fuel combustion, wind erosion of soil and unpaved roads, and from construction or agricultural operations. Small particles are also created in the atmosphere through chemical reactions. Approximately 64 percent of fugitive dust is respirable particulate matter. Minimal grading typically generates about 10 pounds per day per acre on average while excavation and earthmoving activities typically generate about 38 pounds per day per acre.

Although particles greater than 10 micrometers in diameter can cause irritation in the nose, throat, and bronchial tubes, natural mechanisms remove much of these particles. Particles less than 10 micrometers in diameter are able to pass through the body's natural defenses and the mucous membranes of the upper respiratory tract and enter into the lungs. The particles can damage the alveoli. The particles may also carry carcinogens and other toxic compounds, which can adhere to the particle surfaces and enter the lungs.

Carbon Monoxide (CO)

Carbon monoxide is a component of motor vehicle exhaust, which contributes about 56 percent of all carbon monoxide emissions nationwide. Other non-road engines and vehicles (such as construction equipment and boats) contribute about 22 percent of all carbon monoxide emissions nationwide. Carbon monoxide can cause harmful health effects by reducing oxygen delivery to the body's organs (like the heart and brain) and tissues. Carbon monoxide contributes to the formation of ground-level ozone.

Higher levels of carbon monoxide generally occur in areas with heavy traffic congestion. In cities, 85 to 95 percent of all carbon monoxide emissions may come from motor vehicle exhaust. Concentration of carbon monoxide is a direct function of vehicle idling time and, thus, traffic flow conditions. Transport of carbon monoxide emissions is extremely limited; it disperses rapidly from the source under normal meteorological conditions. Under certain meteorological conditions, however, carbon monoxide concentrations close to a congested roadway or intersection may reach unhealthy levels, affecting local sensitive receptors (residents, school children, hospital patients, the elderly, etc.). Emissions thresholds established for carbon monoxide apply to direct or stationary sources.

Typically, high carbon monoxide concentrations are associated with roadways or intersections operating at unacceptable levels of service. Congested intersections with high volumes of traffic could cause carbon monoxide “hot spots,” where localized high concentrations of carbon monoxide occur.

Sulfur Oxides (SO_X)

Sulfur dioxide (SO_2) is the component of greatest concern and is used as the indicator for the larger group of gaseous sulfur oxides (SO_X). Emissions that lead to high concentrations of SO_2 generally also lead to the formation of other sulfur oxides. Sulfur dioxide is a colorless acid gas with a pungent odor. Sulfur dioxide is produced by the combustion of sulfur-containing fuels, such as oil, coal and diesel. Sulfur dioxide dissolves in water vapor to form acid, and interacts with other gases and particles in the air to form sulfates and other products that can be harmful to people and their environment. Health effects of sulfur dioxide include damage to lung tissue and increased risk of acute and chronic respiratory disease.

Lead (Pb)

Lead is a metal found naturally in the environment as well as in manufactured products. Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. Emissions of lead from the transportation sector and levels of lead in the air decreased 98 percent between 1980 and 2014, following regulatory efforts to ultimately remove lead from gasoline. 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 manufacturers.

Toxic Air Contaminants and their Effects on Human Health

Toxic air contaminants are pollutants that may be expected to result in an increase in mortality or serious illness or may pose a present or potential hazard to human health. Health effects include cancer, birth defects, neurological damage, damage to the body's natural defense system, and diseases that lead to death. Toxic air contaminants can be classified as either carcinogens or non-carcinogens.

Diesel Emissions

Diesel exhaust is the predominant toxic air contaminant in urban air and is estimated to represent about two-thirds of the cancer risk from toxic air contaminants. Diesel engines emit a complex mix of pollutants including nitrogen oxides, particulate matter, and toxic air contaminants. The most visible constituents of diesel exhaust are very small carbon particles or soot, known as diesel particulate matter (DPM). Diesel exhaust also contains over 40 cancer-causing substances, most of which are readily adsorbed on the soot particles. Among the toxic air contaminants contained in diesel exhaust are dioxin, lead, polycyclic organic matter, and acrolein. Diesel engine emissions are responsible for about 70 percent of California's estimated cancer risk attributable to toxic air contaminants (California Air Resources Board 2019). As a significant fraction of particulate pollution, DPM contributes to numerous health impacts, including increased hospital admissions, particularly for heart disease, but also for respiratory illness, and even premature death.

Diesel exhaust is especially common during the grading stage of construction (when most of the heavy equipment is used), and adjacent to heavily trafficked roadways where diesel trucks are common. The United States Environmental Protection Agency regulates diesel engine design and fuel composition at the federal level, and has implemented a series of measures since 1993 to reduce nitrogen oxides and particulate emissions from off-road and highway diesel equipment. Before EPA began regulating sulfur in diesel, diesel fuel contained as much as 5,000 parts per million (ppm) of sulfur. In 2006, EPA introduced stringent regulations to lower the amount of sulfur in diesel fuels to 15 ppm (United States Environmental Protection Agency 2019). This fuel is known as ultra-low sulfur diesel.

EPA Tier 1 non-road diesel engine standards were introduced in 1996, Tier 2 in 2001, Tier 3 in 2006, with final Tier 4 in 2014 (DieselNet 2017). Table 2-2, Typical Non-road Engine Emissions Standards, compares emissions standards for NO_X and particulate matter from non-road engine Tier 1 through Tier 4 for typical engine sizes. As illustrated in the table, emissions for these pollutants have decreased significantly for construction equipment manufactured over the past 20 years, and especially for construction equipment manufactured in the past seven years.

Table 2-2 Typical Non-road Engine Emissions Standards

Engine Tier and Year Introduced	NO_X Emissions[1]			Particulate Emissions[1]		
	100-175 HP	175-300 HP	300-600 HP	100-175 HP	175-300 HP	300-600 HP
Tier 1 (1996)	6.90	6.90	6.90	--	0.40	0.40
Tier 2 (2001)	--	--	--	0.22	0.15	0.15
Tier 3 (2006)	--	--	--	-- †[2]	-- †[2]	-- †[2]
Tier 4 (2014)[3]	0.30	0.30	0.30	0.015	0.015	0.015

SOURCE: DieselNet 2017
NOTES:
1. Expressed in g/bhp-hr, where g/bhp-hr stands for grams per brake horsepower-hour.
2. † - Not adopted, engines must meet Tier 2 PM standard.
3. Tier 4 diesel engines would reduce DPM as much as 85 percent (Diesel Net, 2021).

In California, non-road equipment fleets can retain older equipment, but fleets must meet averaged emissions limits. Since 2018 new equipment for large and medium fleets must be Tier 3 or better. New equipment for small fleets must meet the Tier 3 or better standard by January 2023. Over time all older fleet equipment must be fitted with particulate filters. Large and medium fleets have increasingly strict fleet compliance targets through 2023 and small fleets through 2029. A small fleet has total horsepower of 2,500 or less, and a medium fleet has total horsepower of between 2,500 and 5,000. Owners or operators of portable engines and other types of equipment can register their units under the California Air Resources Board (CARB) statewide Portable Equipment Registration Program in order to operate their equipment throughout California without having to obtain individual permits from local air districts (California Air Resources Board 2019a).

Construction Emissions

Emissions generated during construction are "short-term" in the sense that they would be limited to the actual periods of site development and construction. Short-term construction emissions are typically generated by the use of heavy equipment, the transport of materials, and construction employee commute trips. Construction-related emissions consist primarily of reactive organic gases, nitrogen oxides, DPM, respirable and fine particulate matter, and carbon monoxide. Emissions of reactive organic gasses, nitrogen oxides, DPM, and carbon monoxide are generated primarily by the operation of gas and diesel-powered motor vehicles, asphalt paving activities, and the application of architectural coatings. Respirable and fine particulate matter emissions are generated primarily by wind erosion of exposed graded surfaces.

Sensitive Receptors

Although air pollution can affect all segments of the population, certain groups are more susceptible to its adverse effects than others. Children, the elderly, and the chronically or acutely ill are the most sensitive population groups. These sensitive receptors are commonly associated with specific land uses such as residential dwelling units, schools, day care centers, nursing homes, and hospitals. In addition, certain air pollutants, such as carbon monoxide, only have significant effects if they directly affect a sensitive population. The air district's CEQA Guidelines suggests that the proximity of sensitive individuals (receptors) to a construction site constitutes a special condition and may require a more comprehensive evaluation of toxic DPM impacts.

The air district also identifies areas where sensitive receptors are most likely to spend time such as schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling unit(s).

2.2 REGULATORY SETTING

Federal

United States Environmental Protection Agency

The EPA was established on December 2, 1970 to create a single agency that covered several agency concerns: federal research, monitoring, standard-setting and enforcement. The purpose of the EPA is to protect the overall health of humans and the environment. The EPA does this by safeguarding all Americans from the hazardous risks in the environment where they live and work. Environmental safety is one of the primary concerns of U.S. policies and the following are commonly used to establish environmental policy: natural resources, human health, economic growth, energy, transportation, agriculture, industry, and international trade.

Federal Clean Air Act

Air quality is regulated on the federal level. The Clean Air Act, adopted in 1970 and amended in 1990, set federal standards for air quality.

The federal Clean Air Act required the EPA to set National Ambient Air Quality Standards for several air pollutants on the basis of human health and welfare criteria. The Clean Air Act also set deadlines for the attainment of these standards. The Clean Air Act established two types of national air standards: primary and secondary standards. Primary standards set limits to protect public health, including the health of sensitive persons 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. Historically, air quality laws and regulations have divided air pollutants into two broad categories of airborne pollutants: "criteria pollutants" and "toxic air contaminants."

In general, the Clean Air Act creates a partnership between state and federal governments for implementation of the Clean Air Act provisions. The federal Clean Air Act requires states to prepare an air quality control plan known as a State Implementation Plan. California's State Implementation Plan contains the strategies and control measures that California will use to attain the National Ambient Air Quality Standards. If, when reviewing the State Implementation Plan for conformity with Clean Air Act Amendments mandates, the EPA determines a State Implementation Plan to be inadequate, EPA may prepare a Federal Implementation Plan for the non-attainment area and may impose additional control measures.

National Ambient Air Quality Standards

Ambient air quality is described in terms of compliance with the state and national standards. State standards are discussed below. In general, criteria pollutants are pervasive constituents, such as those emitted in vast quantities by the combustion of fossil fuels. Both the state and federal governments have developed ambient air quality standards for the most prevalent pollutants, which include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, respirable particulate matter, and fine particulate matter. Table 2-3, National and California Ambient Air Quality Standards, lists state and federal ambient air quality standards for common air pollutants.

National Emissions Standards for Hazardous Air Pollutants are emissions standards set by the EPA for an air pollutant not covered by National Ambient Air Quality Standards that may cause an increase in fatalities or in serious, irreversible, or incapacitating illness. The standards for a particular source category require the maximum degree of emission reduction that the EPA determines to be achievable, which is known as the Maximum Achievable Control Technology.

Table 2-3 National and California Ambient Air Quality Standards

Pollutant	Averaging Time	National Standards[1]				California Standards[2]	
		Primary[3,4]		Secondary[3,5]		Concentration[3]	
		ppm	µg/m³	ppm	µg/m³	ppm	µg/m³
Ozone[6]	1 Hour	-	-	-	-	0.09	180
	8 Hour	0.07	137	0.07	137	0.07	137
PM_{10}[7]	24 Hour	-	150	-	150	-	50
	Annual	-	-	-	-	-	20
$PM_{2.5}$[7]	24 Hour	-	35	-	35	-	-
	Annual	-	12	-	15	-	12
Carbon Monoxide (CO)	8 Hour	9	10	-	-	9.0	10
	1 Hour	35	40	-	-	20.0	23
Nitrogen Dioxide (NO_2)[8]	Annual	0.053	100	0.053	100	0.03	57
	1 Hour	0.10	188	-	-	0.18	339
Sulfur Dioxide (SO_2)[9]	Annual	0.03	See note 9	-	-	-	-
	24 Hour	0.14	See note 9	-	-	0.04	105
	3 Hour	-	-	0.5	1,300	-	-
	1 Hour	0.075	196	-	-	0.25	655
Lead[10,11]	30 Day Average	-	-	-	-	-	1.5
	Rolling 3-month Average	-	0.15	-	0.15	-	-
	Calendar Quarter	See note 10	1.5	See note 10	1.5	-	-
Visibility Reducing Particles[12]	8 Hour	No Federal Standards				See note 12	
Sulfates	24 Hour					-	25
Hydrogen Sulfide	1 Hour					0.03	42
Vinyl Chloride[10]	24 Hour					0.01	26

SOURCE: California Air Resources Board 2016

NOTES:

1. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact EPA for further clarification and current federal policies.

2. California standards for ozone, carbon monoxide, sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
5. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
6. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
7. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 μg/m3 to 12.0 μg/m3. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 μg/m3, as was the annual secondary standard of 15 μg/m3. The existing 24-hour PM10 standards (primary and secondary) of 150 μg/m3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
8. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
9. On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
10. CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
11. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 μg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated non-attainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
12. In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

State

California Air Resources Board

The federal Clean Air Act gives states primary responsibility for directly monitoring, controlling, and preventing air pollution. CARB is responsible for coordination and oversight of federal, state, and local air pollution control programs in California and for implementing the requirements of the federal Clean Air Act and California Clean Air Act. The duties of CARB include coordinating air quality attainment efforts, setting standards, conducting research, and creating solutions to air pollution. The California Air Resources Board, which is a state agency located within the California Environmental Protection Agency, oversees regional or local air quality management or air pollution control districts that are charged with developing attainment plans for the areas over which they have jurisdiction. CARB grants these regional or local air districts explicit statutory authority to adopt indirect source regulations and transportation control measures, including measures to encourage the use of ridesharing, flexible work hours, or other measures that reduce the number or length of vehicle trips.

Air Quality Management Plans

The federal Clean Air Act requires areas with unhealthy levels of ozone, inhalable particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide to develop plans, known as State Implementation Plans. State Implementation Plans are comprehensive plans that describe how an area will attain national ambient air quality standards. State Implementation Plans are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. California grants air districts explicit statutory authority to adopt indirect source regulations and transportation control measures, including measures to encourage the use of ridesharing, flexible work hours, or other measures that reduce the number or length of vehicle trips. Local air districts prepare State Implementation Plan elements and submit them to CARB for review and approval. CARB forwards State Implementation Plan revisions to the EPA for approval and publication in the Federal Register.

California Air Toxics Program

CARB created a statewide air toxic program in the 1980s, and soon thereafter was the creation of the Toxic Air Contaminant Identification and Control Act of 1983 (AB 1807). The Toxic Air Contaminant Identification and Control Act established the California Air Toxic Program that was designed to lower all exposure to air pollutants. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) adds on to AB 1807 by demanding an inventory for all air pollutants, a system where notices are provided to those who are unprotected by the air pollutant, and plans to lower these health risks. AB 1807 required CARB to implement standards for the ranking and control of the air pollutants. AB 1807 also requires CARB to use the data within the AB 2588 program.

California Ambient Air Quality Standards

The California Ambient Air Quality Standards were established in 1959 by the California Department of Public Health to set air quality standards and controls for vehicle emissions. These standards were developed based on laborious peer reviewed scientific literature. The Office of Environmental Health Hazard Assessment reviews and updates the standards used today. A document called the *Initial Statement of Reasons* is a compilation of Office of Environmental Health Hazard Assessment recommendations and the previous review of literature. Updates are released for public review by the Air Quality Advisory Committee, which provides written comments on the draft Initial Statement of Reasons. Once the comments are addressed, the revised Initial Statement of Reasons is released for a public comment period of 45 days and then sent to a scheduled CARB meeting.

The California ambient air quality standards are often stricter than the national ambient air quality standards (refer to Table 2-3, National and California Ambient Air Quality Standards). When state thresholds are exceeded at regional monitoring stations, an "attainment plan" must be prepared that outlines how an air quality district will achieve compliance with the state standards.

Regional/Local

Air Basin Attainment Status

In accordance with the Clean Air Act, CARB, is required to designate regions of the state as attainment, non-attainment, or unclassified with regard to that region's compliance with criteria air pollutants standards. An "attainment" designation for a region signifies that pollutant concentrations do not violate the standard for that pollutant in that region. A "non-attainment" designation indicates that a pollutant concentration violated the standard at least once. An "unclassified" designation signifies that available data does not support either an attainment or non-attainment status. The air basin is currently designated as attainment for all ambient air quality standards except for ground-level ozone (O_3), respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

Yolo-Solano Air Quality Management District

The city is located within the boundaries of the Yolo-Solano Air Quality Management District (air district). The air district develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections. The air district's air quality management plans include control measures and strategies to be implemented to attain state and federal ambient air quality standards within the jurisdiction. The air district then implements these control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment. Air district attainment plans include:

- **Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (State Implementation Revisions)**: The *Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Reasonable Further Program Plan* (2017 Regional Ozone Attainment Plan) (Sacramento Metropolitan Air Quality Management District, et al. 2017) describes measures to be implemented by the air districts in the Sacramento Federal Nonattainment Area to achieve the 2008 ozone federal standards. The 2017 Ozone Plan shows that the region continues to meet federal progress requirements and demonstrates that the region will meet the 2008 ozone federal standards by 2022. The 2017 Regional Ozone Attainment Plan updates the emissions inventory, provides photochemical modeling results, updates the reasonable further progress and attainment demonstrations, revises adoption dates for control measures, and sets new motor vehicle emission budgets for transportation conformity purposes.

The 2017 Regional Ozone Attainment Plan also includes a vehicle miles traveled (VMT) offset demonstration that showed the emissions reduction from transportation control measures are sufficient to offset the emissions increase due to VMT growth.

In 2015, the EPA promulgated a new 8-hour federal standard for ozone. The air district implementation plan analysis (for the 2015 standard) was approved by the air district Board of Directors on September 9, 2020. The air district is required to certify that program meets the requirements for the implementation of the most recent (2015) ozone federal standards (draft certification checklist). A public hearing for the certification was conducted by the District Board on June 9, 2021, and once approved, it will be submitted to CARB and the EPA (Yolo-Solano Air Quality Management District 2021).

- **Triennial Assessment and Plan Update:** The California Clean Air Act requires the submission of a plan for attaining and maintaining state ambient air quality standards for ozone with subsequent updates every three years. The air district originally adopted an Air Quality Attainment Plan in 1991 and has completed seven triennial plan updates since then.

  The most recent adopted triennial plan (May 2019) covers the years 2015-2017. The document summarizes emission trends over this time period, forecasts future emissions, and reviews efforts made by the air district to improve air quality.

The air district issued its *Handbook for Assessing and Mitigating Air Quality Impacts* (Yolo-Solano Air Quality Management District 2007) to assist lead agencies in determining when potential air quality impacts would be considered significant under CEQA.

City of Vacaville General Plan

City of Vacaville General Plan policies pertaining to improving air quality and applicable to the project, are listed below:

- **Policy COS-P12.3** Encourage project designs that protect and improve air quality and minimize direct and indirect air pollutant emissions by including components that reduce vehicle trips and promote energy efficiency.
- **Policy COS-P12.4** Require that development projects implement best management practices (BMPs) to reduce air pollutant emissions associated with the construction and operation of the project.
- **Policy COS-P12.5** Require dust control measures as a condition of approval for subdivision maps, site plans, and all grading permits.

- **Policy COS-P12.6** Consistent with the air district's standards, require that any fireplaces in new and significantly renovated residential projects, or commercial projects are pellet-fueled heaters, EPA Phase II-certified wood burning heaters, or gas fireplaces.
- **Policy COS-P12.10** Encourage the use of roadway materials that minimize particulate emissions.

2.3 THRESHOLDS OF SIGNIFICANCE

For purposes of this analysis, a significant air quality impact would occur if implementation of the proposed project would:

- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
- Expose sensitive receptors to substantial pollutant concentrations.

These two thresholds are referenced from Appendix G of the *2021 CEQA California Environmental Quality Act Statute and Guidelines* (Association of Environmental Professionals 2021).

The following quantified thresholds operationalize the Appendix G thresholds of significance at the local air district level.

Criteria Air Pollutant Thresholds

The quantified thresholds of significance for construction and operational criteria air emissions are contained in the air district's CEQA Air Quality Handbook and presented in Table 2-4, Thresholds of Significance for Criteria Air Pollutants and Precursors.

Community Risk and Hazard Thresholds

The quantified single-source thresholds of significance for construction and operational community risk and hazard thresholds for new source TACs and receptors within a 1,000-foot radius are contained in the air district's CEQA Air Quality Handbook:

- Increased cancer risk of greater than 10.0 in a million, increased non-cancer risk of greater than 1.0 hazard index (chronic or acute).

Table 2-4 Thresholds of Significance for Criteria Air Pollutants and Precursors

Criteria Air Pollutants and Precursors	Construction Thresholds[1]	Operational Thresholds	
	Average Daily Emissions (lb/day)	Average Daily Emissions (lb/day)	Annual Emissions (tons/year)
ROG	-	-	10
NO_X	-	-	10
PM_{10}	80 (exhaust)	80	-
$PM_{2.5}$	-	-	10[2]

SOURCE: Yolo-Solano Air Quality Management District 2007

NOTES:

1. The air district numeric thresholds for particulate matter emissions from project construction apply to exhaust emissions only. The air district recommends implementation of best management practices to reduce fugitive dust emissions.
2 The air district does not have an adopted threshold for $PM_{2.5}$ emissions. The air district recommends using an adopted $PM_{2.5}$ threshold from another jurisdiction in the nonattainment area. As such, the Bay Area Air Quality Management District threshold of 10 tons per year is used in this analysis.

2.4 ANALYSIS

This section includes information, data and analysis regarding air quality issues that is relevant to the proposed project based on the thresholds of significance described above. Criteria air pollutant emissions associated with the construction and operation of the project were predicted using appropriate computer models. In addition, the potential construction and operational health risk impact to nearby sensitive receptors from emissions of toxic air contaminant (TAC) were modeled. TAC sources with potential to affect sensitive residential receptors planned within the project site were also evaluated. Operational emissions were modeled without applicant-proposed emission reduction measures and with applicant-proposed emission reduction measures.

Criteria Air Pollutants

Construction Emissions

Construction activities are temporary impacts that, depending on the size and type of project, commonly occur in limited time periods. Construction emissions have the potential to significantly impact local air quality. Construction emissions include mobile source exhaust emissions, emissions generated during the application of asphalt paving material and architectural coatings, as well as emissions of fugitive dust during demolition and grading.

Projected emissions from planned construction activities are described in the AQ/GHG modeling assessment contained in Appendix A. The AQ/GHG modeling assessment includes detailed information on the methodologies, models used and inputs to the models, and other assumptions used to develop the construction emissions inventory, including the assumed construction schedule. Please refer to the appendix for more information.

The project would include a construction emissions control plan as part of its stormwater pollution prevention plan to avoid or minimize emissions from construction activities. Measures in the plan would minimize dust generation and emissions from construction equipment as appropriate. The minimization measures proposed in the construction control plan include the following:

Dust (PM_{10}) Control Measures:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered at least twice daily based on the construction activity, soil, and wind conditions.
- All haul trucks transporting soil, sand, or other loose material shall maintain at least 2 feet of freeboard.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The air district's phone number shall also be visible to ensure compliance with applicable regulations.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph and visible dust extends beyond site boundaries.
- Wind breaks (e.g., trees, fences) should be installed on the windward side(s) of actively disturbed areas of construction adjacent to sensitive receptors. Wind breaks should have at maximum 50 percent air porosity.
- Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- Construction activities shall be phased to reduce the area of disturbed surface at any one time.

- Avoid tracking of visible soil material on to public roadways by treating site accesses to a distance of 100 feet from public paved roads with a 6 to 12-inch compacted layer of wood chips, mulch, or gravel.
- Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.

Exhaust Emission (NOx and PM) Control Measures:

- All diesel construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 final emission standards for PM (PM10 and PM2.5), if feasible, otherwise,
    a. If Tier 4 Final equipment is not available, alternatively use equipment that meets U.S. EPA emission standards for Tier 4 Interim or Tier 3 engines with particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve an 85 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment;

    b. The construction contractor shall demonstrate to the City of Vacaville that Tier 4 Interim equipment is not available if Tier 3 equipment is used; and

    c. Use alternatively fueled equipment with lower NOx emissions that meet the NOx and PM reduction requirements above.
- Diesel engines, whether for off-road equipment or on-road vehicles, shall not be left idling for more than two minutes, except as provided in exceptions to the applicable state regulations (e.g., traffic conditions, safe operating conditions). The construction sites shall have posted legible and visible signs in designated queuing areas and at the construction site to clearly notify operators of idling limit.
- Provide line power to the site during the early phases of construction to minimize the use of diesel-powered stationary equipment, such as generators, concrete/industrial saws, welders, and air compressors.
- Portable equipment shall be powered by electricity if available, instead of diesel generators. If grid electricity is not available, batteries or fuel cell systems for backup power shall be considered before using fossil-fueled generators.

Construction emissions were modeled for the total construction period (2023-2031). The emissions volume was calculated based on the assumption that the measures listed above would be incorporated into the project and also on an assumption that Tier 4 engines would be used in all construction equipment. Tier 4 refers to the latest emission milestone established by the U.S. Environmental Protection Agency and CARB applicable to new engines found in off-road equipment, including construction equipment and that the construction control plan emissions listed above, are incorporated into the project.

Table 2-5, Construction Criteria Air Pollutant Emissions, summarizes criteria air pollutant emissions and compares them against the air district thresholds. The California Emissions Estimator Model (CalEEMod) results and CalEEMod modeling assumptions and methodology are included in the AQ/GHG modeling assessment included in Appendix A. As can be seen in Table 2-5, the construction criteria air emissions would not exceed air district thresholds of significance.

Table 2-5 Construction Criteria Air Pollutant Emissions

	Total Annual Emissions (tons/year)[1]			
Year	ROG	NO_X	PM_{10}	$PM_{2.5}$
2023	0.24	2.38	1.06	0.15
2024	1.70	1.05	0.50	0.06
2025	0.35	4.11	2.69	0.47
2026	1.69	8.24	7.48	1.19
2027	1.61	4.76	6.72	0.81
2028	2.30	2.81	3.12	0.33
2029	0.33	4.79	1.57	0.17
2030	3.26	1.53	0.68	0.08
2031	1.21	1.21	0.65	0.07
Air District Thresholds	10	10	10.4 80 pounds per day[2]	None
Exceeds Thresholds?	*No*	*No*	*No*	*No*[3]

SOURCE: Illingworth & Rodkin 2021

NOTES:

1. Results have been rounded, and may, therefore, vary slightly.
2. PM_{10} threshold is based on daily emissions of 80 pounds per day. Based on 260 construction days per year, this would equate to 10.4 tons per year
3. The air district does not have a published $PM_{2.5}$ threshold. However, $PM_{2.5}$ emissions are below those used by other neighboring air districts, such as the Bay Area Air Quality Management District (54 pounds per day; based on 260 construction days per year, this would equate to 7.02 tons per year) and the Sacramento Metropolitan Air Quality Management District (82 pounds per day; based on 260 construction days per year, this would equate to 10.66 tons per year).

Unmitigated Operational Criteria Air Pollutants

The majority of adverse impacts on air quality come from the long-term operations of a project. Projected unmitigated operational criteria air emissions are described in the AQ/GHG modeling assessment contained in Appendix A. The AQ/GHG modeling assessment includes detailed information on the methodologies, models used and model inputs, and other assumptions used to develop the operational emissions inventory. Please refer to the appendix for more information. Annual proposed unmitigated project emissions were predicted using CalEEMod. Table 2-6, Unmitigated Operational Criteria Air Pollutant

Emissions, shows the annual emissions (in tons) and the average daily emissions (in pounds per day) of ROG, NO_X, total PM_{10} (i.e., direct emissions and fugitive road dust), and total $PM_{2.5}$ during operation of the project, and compares the emissions with the applicable air district thresholds.

Table 2-6 Unmitigated Operational Criteria Air Pollutant and DPM Emissions

Emissions[1]	ROG	NO_X	PM_{10}	$PM_{2.5}$
Operational Emissions (tons/year)	13.69	8.63	--	1.21
Air District Thresholds (tons/year)	*10*	*10*	--	*10*
Exceeds Thresholds?	*Yes*	*No*	--	*No*
Operational Emissions (pounds/day)			*35.6*	*6.6*
Air District Thresholds (pounds/day)			*80*	*54*[2]
Exceeds Thresholds?			*No*	*No*

SOURCE: Yolo-Solano Air Quality Management District 2007, Illingworth & Rodkin 2021.
NOTES:
1. Results have been rounded, and may, therefore, vary slightly.
2. BAAQMD threshold is presented - the air district does not have a recommended threshold.

The project is estimated to have annual and daily emissions below air district thresholds for each pollutant except for annual ROG emissions. Annual ROG emissions are estimated to exceed the 10 tons per year threshold by 3.69 tons per year. A majority of the ROG emissions (8.92 tons, or 65 percent) are associated with area sources such as architectural coatings and consumer products. ROG emissions from consumer products (i.e., solvents used in cleaning supplies, kitchen aerosols, cosmetics, and toiletries) make up most of the area source emissions (6.72 tons, approximately 75 percent). The CalEEMod ROG emissions factor for consumer products is based on statewide emissions data and statewide total building area. While CARB's Consumer Products Regulatory Program has established tighter emissions limits on several types of products over the years, the emissions reductions are almost offset by increases in population and product usage. Therefore, adjustments to the consumer products emissions factor would not be significant enough to achieve the reductions needed.

Applicant-Proposed Emission Reduction Measures and Resulting Criteria Air Pollutant Emissions Volume Reductions

As described in Section 1.2, Project Description, an array of on-site emissions reduction measures is included in the specific plan for the project. The measures represent applicable, feasible actions that are within the applicant's control, and consequently, can be enforced by the City through conditions of approval and/or a development agreement. Developers of individual future projects within the specific plan boundary would be required to implement the measures that are applicable to their respective projects.

Emissions from several of the measures can be quantified using CalEEMod, while several cannot. A separate CalEEMod run was conducted to identify the reductions in emissions that would accrue from applicant-proposed measures whose reductions can be calculated using CalEEMod. Table 2-7, Operational Criteria Air Pollutant and DPM Emissions with Implementation of Applicant-Proposed Measures, shows the resulting reductions in emissions volumes. The results for ROG and NOx emissions are found in Table 2.2, Overall Operational, Mitigated Operational, in Appendix B. The results for PM_{10} and $PM_{2.5}$ are the sum of the exhaust PM_{10} and $PM_{2.5}$ results in Table 2.2, Overall Operational, Mitigated Operational, in Appendix B, plus off-model calculations of PM_{10} and $PM_{2.5}$ fugitive road dust emissions.

Table 2-7 Operational Criteria Air Pollutant and DPM Emissions with Implementation of Applicant-Proposed Measures

Pollutant	Unmitigated Project Emissions Volumes	Emissions Volumes with Implementation of Applicant-Proposed Measures
ROG (tons per year)	13.69	12.54[1]
NOx (tons per year)	8.63	6.78
PM_{10} (pounds per day)	35.6	34.90
$PM_{2.5}$ (pounds per day)	6.6	5.91

SOURCE: Illingworth & Rodkin 2021a

1. This value differs slightly from the mitigated value of 12.72 reported in Table 8 of the AQ/GHG modeling assessment due to the effect of applicant-proposed GHG reduction measures.

With reductions from applicant-proposed measures, the volume of operational criteria air pollutants is reduced. However, the ROG emissions volume of 12.54 tons per year still exceeds the air district's threshold of 10 tons per year.

Exposure to Substantial Pollutant Concentrations - Off-Site Sensitive Receptors

The proposed project would introduce new sources of TACs during construction that could affect nearby off-site sensitive receptors. Under operational conditions, project traffic could generate emissions that in combination with existing emissions sources, could adversely affect off-site sensitive receptors. The AQ/GHG modeling assessment in Appendix A includes a community health risk assessment (HRA) to evaluate substantial sources of TACs that could affect sensitive receptors located within 1,000 feet of the project construction boundary. The impact analysis is based on guidance provided by the State of California Office of Environmental Health Hazard Assessment, CARB, and the Bay Area Air Quality Management District's adopted recommended procedures for applying the newest Office of

Environmental Health Hazard Assessment guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants. The local air district guidance does not include procedures for application.

Construction Health Risk to Off-Site Receptors

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. The primary community risk impact issue associated with construction emissions is cancer risk.

The AQ/GHG modeling assessment identified construction emissions volumes using CalEEMod, downwind concentrations of diesel particulate matter were calculated using AERMOD, and the location of the Maximally Exposed Individual (MEI) was also determined.

Results of this assessment indicate that the construction MEI is located at a single-family residence in the Casa Grande Mobile Home Park adjacent to Leisure Town Road, east of the project boundary. As shown in Table 9, the HRA concluded that the maximum increased cancer risks at the MEI from all nine years of construction is 6.04 per million. The non-cancer hazards from construction activities would be less than 0.01. Both values are below their respective thresholds of significance.

Operational Health Risk to Off-Site Receptors

The AQ/GHG modeling assessment evaluated roadway TAC concentrations created by the traffic increase from the project at existing nearby single-family and multi-family residential sensitive receptors. Inputs from the traffic study completed by the City to address project traffic impacts were used as part of the analysis. The analysis involved modeling mobile source TAC emissions, roadway dispersion modeling, and cancer risk computations.

The analysis determined that the unmitigated maximum cancer risks would be approximately 6.6 per million and hazard risk would be approximately 0.03 (AQ/GHG modeling assessment, Table 10). Both values are below their respective thresholds of significance.

Cumulative Health Risks to Off-Site Receptors

There are three existing stationary sources of TACs in the vicinity of the project: Caliber Collision Center, Quik Stop (gas dispensing facility), and a diesel-fueled emergency generator (internal combustion engine) owned by the City of Vacaville. Because the proposed project does not exceed the single-source significant thresholds, it would not be considered cumulatively significant. Therefore, a cumulative health risk assessment is not required. However, for informational purposes, the AQ/GHG modeling assessment included an assessment of cumulative impacts at the MEI from the combined project construction, project operation, and existing nearby stationary sources. The combined sources would create a cancer risk of 16.6 in a million. The local air district has not defined a cumulative source threshold for TAC cancer risk. However, BAAQMD uses a cumulative cancer threshold of 100 in a million. By this standard, the project cumulative health risk value is below the threshold of significance.

Exposure to Substantial Pollutant Concentrations - Future On-Site Sensitive Receptors

Under operational conditions, project traffic distributed onto existing roadways (TAC sources) could, in combination with existing TAC emissions sources, have potential to adversely impact on-site sensitive receptors. The "Exposure of New Project Residents to Existing TAC Sources Memo" in Appendix C (Illingworth & Rodkin 2021b) includes a community health risk assessment which evaluates this potential.

The Exposure of New Project Residents to Existing TAC Sources Memo considers the effects of adding project traffic to existing single TAC sources (Interstate 80, Orange Drive and Leisure Town Road), and considers the cumulative effect of adding project traffic to existing cumulative TAC sources that include the noted roadways plus two nearby stationary sources, Caliber Collision Center and Quik Stop (gas dispensing facility). The analysis involved modeling mobile source TAC emissions, roadway dispersion modeling, and cancer risk computations.

Project Contribution to Single-Source TAC Impacts

Interstate 80 is the most substantial existing single source of TACs that could affect future project residents. The planned residential units closest to Interstate 80 would be apartments located at the north end of the project site in an area designated high-density residential as shown previously in Figure 1-3, Site Plan. The specific apartment locations are illustrated in Figure 3 in the Exposure of New Project Residents to Existing TAC Sources Memo.

The analysis shows that the air district's single-source cancer risk threshold of 10 per million could be exceeded at up to four of the apartment buildings planned closest to Interstate 80 and Orange Drive. The worst-case cancer risk would be up to 12.9 per million at the apartment building nearest the highway. Two of the four buildings are completely within the threshold exceedance area and two are partially within the exceedance area as shown in Figure 3 of the Exposure of New Project Residents to Existing TAC Sources Memo. No other receptor within the project site would be exposed to cancer risk from single TAC sources that exceeds the single-source threshold. The air district's annual health index threshold of 1.0 or less would not be exceeded at any on-site receptor.

To reduce cancer risk at the affected apartment buildings to below the single-source threshold of significance, mitigation measures to reduce exposure of residents to TACs, specifically DPM, from Interstate 80 are required. These are described on page 7 of the Exposure of New Project Residents to Existing TAC Sources Memo. The measures are as follows:

Mitigation Measures

AQ-1. At the two apartment buildings identified in Figure 3 of the Exposure of New Project Residents to Existing TAC Sources Memo that are completely within the area with 10 per million or greater cancer risk, the developer shall install and maintain air filtration systems of fresh air supply either on 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 achieve a certain effectiveness. For example, a properly installed and operated ventilation system with filters having a Minimum Efficiency Report Value of 13 is expected to achieve an 80 percent reduction, and Minimum Efficiency Report Value 16 filters are expected to achieve 90 percent reduction. A reduction of 80 percent in DPM from Minimum Efficiency Report Value 13 filter would reduce cancer risk from I-80 at the closest of the two apartment buildings (the most sensitive receptor location) from 12.9 to 3.1 in a million, well below the single-source threshold of 10 in a million.

AQ-2. At the two apartment buildings identified in Figure 3 of the Exposure of New Project Residents to Existing TAC Sources Memo that are partially within the area with 10 per million or greater cancer risk, the developer shall locate the air intakes as far outside the area with 10 per million or greater risk from I-80 as possible.

These mitigation measures are based on recommendations provided in BAAQMD's Air Quality CEQA Guidelines and Planning Healthy Places documents. YSAQMD has no permitting or other regulatory authority over mobile sources; therefore, no specific mobile source TAC risk thresholds.

Project Contribution to Cumulative TAC Impacts

The Exposure of New Project Residents to Existing TAC Sources Memo addresses the project contribution to cumulative effects of the existing TAC sources described in the memo. The air district has not adopted a cumulative single-source threshold of significance and does not require a cumulative source analysis unless the single-source thresholds (as presented above) are exceeded. Additionally, the air district's thresholds do not cover TACs from mobile sources.

Since the single-source threshold is exceeded at limited on-site receptor locations as described above, but because the air district does not provide cumulative impact thresholds, BAAQMD's cumulative source thresholds for cancer risk and health index are referenced. As reported in Table 1 on page 5 of the Exposure of New Project Residents to Existing TAC Sources Memo, the highest cumulative cancer risk would range from about 16.9 at the planned apartment building located at the north end of the project site along Leisure Town Road (noted as an "on-site high TAC concentration" location in Figure 2 of the memo) to 16.0

in one million at the apartment building planned nearest Interstate 80. The cumulative risk at each location is the sum of the single-source risk reported in Table 1 of the memo. The BAAQMD cumulative cancer risk threshold of 100 per million would not be exceeded. Further, the calculated cumulative hazard index of about .211 would not exceed the cumulative BAAQMD hazard index threshold of 10.

2.5 IMPACT DETERMINATION SUMMARY

Criteria Air Emissions

Construction Emissions

Table 2-5, Construction Criteria Air Pollutant Emissions, summarizes criteria air pollutant emissions and compares them against the air district thresholds. Table 2-5 shows that construction criteria air emissions would not exceed air district thresholds of significance. Therefore, impacts of the project from construction criteria air emissions would be less than significant.

Operational Emissions

Table 2-7, Operational Criteria Air Pollutant and DPM Emissions with Implementation of Applicant-Proposed Measures, shows that with emissions reductions resulting from implementation of applicant-proposed measures, the volume of operational criteria air pollutants is reduced. However, the ROG emissions volume of 12.58 tons per year still exceeds the air district threshold of 10 tons per year. The ROG emissions impact is significant. Impacts for other criteria emissions impacts are less than significant.

Community Health Risk to Off-Site Receptors

Construction Health Risks to Off-Site Receptors

The maximum increased cancer risks at the MEI from all years of construction is estimated at 6.04 per million, which would be below the air district significance threshold of 10 cases per million. The non-cancer hazard from construction activities is estimated at approximately 0.1, which would be below the threshold of 1.0. Consequently, both impacts of the proposed project would be less than significant.

Operational Health Risks to Off-Site Receptors

The maximum increased cancer risks at the MEI from would be approximately 6.6 per million and non-cancer hazard risk is estimated at approximately 0.03. Both values are below the thresholds of significance of 10 cases per million and 1.0, respectively. Consequently, both impacts of the proposed project would be less than significant.

Contribution to Cumulative Health Risks to Off-Site Receptors

The AQ/GHG modeling assessment determined that cumulative sources of TACs would create a cancer risk of 16.6 in a million at the MEI. This value is below the reference BAAQMD cumulative cancer threshold of 100 in a million. By this standard, the project impact would be less-than-cumulatively considerable.

Community Health Risks to Future On-Site Receptors

Contribution to Single-Source Health Risks to On-Site Receptors

The proposed project would contribute traffic to Interstate 80, the dominant existing TAC source that could impact on-site sensitive receptors. The single-source cancer risk threshold of significance for this source would be exceeded at four planned apartment buildings located nearest the highway. Cancer risk would be reduced to less-than-significant at all four buildings with implementation of mitigation measures AQ-1 and AQ-2 as described above.

The air district's annual single-source health index threshold of 1.0 or less would not be exceeded at any on-site receptor. The maximum index would be less than 0.1.

Contribution to Cumulative Health Risks to On-Site Receptors

The Exposure of New Project Residents to Existing TAC Sources Memo evaluated the project contribution to cumulative TAC source impacts on on-site receptors. Worst-case cancer risk would range from about 16.0 to 16.9 in one million at the most impacted receptors. This is far below the BAAQMD cumulative cancer risk threshold of 100 per million. Further, the calculated cumulative hazard index of about .211 would not exceed the cumulative BAAQMD hazard index threshold of 10. Therefore, the proposed project contribution to cumulative health risks to future on-site sensitive receptors would be less-than-cumulatively considerable.

3.0
Energy

3.1 Environmental Setting

For more than two decades, federal, state, and regional energy agencies and energy providers have been focused on reducing growth in fossil fuel-based energy demand, especially in the form of transportation fuels and electricity. Key related environmental goals have been to reduce air pollutants and GHGs. Public and private investments in a range of transportation technology, energy efficiency and energy conservation programs and technologies to improve transportation fuel efficiency have been increasing, as has the focus on land use planning as a tool to reduce vehicle trips/lengths and transportation-related energy use.

To minimize the need for additional electricity generation facilities, both the state and regional energy purveyors have focused investments on energy conservation and efficiency. Energy purveyors have also focused on obtaining larger shares of retail power from renewable sources. California has been a dynamic force for transitioning to sustainable, renewable energy sources and promoting energy efficiency in across its economy.

3.2 Regulatory Setting

Energy efficiency, energy conservation and transportation fuel efficiency (through vehicle trip reduction and improved mileage) goals of the federal and state governments are embodied in many federal, state, and local statutes and policies. Because California has been at the forefront of addressing energy efficiency and conservation, its suite of policies and regulations is generally more comprehensive and stringent than is the Federal government's. Therefore, this regulatory setting section includes review of fundamental state energy efficiency and conservation regulations as context. Additional related regulations and legislation are found in Section 4.0, Greenhouse Gases. Local energy related policy as adopted by the City of Vacaville is also summarized.

State

California Energy Commission

The California Energy Commission is California's primary energy policy and energy planning agency. Created by the California Legislature in 1974, the California Energy

Commission has five major responsibilities: 1) forecasting future energy needs and keeping historical energy data; 2) licensing thermal power plants 50 megawatts or larger; 3) promoting energy efficiency through appliance and building standards; 4) developing energy technologies and supporting renewable energy; and 5) planning for and directing state response to energy emergencies. Under the requirements of the California Public Resources Code, the California Energy Commission, in conjunction with the Department of Conservation's Division of Oil, Gas, and Geothermal Resources, is required to assess electricity and natural gas resources on an annual basis or as necessary. The Systems Assessment and Facilities Siting Division of the California Energy Commission provides coordination to ensure that needed energy facilities are authorized in an expeditious, safe, and environmentally acceptable manner.

Integrated Energy Policy Report

Senate Bill (SB) 1389 required the California Energy Commission to conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The information is to be used to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety. This work culminated in preparation of the first Integrated Energy Policy Report (IEPR).

The California Energy Commission adopts an IEPR every two years and an update every other year. The most recent 2019 IEP summarizes priority state energy issues, and provides strategies and recommendations to further the state goals for of ensuring reliable, affordable, and environmentally responsible energy sources. The report addresses progress toward statewide renewable energy targets and issues facing future renewable development; efforts to increase energy efficiency in existing and new buildings; progress by utilities in achieving energy efficiency targets and potential; improving coordination among the state's energy agencies; streamlining power plant licensing processes; results of preliminary forecasts of electricity, natural gas, and transportation fuel supply and demand; future energy infrastructure needs; the need for research and development efforts to statewide energy policies; and issues facing California's nuclear power plants (California Energy Commission 2019).

California 2008 Energy Action Plan Update

The state adopted the Energy Action Plan in 2003, followed by the Energy Action Plan II in 2005. The current plan, the California 2008 Energy Action Plan Update, is California's principal energy planning and policy document. The updated document examines the state's ongoing actions in the context of global climate change, describes a coordinated implementation plan for state energy policies, and identifies specific action areas to ensure that California's energy resources are adequate, affordable, technologically advanced, and environmentally sound. The California 2008 Energy Action Plan Update establishes energy efficiency and demand response (i.e., reduction of customer energy usage during peak periods) as the first-priority actions to address California's increasing energy demands. Additional priorities include the use of renewable sources of power and distributed generation (e.g., the use of relatively small power plants near or at centers of high demand). To the extent that these actions are unable to satisfy the increasing energy demand and transmission capacity needs, clean and efficient fossil-fired generation is supported. The California 2008 Energy Action Plan Update examines policy changes in the areas of energy efficiency, demand response, renewable energy, electricity reliability and infrastructure, electricity market structure, natural gas supply and infrastructure, research and development, and climate change (California Energy Commission 2008).

California Building Codes

California's Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) were first established in 1978 to reduce California's energy consumption. The California Energy Code is updated every three years by the California Energy Commission as the Building Energy Efficiency Standards (building standards) to allow consideration and possible incorporation of new energy efficiency technologies and construction methods. In May 2018, the California Energy Commission adopted the 2019 building standards that go into effect on January 1, 2020. The 2019 building standards are structured to achieve the state's goal that all new low-rise residential buildings (single-family and multi-family homes) be zero net energy. Single-family homes built with the 2019 building standards will use about seven percent less energy due to energy efficiency measures versus those built under the 2016 building standards. Non-residential buildings will use about 30 percent less energy due mainly to lighting upgrades (California Energy Commission 2018).

The Green Building Standards Code (also known as CALGreen), which requires all new buildings in the state to be more energy efficient and environmentally responsible, took effect in January 2011 and was most recently updated in January 2016. These comprehensive regulations are intended to achieve major reductions in interior and exterior building energy consumption.

Energy Efficiency Act of 2006

Assembly Bill (AB) 2021 encourages all investor-owned and municipal utilities to aggressively invest in achievable, cost-effective, energy efficiency programs in their service territories.

California Assembly Bill No. 1493 ("Pavley I Rule")

AB 1493 was enacted on July 22, 2002. It requires the California Air Resources Board (CARB) to develop and adopt regulations that improve fuel efficiency of vehicles and light-duty trucks. Pavley I requirements apply to these vehicles in the model years 2009 to 2016.

Advanced Clean Cars

In January 2012, CARB adopted an Advanced Clean Cars program, which is aimed at increasing the number of plug-in hybrid cars and zero-emission vehicles in the vehicle fleet and on making fuels such as electricity and hydrogen readily available for these vehicle technologies.

Renewable Energy Legislation/Orders

The California Renewable Portfolio Standard Program, which requires electric utilities and other entities under the jurisdiction of the California Public Utilities Commission to meet 20 percent of their retail sales with renewable power by 2017, was established by SB 1078 in 2002. The renewable portfolio standard was accelerated to 20 percent by 2010 by SB 107 in 2006. The program was subsequently expanded by the renewable electricity standard approved by CARB in September 2010, requiring all utilities to meet a 33 percent target by 2020. The Legislature then codified this mandate in 2011 with SB X1-2. SB 350, adopted in September 2015, increases the standard to 50 percent by 2030. This same legislation includes statutes directing the California Energy Commission and California Public Utilities Commission to regulate utilities producing electricity so that they will create electricity-generation capacity sufficient for the widespread electrification of California's vehicle fleet, as a means of reducing GHG emissions associated with the combustion of gasoline and other fossil fuels. The Legislature envisioned a dramatic increase in the sales and use of electric cars, which will be recharged with electricity produced with increasingly cleaner power sources.

On September 10, 2018, former Governor Brown signed into law SB 100 and Executive Order B-55-18. SB 100 raises California's Renewable Portfolio Standard requirement to 50 percent renewable resources target by December 31, 2026, and to a 60 percent target by December 31, 2030. Executive Order B-55-18 establishes a carbon neutrality goal for California by 2045, and sets a goal to maintain net negative emissions thereafter.

City of Vacaville

The City of Vacaville has adopted energy-related policy as part of its general plan and further tackled issues of energy conservation as part of its ECAS. Key policies/actions in these documents that are applicable to the proposed project are summarized below.

General Plan

The Conservation and Open Space Element contains the following fundamental energy polices and actions:

- Policy COS-P9.1 Maintain the Energy and Conservation Action Strategy.
- Policy COS-P9.2 Promote land use patterns that reduce the number and length of motor vehicle trips.

- Policy COS-P9.3 To the extent feasible, encourage a balance and match between jobs and housing.
- Policy COS-P9.4 Encourage higher density residential and mixed-use development adjacent to commercial centers and transit corridors – the land along or within walking distance of a street served by transit.
- Policy COS-P9.5 Encourage employment areas to include a mix of support services to minimize the number of employee trips.
- Policy COS-P9.6 Encourage retail and office areas to be located within walking and biking distance of existing and proposed residential developments.
- Policy COS-P9.7 Continue to work with the Solano Transportation Authority on regional transportation solutions that will reduce vehicle miles traveled and greenhouse gas emissions.
- Policy COS-P9.8 Promote green building practices in new development. Policy COS-P10.1 Encourage the development of energy generated by renewable fuel sources within the city, provided that significant adverse environmental impacts associated with such development can be successfully mitigated.
- Policy COS-P10.2 Encourage solar-oriented and renewable design and grid-neutral development – development that generates enough energy to off-set its demands – by encouraging streets that are oriented east-west to facilitate the maximization of south-facing roofs that best accommodate solar panels.
- Policy COS-P10.3 Encourage the installation of solar voltaic panels on new homes and businesses through reduced building permit fees or other incentives.
- Policy COS-P10.4 Encourage the use of solar water and pool heaters.
- Policy COS-P11.1 Require that new development incorporate energy-efficient design features for HVAC, lighting systems, and insulation that exceed Title 24.
- Policy COS-P11.2 Require that site and structure designs for new development promote energy efficiency.

City of Vacaville Energy and Conservation Action Strategy

The ECAS is a strategic roadmap for the City to meet the State's GHG reduction targets established by Senate Bill (SB) 32 and demonstrate substantial progress towards meeting Executive Order (EO) S-3-05. The role of the ECAS in reducing GHG emissions of the proposed project is described in Section 4.0, Greenhouse Gases. The ECAS includes a range of energy-related strategies whose implementation would result in reduced energy consumption. These include measures aimed at reducing GHG emissions from transportation, residential energy, non-residential energy, water and wastewater, solid waste disposal, off-road equipment sources.

3.3 THRESHOLDS OF SIGNIFICANCE

For purposes of this analysis, a significant impact would occur if implementation of the proposed project would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

These thresholds are referenced from Appendix G of the 2020 CEQA Guidelines.

3.4 ANALYSIS

Project Energy Consumption

The three primary sources of long-term energy consumption from the proposed project will be use of transportation fuel, natural gas, and electricity. Each of these energy consumption sources is described below.

Transportation Fuel

The proposed project will generate new traffic trips that increase vehicle miles traveled (VMT). Section 4.2, Trip Summary Information, of the CalEEMod results in Appendix A show that annual project VMT is projected at 32,676,963 miles. VMT serves as a general proxy for the magnitude of transportation fuel consumption. As VMT from fossil fuel powered vehicles increases, vehicle fuel consumption increases. However, the rate of consumption of transportation fuels has been declining over time in California due to continuing improvements in vehicle fuel efficiency, increases in the percentage of the vehicle fleet comprised of zero emissions vehicles, and technological advances in the formulation and deployment of alternative fuels.

The proposed project includes a number of design features and applicant proposed measures result in reduced VMT and reduced fuel consumption. Please refer to Section 1.2, Project Description, and to Section 4.0, Greenhouse Gases, for more discussion.

Electricity

According to the California Energy Commission Energy Consumption Data Management System (California Energy Commission 2021), in 2019, total electricity consumption in Solano County was about 3,226,597,752 kWh. Section 5.3, Energy by Land Use – Electricity, in the CalEEMod results in Appendix A shows the electricity demand from the proposed project, which totals approximately 9,701,000 kWh/year. The proposed project electricity consumption at buildout would represent about 0.03 percent of total 2019 Solano County electricity consumption.

Several of the applicant-proposed emissions/energy reduction measures described Section 1.2, Project Description, are directed at reducing electricity consumption. These include: cool roofs on all non-residential buildings to reduce building cooling needs, Energy Star appliances in all non-residential buildings, programmable thermostats in residential units, and landscape trees in all non-residential parking lots to achieve 50 percent shading of parking areas within 10 years.

Natural Gas

The Energy Consumption Data Management System identifies that in 2019, total natural gas consumption in Solano County was 236,122,955 therms (California Energy Commission 2021a). Table 5.2 Energy by Land Use – Natural Gas, in the CalEEMod results in Appendix A shows natural gas demand from the proposed project, would total about 20,527,470 BTU/year (205,275 therms/year). This is about 0.08 percent of Solano County's 2019 natural gas demand. However, as discussed in Section 1.2, Project Description, the applicant-is proposing that natural gas be prohibited in all residential units. This will reduce natural gas demand relative to that reported in the CalEEMod results by about 197,200 BTU/year, or 89 percent.

Land Use, Regulatory Compliance and Applicant-Proposed Measures

The thresholds of significance for energy impacts presented earlier are qualitative. There is no quantified level of energy use that constitutes a significance threshold, nor definitions of what constitutes "unnecessary", "wasteful", or "inefficient" use of energy. In this context, the following discussion of potential impact significance is qualitative and based on land use, regulatory compliance, and applicant-proposed measures considerations.

Project Purpose and Necessity

Regarding whether the estimated project energy use is unnecessary, the project includes a set land use development types that are common to urban development. From this perspective, its energy demand characteristics are common to new urban development. The project is being proposed, in significant part, to increase the City's number and diversity of housing types and provide housing at a range of costs to meet the needs of the City's existing and growing population. The non-residential uses are planned to meet the needs of nearby existing residential neighborhoods and to support the needs of new project residents. Given these needs, energy demand from the project is not considered unnecessary, as the project is fulfilling local land use, economic, and social needs.

Energy demand from the project would be neither wasteful or inefficient. Residential and non-residential buildings would be required to adhere to the 2019 California Energy Code and to updates that commonly occur every three years. The City enforces the California Building Standards Code through the development review process. That enforcement is the primary mechanism through which the project will be required to implement state and locally mandated energy efficiency/conservation measures that are within the control of the applicant and the City. Further, that applicant has included a range of energy saving/efficiency measures in the project as described above.

For the same reasons that the energy demand from the project is not considered unnecessary, wasteful or inefficient, the project would not conflict with a state or local plan for renewable energy or energy efficiency. Future development within the site must comply with the California Building Standards Code, which sets standards for building energy efficiency and for incorporating renewable energy into residential and non-residential development. In addition, as described in Section 4.0, Greenhouse Gases, the applicant-proposed measures include the GHG reduction measures from the ECAS that are applicable to the project, thus ensuring project consistency with the GHG reduction measures contained in the City's primary plan for reducing GHG emissions.

3.5 IMPACT DETERMINATION SUMMARY

Given the factors summarized above, the proposed project would have a less-than-significant impact from unnecessary, inefficient, wasteful energy consumption, and would have no impact from conflict with state or local plans for renewable energy or energy efficiency.

4.0
Greenhouse Gases

This section includes discussion of the science of climate change, existing setting conditions, applicable policy and regulatory direction regarding climate change, the sources and projected volume of greenhouse gas (GHG) emissions that would be generated by the proposed project, and GHG impacts.

The background information and impact analysis presented in this section is based on proposed project plans, the AQ/GHG modeling information contained in Appendices A, B, and C, and the City's Energy Conservation and Action Strategy (ECAS).

4.1 ENVIRONMENTAL SETTING

This section provides a general overview of climate change science and climate change issues in California.

Climate Change Science

The international scientific community has concluded with a high degree of confidence that human activities are causing an accelerated warming of the atmosphere. The resulting change in climate has serious global implications and consequently, human activities that contribute to climate change may have a potentially significant effect on the environment. In recent years, concern about climate change and its potential impacts has risen dramatically. That concern has translated into a range of international treaties and national and regional agreements aimed at diminishing the rate at which global warming is occurring. Over time, the federal government has been tackling concerns about climate change to varying degrees through a range of initiatives and regulatory actions. Many states and local agencies, private sector interests, and other public and private interests have also taken initiative to combat climate change. At the state level, California has taken a leadership role in tackling climate change, as evidenced by the programs outlined in the Regulatory Setting section below.

Causes of Climate Change

The greenhouse effect naturally regulates the Earth's temperature. However, human activity has increased the intensity of the greenhouse effect by releasing increasing amounts of greenhouse gasses GHGs into the atmosphere. GHGs can remain in the atmosphere for decades or even hundreds of thousands of years (depending on the particular GHG). The

GHG emissions that are already in the atmosphere will continue to cause climate change for years to come, just as the warming being experienced now is the result of emissions produced in the past. Climatic changes are happening now and are projected to increase in frequency and severity before the benefits of GHG emission reductions will be realized. Increased concentrations of GHGs in the atmosphere result in increased air, surface, and ocean temperatures. Many of the effects and impacts of climate change stem from resulting changes in temperature and meteorological responses to those changes.

Effects of Climate Change

Rising Temperatures

The Intergovernmental Panel on Climate Change, which includes more than 1,300 scientists from the United States and other countries, estimated that over the last century, global temperatures have increased by about 3.6 degrees Fahrenheit (°F) (NASA 2019). The Intergovernmental Panel on Climate Change forecasts indicate that global temperatures can be expected to continue to rise between 2.5 and 10°F over the next century. According to the California Climate Adaptation Strategy (California Natural Resources Agency 2009), average state temperatures are currently predicted to increase 1.8 to 5.4°F by 2050 and 3.6 to 9°F by 2100.

Cal-Adapt, a climate change projection modeling tool developed by California Energy Commission, includes information on environmental change projections resulting from global warming. The model indicates that temperatures in the Vacaville region have historically (1961-1990) averaged about 73°F. Under a high GHG emissions projection scenario, temperatures are projected to rise to an average of 82.5°F by 2099 (Cal-Adapt 2021). Vacaville has historically experienced four extreme heat days per year (1961-1990). The model projections fluctuate on an annual basis. Under a high GHG emissions scenario, the number of extreme heat days per year is expected to increase to 24 by 2099 (Cal-Adapt 2021a).

Reduced Snowpack

The Sierra Nevada snowpack acts as a large natural reservoir that stores water during the winter and releases it into rivers and reservoirs in the spring and summer. It is expected that there will be less snowfall in the Sierra Nevada and that the elevations at which snow falls will rise. Similarly, there will be less snowpack water storage to supply runoff water in the warmer months. It has already been documented that California’s snow line is rising. More precipitation is expected to fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack. It is estimated that for each 1.8°F increase in Earth’s average temperature, the Sierra snowpack will retreat 500 feet in elevation and an overall reduction of 25 to 40 percent reduction in snowpack by 2050 is projected. The Sierra Nevada snowpack provides approximately 80 percent of California‘s annual water supply. The rapid decrease in snowpack and spring melt poses a threat to groundwater resources in many parts of the state where rivers that recharge groundwater with melt water from the Sierra Nevada will have reduced groundwater recharge potential.

Water Supply

Climate change is expected to increase pressure on and competition for water resources, further exacerbating already stretched water supplies. Decreasing snowpack and spring stream flows and increasing demand for water from a growing population and hotter climate could lead to increasing water shortages. Water supplies are also at risk from rising sea levels. Competition for water between cities, farmers, and the environment is expected to increase.

Anticipated changes to source water conditions including more intense storm events, longer drought periods, reduced snowpack at lower elevations, and earlier spring runoff will likely impact the quality of the source waters. Changes in source water quantity and quality may result in increased treatment needs and increased treatment costs.

Precipitation Levels

Precipitation levels are difficult to predict compared to other indicators of climate change. Annual rain and snowfall patterns vary widely from year to year, especially in California. Generally, higher temperatures increase evaporation and decrease snowfall, resulting in a drier climate. On average, Cal-Adapt projections show little change in total annual precipitation in California. Furthermore, among several models, precipitation projections do not show a consistent trend during the next century. The Mediterranean seasonal precipitation pattern is expected to continue, with most precipitation falling during winter from North Pacific storms. One of the four climate models projects slightly wetter winters, while a second projects slightly drier winters with a 10 to 20 percent decrease in total annual precipitation. However, even modest changes would have a significant impact because California ecosystems are conditioned to historical precipitation levels and water resources are nearly fully utilized.

Vacaville has historically averaged about 23 inches of rainfall per year (1961-1990). Under a high GHG emissions scenario, that number is forecast to increase to about 25 inches by the end of the century (Cal-Adapt 2021b).

More Frequent and Extreme Storm Events

Extreme weather is expected to become more common throughout California. More extreme storm events are expected to increase water runoff to streams and rivers during the winter months, heightening flood risks. Warmer ocean surface temperatures have caused warmer and wetter conditions in the Sierra Nevada, increasing flood risk. Strong winter storms may produce atmospheric rivers that transport large amounts of water vapor from the Pacific

Ocean to the California coast. These often last for days and drop heavy rain or snow. Storms involving such atmospheric rivers occurred during the winter of 2016-2017. As the strength of these storms increases, the risk of flooding increases.

Sea Level Rise

Sea level rise is one of the most significant effects of climate change. Sea level has been rising over the past century, and the rate has increased in recent decades. Global mean sea level in 2017 was the highest annual average in the satellite era (since 1993) with a value of 77 millimeters above the 1993 average (Hartfield, Blunden, and Arndt 2018). Globally, sea levels are rising due to two main reasons: thermal expansion of warming ocean water and melting of ice from glaciers and ice sheets. Rising sea levels amplify the threat and magnitude of storm surges in coastal areas. Water infrastructure, often located along the coast or tidally-influenced water bodies, can be vulnerable to greater changes in storm surge intensity. The threat of flooding and damage to water infrastructure will continue to increase over time as sea levels rise and the magnitude of storms increase. Rising sea levels will create stress on coastal ecosystems that provide recreation, protection from storms, and habitat for fish and wildlife, including commercially valuable fisheries. Rising sea levels can also introduce new, or exacerbate existing, saltwater intrusion into freshwater resources.

Diminished Air Quality

Climate change is expected to exacerbate air quality problems by increasing the frequency, duration, and intensity of conditions conducive to air pollution formation. Higher temperatures and increased ultraviolet radiation from climate change are expected to facilitate the chemical formation of more secondary air pollutants from ground-level sources. Conversely, decreased precipitation is expected to reduce the volume of particulates cleansed from the air. Incidents of wildfires are expected to increase due to climate change, further contributing to air quality problems.

According to the American Lung Association, Californians experience the worst air quality in the nation. Statewide, over 35 million Californians (91 percent) live in counties affected by unhealthy air during the year (American Lung Association 2017).

Ecosystem Changes

Climate change effects will have broad impacts on local and regional ecosystems, habitats, and wildlife as average temperatures increase, precipitation patterns change, and more extreme weather events occur. Species that cannot rapidly adapt are at risk of extinction. As temperatures increase, California vegetation is expected to change. Desert and grassland vegetation is projected to increase while forest vegetation is projected to generally decline. The natural cycle of plant flowering and pollination, as well as the temperature conditions necessary for a thriving locally adapted agriculture, may also be affected. Perennial crops, such as grapes, may take years to recover. Increased temperatures also provide a foothold for invasive species of weeds, insects, and animals.

Social Vulnerability to Climate Change

The impacts of climate change will not affect people equally. People exposed to the most severe climate-related hazards are often those least able to cope with the associated impacts, due to their limited resources and adaptive capacity. Climate change is expected to have a greater impact on larger populations living in poorer and developing countries with lower incomes that rely on natural resources and agricultural systems that will likely be affected by changing climates.

Certain groups in developed countries like the United States will also experience more impacts from climate change than others. People in rural areas are more likely to be affected by climate change related droughts or severe storms compared to their urban counterparts. However, certain groups living in cities will also be at higher risk than others. Place of residence is another vulnerability indicator, as renters, households without air conditioning, households lacking access to grocery stores, households in treeless areas, and households on impervious land cover are also more vulnerable to climate change impacts.

City of Vacaville residents who are at greatest risk include children, the elderly, those with existing health problems, the socially and/or economically disadvantaged, those who are less mobile, and those who work outdoors. Place of residence is another vulnerability indicator, as renters, households without air conditioning, households lacking access to grocery stores, households in treeless areas, and households on impervious land cover are also more vulnerable to climate change impacts.

Health Effects/Illness

As temperatures rise from global warming, the frequency and severity of heat waves will grow and increase the potential for bad air days, which can lead to increases in illness and death due to dehydration, heart attack, stroke, and respiratory disease. Additionally, dry conditions can lead to a greater number of wildfires producing smoke that puts people with asthma and respiratory conditions at risk of illness or death.

Higher temperatures and the increased frequency of heat waves are expected to significantly increase heat-related illnesses, such as heat exhaustion and heat stroke, while also exacerbating conditions associated with cardiovascular and respiratory diseases, diabetes, nervous system disorders, emphysema, and epilepsy. An increase of 10°F in average daily temperature is associated with a 2.3 percent increase in mortality. During heat waves mortality rates can increase to about nine percent. As temperatures in the area increase, vulnerable populations such as children, the elderly, people with existing illnesses, and people who work outdoors will face the greatest risk of heat-related illness.

As climate change affects the temperature, humidity, and rainfall levels across California, some areas could become more suitable habitats for insects (especially mosquitoes), ticks, and mites that may carry diseases. Wetter regions are typically more susceptible to vector-borne diseases, especially human hantavirus cardiopulmonary syndrome, Lyme disease, and West Nile virus.

Greenhouse Gas Types

GHGs are emitted by natural processes and human activities. The human-produced GHGs most responsible for global warming and their relative contribution to it are carbon dioxide, methane, nitrous oxide, and chlorofluorocarbons. The contribution of these GHGs to global warming based on the U.S. inventory of GHGs in 2019 (United States Environmental Protection Agency 2021) is summarized in Table 4-1, GHG Types and Their Contribution to Global Warming.

Table 4-1 GHG Types and Their Contribution to Global Warming

Greenhouse Gas	Percent of all GHG	Typical Sources
Carbon dioxide	81.6 percent	Combustion of fuels, solid waste, wood
Methane (CH_4)	10.2 percent	Fuel production/combustion; livestock, decay of organic materials
Nitrous Oxide (N_2O)	5.6 percent	Combustion of fuels, solid waste, agricultural/industrial processes
Chlorofluorocarbons (CFCs)	2.6 percent	Industrial processes

SOURCE: United States Environmental Protection Agency 2021
NOTE: Percentages reflect weighting for global warming potential

Greenhouse Gas Global Warming Potentials

Each type of GHG has a different capacity to trap heat in the atmosphere and each type remains in the atmosphere for a particular length of time. The ability of a GHG to trap heat is measured by an index called the global warming potential expressed as carbon dioxide equivalent. Carbon dioxide is considered the baseline GHG in this index and has a global warming potential of one.

The GHG volume produced by a particular source is often expressed in terms of carbon dioxide equivalent (CO_2e). Carbon dioxide equivalent describes how much global warming a given type of GHG will cause, with the global warming potential of CO_2 as the base reference. Carbon dioxide equivalent is useful because it allows comparisons of the impact from many different GHGs, such as methane, perfluorocarbons, or nitrous oxide. If a project is a source of several types of GHGs, their individual global warming potential can be standardized and expressed in terms of CO_2e. Table 4-2, GHG Global Warming Potentials presents a summary of the global warming potential of various GHGs.

Methane has a global warming potential of 21 times that of carbon dioxide, and nitrous oxide has a global warming potential of 310 times that of CO_2. The families of chlorofluorocarbons, hydrofluorocarbons, and perfluorocarbons have a substantially greater global warming potential than other GHGs, generally ranging from approximately 1,300 to over 10,000 times that of CO_2. While CO_2 represents the vast majority of the total volume of GHGs released into the atmosphere, the release of even small quantities of other types of GHGs can be significant for their contribution to climate change.

Table 4-2 GHG Global Warming Potentials

GHG	Atmospheric Lifetime (Years)	Global Warming Potential (100-Year Time Horizon)
Carbon Dioxide CO_2	50-200	1
Methane CH_4	12 (+/- 3)	21
Nitrous Oxide N_2O	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC Tetrafluoromethane CF_4	50,000	6,500
PFC Hexafluoroethane C_2F_6	10,000	9,200
Sulfur Hexafluoride SF_6	3,200	23,900

SOURCE: United Nations Framework Convention on Climate Change 2019

Greenhouse Gas Inventories

California GHG Emissions Inventory

California is a substantial contributor of global greenhouse gases. Based on the California Air Resources Board's most recent state GHG inventory, a net of 425.3 million metric tons of carbon dioxide equivalent GHG emissions (CO_2e) were generated in 2018 (California Air Resources Board 2020). In 2018, 39.9 percent of all GHG gases emitted in the state came from the transportation sector. Industrial uses and electric power generation (in state generation and out of state generation for imported electricity) were the second and third largest categories at 21.0 percent and 14.8 percent, respectively. The commercial and residential use sectors combined to generate about 9.7 percent of the 2018 emissions, while the agricultural sector contributed 7.7 percent.

City of Vacaville GHG Emissions Inventory

As described in Section 4.2 below, the City has adopted a qualified plan for reducing GHGs. The ECAS, includes baseline and projected GHG emissions inventories for the city. Baseline 2019 emissions are estimated at 84,198 MT CO_2e. Transportation sources constitute about 72 percent of the emissions, while energy constitutes about 22 percent. For the City's target horizon year of 2035, emissions are projected at 1,033,227 MT CO_2e. Transportation sources consistent 72 percent, while energy sources climb slightly to 24 percent.

4.2 REGULATORY SETTING

State, regional, and local policies and regulations pertaining to climate change are summarized below. The Federal government has also adopted policies and regulations to address climate change. However, because California has been at the forefront of addressing climate change, its suite of policies and regulations is generally more comprehensive and stringent than is the Federal government's. Therefore, this regulatory setting section focuses on California's climate change regulatory framework. This framework provides context for how climate change is being addressed and identifies policy and regulatory actions whose implementation would lessen the contribution of the proposed project to climate change.

State

Overall Statutory Framework

The California Legislature has enacted a series of statutes addressing the need to reduce GHG emissions across the State. These statutes can be categorized into four broad categories: (i) statutes setting numerical statewide targets for GHG reductions, and authorizing California Air Resources Board to enact regulations to achieve such targets; (ii) statutes setting separate targets for increasing the use of renewable energy for the generation of electricity throughout the state; (iii) statutes addressing the carbon intensity of vehicle fuels, which prompted the adoption of regulations by California Air Resources Board; and (iv) statutes intended to facilitate land use planning consistent with statewide climate objectives. The discussion below will address each of these key sets of statutes, as well as California Air Resources Board "Scoping Plans" intended to achieve GHG reductions under the first set of statutes and recent building code requirements intended to reduce energy consumption.

Statutes Setting Statewide GHG Reduction Targets

Assembly Bill 32 (Global Warming Solutions Act)

In September 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006, also known as Assembly Bill (AB) 32. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that was phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

Senate Bill 32

Effective January 1, 2017, Senate Bill (SB) 32 added a new section to the Health and Safety Code. It provides that "[i]n adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by [Division 25.5 of the Health and Safety Code], [CARB] shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030." In other words, SB 32 requires California, by the year 2030, to reduce its statewide GHG emissions so that they are 40 percent below those that occurred in 1990.

Between AB 32 (2006) and SB 32 (2016), the Legislature has codified some of the ambitious GHG reduction targets included within certain high-profile Executive Orders issued by the last two governors. The 2020 statewide GHG reduction target in AB 32 was consistent with the second of three statewide emissions reduction targets set forth in former Governor Arnold Schwarzenegger's 2005 Executive Order known as S-3-05, which is expressly mentioned in AB 32. That Executive Branch document included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several state agencies to cooperate in the development of a climate action plan. The Secretary of Cal-EPA leads the Climate Action Team, whose goal is to implement global warming emission reduction programs identified in the Climate Action Plan and to report on the progress made toward meeting the emission reduction targets established in the executive order.

In 2015, former Governor Brown issued another Executive Order, B-30-15, which created a "new interim statewide greenhouse gas emission reduction target to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030 is established in order to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050." SB 32 codified this target.

The Legislature has not yet set a 2050 target in the manner done for 2020 and 2030 through AB 32 and SB 32, though references to a 2050 target can be found in statutes outside the Health and Safety Code. In the 2015 legislative session, the Legislature passed Senate Bill 350 (SB 350), which is discussed in more detail below. This legislation added to the Public Utilities Code language that essentially puts into statute the 2050 GHG reduction target already identified in Executive Order S-3-05, albeit in the limited context of new state policies (i) increasing the overall share of electricity that must be produced through renewable energy sources and (ii) directing certain state agencies to begin planning for the widespread electrification of the California vehicle fleet. Section 740.12(a)(1)(D) of the Public Utilities Code now states that "[t]he Legislature finds and declares [that] … [r]educing emissions of [GHGs] to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification." Furthermore, Section 740.12(b) now states that the California Public Utilities Commission, in consultation with California Air Resources Board and the California Energy Commission, must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

Statutes Setting Targets for the Use of Renewable Energy for the Generation of Electricity

California Renewables Portfolio Standard

In September 2002, the Legislature enacted Senate Bill 1078, which established the Renewables Portfolio Standard program, requiring retail sellers of electricity, including electrical corporations, community choice aggregators, and electric service providers, to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources such as wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. The legislation set a target by which 20 percent of the State's electricity would be generated by renewable sources.

In September 2006, the Legislature enacted Senate Bill 107, which modified the Renewables Portfolio Standard to require that at least 20 percent of electricity retail sales be served by renewable energy resources by year 2010. In April 2011, the Legislature enacted Senate Bill X1-2, which set even a more aggressive statutory targets for renewable electricity of 33 percent by 2020.

In 2015, the Legislature enacted Senate Bill 350, requiring a substantial increase in the use of electric vehicles and increasing the Renewable Portfolio Standard to require 50 percent of electricity generated to be from renewables by 2030. On September 10, 2018, former Governor Brown signed into law SB 100 and Executive Order B-55-18. SB 100 raises California's Renewable Portfolio Standard requirement to 50 percent renewable resources target by December 31, 2026, and 60 percent target by December 31, 2030. In addition to targets under AB 32 and SB 32, Executive Order B-55-18 establishes a carbon neutrality goal for California by 2045; and sets a goal to maintain net negative emissions thereafter.

In March 2012, former Governor Brown issued an Executive Order, B-16-12, which embodied a vision of a future in which zero-emission vehicles will play a big part in helping the state meet its GHG reduction targets. Executive Order B-16-12 directed state government to accelerate the market for in California through fleet replacement and electric vehicle infrastructure. The Executive Order set the following targets:

- By 2015, all major cities in California will have adequate infrastructure and be "zero-emission vehicles ready";
- By 2020, adequate infrastructure to support one million zero-emission vehicles;
- By 2025, 1.5 million zero-emission vehicles on the road in California; and

- By 2050, virtually all personal transportation in the State will be based on zero-emission vehicles, and greenhouse gas emissions from the transportation sector will be reduced by 80 percent below 1990 levels.

In sum, California has set a statutory goal of requiring that, by the year 2030, half of the electricity generated in California should be from renewable sources, with increased generation capacity intended to be sufficient to allow the mass conversion of the statewide vehicle fleet from petroleum-fueled vehicles to electrical vehicles and/or other zero-emission vehicles. The Legislature is thus looking to California drivers to buy electric cars, powered by green energy, to help the State meet its aggressive statutory goal, created by SB 32, of reducing statewide GHG emissions by 2030 to 40 percent below 1990 levels. Another key prong to this strategy is to make petroleum-based fuels less carbon intensive. A number of statutes in recent years have addressed that strategy.

Statutes and California Air Resources Board Regulations Addressing the Carbon Intensity of Petroleum-based Transportation Fuels

Assembly Bill 1493, Pavley Clean Cars Standards

In July 2002, the Legislature enacted Assembly Bill 1493 (“Pavley Bill”), which directed CARB to develop and adopt regulations that achieve the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks beginning with model year 2009. In September 2004, CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. These regulations created what are commonly known as the “Pavley standards.” In September 2009, CARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations created what are commonly known as the “Pavley II standards.”

In January 2012, CARB adopted an Advanced Clean Cars program aimed at reducing both smog-causing pollutants and GHG emissions for vehicles model years 2017-2025. This historic program combined the control of smog-causing (criteria) pollutants and GHG emissions into a single coordinated set of requirements. The regulations focus on substantially increasing the number of plug-in hybrid cars and zero-emission vehicles in the vehicle fleet and on making fuels such as electricity and hydrogen readily available for these vehicle technologies. The components of the Advanced Clean Cars program are the low-emission vehicle regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the zero-emission vehicle regulation, which requires manufacturers to produce an increasing number of pure zero-emission vehicles (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years.

It is expected that the Advanced Clean Car regulations will reduce GHG emissions from California passenger vehicles by about 34 percent below 2016 levels by 2025, all while improving fuel efficiency and reducing motorists' costs.

Cap and Trade Program

On October 20, 2011, in a related action, CARB adopted the final cap-and-trade program for California. The California cap-and-trade program creates a market-based system with an overall emissions limit for affected sectors. The program is intended to regulate more than 85 percent of California's emissions and staggers compliance requirements according to the following schedule: (1) electricity generation and large industrial sources (2012); (2) fuel combustion and transportation (2015). The statewide cap for GHG emissions from major sources commenced in 2013. This cap declines over time, achieving GHG emission reductions throughout the program's duration. The program expanded in 2015 to include fuel distributors (natural gas and propane fuel providers and transportation fuel providers) to address emissions from transportation fuels, and from combustion of other fossil fuels not directly covered at large sources in the program's initial phase.

In early 2017, former Governor Brown signed AB 398, which extended the life of the existing Cap and Trade Program through December 2030.

Statutes Intended to Facilitate Land Use Planning Consistent with Statewide Climate Objectives

California Senate Bill 375 (Sustainable Communities Strategy)

This 2008 legislation built on AB 32 by setting forth a mechanism for coordinating land use and transportation on a regional level for the purpose of reducing GHGs. The focus is to reduce miles traveled by passenger vehicles and light trucks. CARB is required to set GHG reduction targets for each metropolitan region. Each of California's metropolitan planning organizations then prepares a sustainable communities strategy that demonstrates how the region will meet its GHG reduction target through integrated land use, housing, and transportation planning. Once adopted by the metropolitan planning organizations, the sustainable communities strategy is to be incorporated into that region's federally enforceable regional transportation plan. If a metropolitan planning organization is unable to meet the targets through the sustainable communities strategy, then an alternative planning strategy must be developed that demonstrates how targets could be achieved, even if meeting the targets is deemed to be infeasible.

Local agencies that adopt land use, housing, and transportation policies that are consistent with and facilitate implementation of the related GHG reduction strategies in a sustainable communities strategy benefit through potential CEQA streamlining for qualifying projects proposed within their boundaries.

Climate Change Scoping Plans

AB 32 Scoping Plan

In December 2008, California Air Resources Board adopted the Climate Change Scoping Plan, which contains the main strategies California planned to implement to achieve reduction of approximately 118 million metric tons (MMT) CO_2e, or approximately 22 percent from the state's projected 2020 emission level of 545 MMT of CO_2e under a business-as-usual scenario This is a reduction of 47 MMT CO_2e, or almost 10 percent, from 2008 emissions. The Scoping Plan also included CARB recommended GHG reductions for each emissions sector of the state GHG inventory.

2014 Scoping Plan Update

In response to comments on the 2008 Scoping Plan, and AB 32's requirement to update the Scoping Plan every five years, CARB revised and reapproved the Scoping Plan in 2014. The 2014 Scoping Plan contains the main strategies California would implement to achieve a reduction of 80 MMT of CO_2e emissions, or approximately 16 percent, from the state's projected 2020 emission level of 507 MMT of CO_2e under the business-as-usual scenario defined in the 2014 Scoping Plan. The 2014 Scoping Plan also includes a breakdown of the amount of GHG reductions CARB recommends for each emissions sector of the state's GHG inventory. Several strategies to reduce GHG emissions are included: the Low Carbon Fuel Standard, the Pavley Rule, the Advanced Clean Cars program, the Renewable Portfolio Standard, and the Sustainable Communities Strategy.

2017 Scoping Plan

With the passage of SB 32, the Legislature also passed companion legislation AB 197, which provides additional direction for updating the prior scoping plan. The 2017 Scoping Plan represents a second update to the scoping plan to reflect the 2030 target of reducing statewide GHG emissions by 40 percent below 1990 levels codified by SB 32. The GHG reduction strategies in the 2017 Scoping Plan proposed to implement to meet the target include:

- SB 350 - achieve 50 percent Renewables Portfolio Standard (RPS) by 2030 and doubling of energy efficiency savings by 2030;
- Low Carbon Fuel Standard - increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020);
- Mobile Source Strategy (Cleaner Technology and Fuels Scenario) - maintaining existing GHG standards for light- and heavy-duty vehicles, put 4.2 million zero-emission vehicles on the roads, and increase zero-emission buses, delivery and other trucks;

- Sustainable Freight Action Plan - improve freight system efficiency, maximize use of near-zero emission vehicles and equipment powered by renewable energy, and deploy over 100,000 zero-emission trucks and equipment by 2030;
- Short-Lived Climate Pollutant Reduction Strategy - reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030 and reduce emissions of black carbon 50 percent below 2013 levels by 2030;
- SB 375 Sustainable Communities Strategies - increased stringency of 2035 targets;
- Post-2020 Cap-and-Trade Program - declining caps, continued linkage with Québec, and linkage to Ontario, Canada;
- 20 percent reduction in greenhouse gas emissions from the refinery sector; and
- By 2018, develop an Integrated Natural and Working Lands Action Plan to secure California’s land base as a net carbon sink.

Building Code Requirements Intended to Reduce GHG Emissions

California Energy Code

The California Energy Code (California Code of Regulations, Title 24, Part 6), which is incorporated into the California Building Standards Code, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The California Energy Code is updated every three years by the California Energy Commission as the Building Energy Efficiency Standards (BEES) to allow consideration and possible incorporation of new energy efficiency technologies and construction methods. Although the BEES were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity. The BEES apply to new construction of, and additions and alterations to, residential and nonresidential buildings.

In May 2018, the California Energy Commission adopted the 2019 Building Energy Efficiency Standards (building standards), effective January 1, 2020. Residential and non-residential buildings permitted after January 1, 2020 are required to comply with the 2019 building standards. The 2019 building standards are structured to achieve the state’s goal that all new low-rise residential buildings (single-family and multi-family homes) be zero net energy. That is, the amount of energy provided by on-site renewable energy sources is equal to the amount of energy used by the homes.

Single-family homes built with the 2019 building standards will use about seven percent less energy due to energy efficiency measures versus those built under the 2016 building standards. Once rooftop solar electricity generation is factored in, homes built under the 2019 building standards will use about 53 percent less energy than those under the 2016 building standards. Non-residential buildings will use about 30 percent less energy due mainly to lighting upgrades (California Energy Commission 2018).

California Green Building Standards Code

The purpose of the California Green Building Standards Code (California Code of Regulations Title 24, Part 11) is to improve public health and safety and to promote the general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: 1) planning and design; 2) energy efficiency; 3) water efficiency and conservation; 4) material conservation and resource efficiency; and 5) environmental quality. The California Green Building Standards, which became effective on January 1, 2011, instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial, low-rise residential uses, and state-owned buildings, as well as schools and hospitals. The mandatory standards require the following:

- 20 percent mandatory reduction in indoor water use relative to baseline levels;
- 50 percent construction/demolition waste must be diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particle boards.

The voluntary standards require the following:

- Tier I: 15 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof.
- Tier II: 30 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content, 30 percent permeable paving, 30 percent cement reduction, and cool/solar reflective roof.

Regional/Local

Yolo-Solano Air Quality Management District

The city is located within the boundaries of the Yolo-Solano Air Quality Management District (“air district”). To date, the air district has not adopted guidance for assessing the impacts of GHGs from land use project located within its boundary.

City of Vacaville Energy Conservation and Action Strategy

The ECAS is a qualified plan for reducing GHG emissions pursuant to CEQA Guidelines section 15183.5(b)(1). The ECAS includes a range of GHG reduction measures whose implementation would enable the City to meet its 2035 GHG emissions reduction target as described in the document.

Pursuant to CEQA Guidelines sections 15064(h)(3) and 15130(d), if a proposed project is consistent with the requirements of an adopted plan, such as a qualified GHG reduction plan that is prepared consistent with CEQA Guidelines section 15183.5(b), as described in 15183.5(b)(2), the lead agency may determine that the project GHG impacts are less than significant if the project incorporates the applicable GHG reduction measures in the plan or the measures are otherwise required as mitigation measures. In this case, no further analysis is required. Qualified GHG reduction plans can be used to streamline the review of GHG impacts an individual land development project if the project is consistent with the qualified plan. If the project is not consistent with the qualified plan, further analysis is required to determine whether the project impact is significant.

4.3 THRESHOLDS OF SIGNIFICANCE

For purposes of this analysis, a significant GHG impact would occur if implementation of the proposed project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

These thresholds are referenced from Appendix G of the 2020 CEQA Guidelines.

Project Consistency with the ECAS

The projections of future GHG emissions from anticipated land use development and other sources that are included in the ECAS as described above, do not assume new GHG emissions being produced by activities at the project site. The projections are based on existing General Plan land uses, including the existing Commercial Recreation land use designation that applies to the site. The proposed project includes a general plan amendment that would allow substantial intensification of use at the project site. GHG emissions from the planned uses are, therefore, not assumed in the projection of future emissions in the city. As described on page "v" of the ECAS:

> Projects that are consistent with the General Plan land use, incorporate the applicable ECAS reduction measures, and otherwise do not conflict with implementation of the ECAS would be considered to not conflict with the ECAS Update.

The same statement is made on page 8 of the ECAS in the context of the ECAS relationship to CEQA and using the ECAS for streamlining CEQA analysis for projects consistent with the ECAS:

> The City's use of the ECAS Update for CEQA streamlining will be implemented consistent with the 2015 ECAS. Projects that are consistent with the General Plan land use, incorporate the applicable ECAS reduction measures, and otherwise do not conflict with implementation of the ECAS would be considered to not conflict with the ECAS Update.

Because the proposed project is not consistent with the general plan land use for the project site, the analysis of project GHG impacts cannot be streamlined pursuant to CEQA Guidelines section 15183.5(b). Nevertheless, the applicant has included applicable GHG reduction measures in the ECAS in the set of applicant-proposed measures described in Section 1.2, Project Description. Table 4-3, Project Consistency with ECAS, summarizes the GHG emissions reduction measures included in the ECAS, identifies which are applicable to the project, and summarizes the basis for consistency with the applicable measures. Most of the ECAS reduction measures are either to be implemented by the City, are not germane to individual land development projects, and/or are not within control of the applicant.

Derivation of a Quantified Threshold of Significance

Because the proposed project is not consistent with the ECAS, additional analysis is needed to determine the significance of its GHG impacts. The City has chosen an analysis methodology that includes crafting a quantified threshold of significance, quantifying the project GHG emissions, and comparing project emissions to the threshold to determine significance.

A threshold of significance is crafted here based on information contained in the ECAS. The ECAS provides detailed information about the year 2035 GHG emissions volume of 470,861 MT CO_2e that represents it's 2035 emissions reduction target, and detailed information about projected year 2035 population and employment in the city. This data is used to derive an efficiency-based threshold of significance that reflects local GHG conditions and reflects the City's effort to reduce GHG emissions over time consistent with the state's 2030 emissions reduction target established by SB 32 and EO S-03-05 target of 80 percent below 1990 levels by 2050.

A GHG efficiency metric represents a rate of emissions generation. It is the ratio of a GHG emissions volume generated by a project or plan in a particular year to the "service population" (SP) generated by the project or plan in that same year. Service population is the sum of the number of jobs and the number of residents created by a project. A project that produces a high volume of GHG emissions relative to its SP is considered less GHG efficient than the same project that produces a lower volume of GHG emissions when the SP is held constant. Stated in another way, the rate of emissions for the first project exceeds the rate of emissions for the second project. A lower rate of emissions indicates a more GHG-efficient project.

Table 4-3 Greentree Project Consistency with ECAS

ECAS Action	Description	Project Consistency[1]	Comments
Transportation and Land Use			
T/LU-1	Continue Telecommuting	Not Applicable	Applicable to large employers - Greentree Project is not considered an applicable large employer
T/LU-2	Improve Capacity for Electric Vehicles	Consistent	Project includes higher than minimum EV capacity features
T/LU-3	Implement Transportation Demand Management for New Development	Consistent	Project includes transit subsidies and employee parking cash out travel demand measures
T/LU-4	Implement Transportation Demand Management for Existing Development	Not Applicable	Not applicable to new proposed development
T/LU-5	Improve Bus Electrification	Not Applicable	City initiative
T/LU-6	Improve City Fleet Calculated Annually	Not Applicable	City initiative
T/LU-7	Increase Land Use Diversification Calculated by Project	Consistent	Project includes a diverse mix of land uses and higher than average residential densities to reduce vehicle miles traveled
T/LU-8	Transit Oriented Development	Not Applicable	Project site not near high quality transit
Energy			
E-1	Become an MCE Member Community	Not Applicable	City initiative required to join MCE
E-2	Require Energy Audits for Sales of Existing Residential Units	Not Applicable	Not applicable to new proposed development
E-3	Adopt an All-Electric New Construction Preferred Ordinance	Not Applicable	City initiative, proposed residential uses are all electric
E-4	Develop an Existing Building Electrification Plan	Not Applicable	City initiative, not applicable to new proposed development
Solid Waste			
S-1	Implement Organic Waste Reduction Requirements	Not Applicable	City initiative
Off-Road Equipment			
O-1	Increase Renewable and Alternative Fuel for Construction	Not Applicable	City initiative

ECAS Action	Description	Project Consistency[1]	Comments
Carbon Sequestration			
C-1	Plant Trees	Not Applicable	City initiative
C-2	Farm Carbon	Not Applicable	City initiative

SOURCE: City of Vacaville 2021

NOTE:

1 "Not Applicable" refers to measures that are not relevant to new development and measures not within the applicant's control – most commonly measures to be initiated and implemented by the City.

The ECAS does not define an efficiency-based threshold of significance for the year 2035, nor is doing so a required component of a qualified GHG reduction plan. However, the above-noted data in the ECAS can be used to craft this threshold. The threshold would represent the rate of GHG emissions per SP in 2035 at which the City would achieve its 2035 emissions reduction target as identified in the ECAS. If a project in the city were found not to be inconsistent with the ECAS, as is the proposed project, the project would have a less-than-significant impact if its emissions generation rate does not exceed the target rate derived from the ECAS.

Table 4-4, GHG Threshold of Significance, includes the ECAS variables described above needed to craft a citywide efficiency-based GHG threshold of significance, and shows the threshold as derived from the data.

Table 4-4 GHG Threshold of Significance

Threshold Input Variables from ECAS/Threshold of Significance		
Year 2035 GHG Reduction Target Volume	470,861 MT CO_2e	ECAS Table 23
Year 2035 City Population Projection	101,950	ECAS Table 11
Year 2035 City Employment Projection	33,030	ECAS Table 11
Service Population	101,950 + 33,030 = 134,980	
2035 GHG Efficiency Threshold of Significance	470,861 MT CO_2e/134,980 SP = 3.48 MT CO_2e/SP	

SOURCE: City of Vacaville 2021, EMC Planning Group 2021

4.4 ANALYSIS

This analysis section includes discussion of the project GHG emissions (unmitigated GHG emissions), applicant proposed GHG reduction measures and the GHG emissions reduction volume that would accrue therefrom, the mitigated project rate of GHG emissions, and a comparison of the project rate of emissions to the threshold of significance.

GHG Emissions Inventory

Methodology

Annual project GHG emissions consist of the sum of amortized annual construction emissions and annual operational emissions. The above-noted GHG emissions sources and reductions are summarized below and included in a table that follows the emissions inventory discussion.

Operational GHG Emissions

Projected operational GHG emissions are described in the AQ/GHG modeling assessment contained in Appendix A. The AQ/GHG modeling assessment includes detailed information on the methodologies, models used and model inputs, and other assumptions used to develop the operational GHG emissions inventory. Please refer to the appendix for more information.

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with project operations at buildout in 2032. Annual operations GHG emissions are projected at 15,076 MT CO_2e in 2032 (Illingworth & Rodkin 2021, page 21).

Construction GHG Emissions

Projected GHG emissions from planned construction activities are described in the AQ/GHG modeling assessment contained in Appendix A. The AQ/GHG modeling assessment includes detailed information on the methodologies, models used and inputs to the models, and other assumptions used to develop the construction GHG emissions inventory. Table 2 in the AQ/GHG modeling assessment identifies the assumed construction schedule. Please refer to the appendix for more information.

Construction emissions were modeled at 12,244 MT CO_2e for the total construction period 2023-2031 (Illingworth & Rodkin 2021, page 21). These are the emissions from construction equipment, vendor and hauling truck trips, and worker trips. The emissions volume was calculated based on an assumption that Tier 4 engines would be used in all construction equipment. Tier 4 refers to the latest emission milestone established by the U.S. EPA and CARB applicable to new engines found in off-road equipment, including construction equipment.

Neither the City nor the air district have adopted a threshold of significance for construction GHG emissions. In such cases, it is common practice for CEQA impact analysis purposes to amortize the total construction emissions over a 30-year period to derive an annual construction emissions volume. The annual volume is then added to the annual operational emissions volume to account for the construction emissions component. At a total of 12,244 MT CO_2e, annual construction emissions would be approximately 408 MT CO_2e per year over 30 years.

Summary of Annual GHG Emissions

As noted above, projected annual project GHG emissions are the sum of the annual operational emissions and the annual amortized construction emissions. Table 4-5, Annual Project GHG Emissions, summarizes the total.

Table 4-5 Annual Project GHG Emissions

Emissions Source	Annual GHG Emission ($MT\ CO_2e$)
Operational	15,076
Amortized Construction	408
Total	15,484

SOURCE: Illingworth & Rodkin 2021

Applicant-Proposed GHG Emission Reduction Measures and Resulting Mitigated Emissions Volume

As described in Section 1.2, Project Description, an array of on-site GHG emissions reduction measures is included in the specific plan for the project. The measures represent the applicant's thorough effort to identify as many applicable, feasible on-site GHG reduction measures as possible that are within the applicant's control, and consequently, can be enforced by the City through conditions of approval. GHG emissions from several of the measures can be quantified using CalEEMod, while several cannot. Developers of individual future projects within the specific plan boundary would be required to implement the measures that are applicable to their respective projects.

CalEEMod was used to evaluate the GHG emissions reductions that would accrue from implementing the applicable measures. The results included in the Mitigated GHG Emissions memo in Appendix B. Table 4-6, Annual Operational GHG Emissions with Implementation of Applicant-Proposed Measures, show the emissions reduction volume from the measures and the reduced total project emissions volume.

Table 4-6 Annual Operational GHG Emissions with Implementation of Applicant-Proposed Measures

Emissions Source	Proposed Project	Proposed Project with Applicant-Proposed Measures
Area	834	14
Energy	2,019	1,505
Mobile	11,655	11,090
Solid Waste	426	426
Water Use	142	142
Total ($MT\ CO_2e$/Year)	15,076	13,167
GHG Reduction ($MT\ CO_2e$/Year)	<1,909>	

SOURCE: Illingworth & Rodkin 2021a

As noted previously, by design, the project inherently includes a major GHG reduction feature. The project has intentionally been designed to include a range of land uses, including local serving commercial uses. Projects containing a mix of uses generally generate fewer vehicle trips and fewer vehicle miles traveled than those which do not. Additionally, the infill location of the project site will result in reduced vehicle trip lengths relative to a site that must be annexed and results in expanding the city limits. These reductions in trip volume and length are reflected in the GHG emissions modeling results reported above. The mixed-use character of the project is not included here as an applicant-proposed measure to avoid double counting the reduction benefit.

Further, the project site is located directly across Interstate 80 from the City's California Biomanufacturing Center, a major existing and future employment center. This locational feature of the project will serve to reduce vehicle miles traveled for future residents by placing housing of varying densities and product types very near an employment center.

Baseline GHG Emissions

Until the former golf course ceased operations in 2016, that activity produced GHG emissions from a range of sources. These general sources included: 1) mobile source emissions primarily from employee/customer vehicle trips and maintenance equipment operations; 2) energy source emissions from electricity used in buildings and maintenance activities; 3) area source emissions from natural gas use; and 4) water source emissions from electricity used to pump water to irrigate the golf course and to pump stormwater through the site. Precise data needed to validate and quantify these emissions sources is either no longer available or potentially unreliable. Therefore, to be conservative, baseline emissions from the historical use of the site have not been quantified and are not subtracted from the forecast project emissions to determine the net change in emissions.

Project Service Population

The project service population is the sum of the new population and employment it would generate. The specific plan includes buildout population and employment projections. These are summarized in Table 4-7, Projected Project Service Population.

Table 4-7 Projected Service Population

Project Service Population	
Population	2,963
Employment[1]	666
Service Population (Population + Employment	3,629

SOURCE: EMC Planning Group 2021
NOTES:
1. Based on employment density of 1 employee per 450 square feet, and 300,000 square feet of commercial use

4.5 IMPACT DETERMINATION SUMMARY

Generation of GHG Emissions with a Significant Impact on the Environment

Table 4-8, Project GHG Emissions Impact Summary, shows the composite set of GHG variables described above. With reductions from applicant-proposed measures, the proposed project rate of GHG emissions of 3.74 MT CO_2e/SP exceeds the threshold of significance of 3.48 MT CO_2e/SP by 0.26 MT CO_2e/SP. This equates to about 943 MT CO_2e per year. Therefore, the proposed project would have a significant impact from generating GHG emissions.

Table 4-8 Project GHG Emissions Impact Summary

Emission Source	Annual GHG Emissions (MT CO_2e)
Amortized Construction Emissions	408
Operational Emissions	15,076
Total Operational Emissions	15,484
Emissions Reductions from Applicant-Proposed Measures	<1,909>[1]
Total Emissions with Applicant-Proposed Measures	13,575
Service Population	3,629
Project Emissions Per Service Population	3.74 MT CO_2e
Service Population Threshold of Significance	3.48 MT CO_2e
Rate of Project Emissions Exceeds Threshold?	*Yes*
Emissions Volume by Which Threshold is Exceeded	943 MT CO_2e per year

SOURCE: EMC Planning Group 2021, Illingworth & Rodkin 2021 and 2021a
NOTES:
1. <Brackets> indicate deductions.

Conflict with an Applicable Plan, Policy, or Regulation Adopted to Reduce GHGs

The ECAS is a qualified climate action plan pursuant to CEQA Guidelines Section 15183.5(b) that functions as the applicable plan for reducing GHGs. As described previously and summarized in Table 4-3, the applicant has included GHG reduction strategies from the ECAS that are applicable to the proposed project as applicant-proposed GHG reduction measures. Therefore, the project would have no impact from conflicting with the applicable measures included in the GHG reduction plan.

5.0
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APPENDIX A

Air Quality and Greenhouse Gas Modeling Assessment

TECHNICAL REPORT

GREENTREE DEVELOPMENT PROJECT - AIR QUALITY & GREENHOUSE GAS MODELING ASSESSMENT

Vacaville, California

June 22, 2021
Revised September 27, 2021

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Introduction

The purpose of this report is to address air quality and greenhouse gas (GHG) emissions and dispersion modeling results for the proposed Greentree Development ("Project") in Vacaville, CA. The project would develop a mix of residential and commercial uses with infrastructure, parks, and open space on an approximate 185.4-acre site in the eastern portion of Vacaville. Much of the Project site is flat, undeveloped lands.

Air pollutant and GHG emissions caused by construction of the project and then operation of the project was computed. A health risk assessment was prepared to address the impacts of these emissions upon existing sensitive receptors near the project (i.e., residences). In addition, the effect of nearby sources of air pollution upon the project was addressed in a separate health risk assessment.

Air pollutant and GHG emissions associated with the construction and operation of the project were predicted using appropriate computer models. In addition, the potential construction and operational health risk impact to nearby sensitive receptors from emissions of toxic air contaminant (TAC) were modeled. Existing TAC sources affecting the new residential units were also evaluated. This technical analysis addresses those issues following the guidance provided by the Yolo-Solano Air Quality Management District (YSAQMD)[1]

Project Description

The entire project site is divided into two areas: North of Sequoia Drive and South of Sequoia Drive.

A subdivision map approval is being requested to divide the neighborhood north of Sequoia Drive into a series of large residential lots, commercial parcels, a public park parcel, and parcels planned for infrastructure (e.g., a sewer pump station site and detention basin sites). One or more future small-lot subdivisions may be required to further divide the large residential blocks. The approximately 107.5-acre portion of the project site north of Sequoia Drive would include up to 950 residential units and 300,000 square feet of commercial development that could include neighborhood retail services (e.g., grocery store and pharmacies). New residential roadways that include Yellowstone Drive and Village Way, along with neighborhood internal roadways, would be constructed. This area would include a 6-acre park along with several detention basins.

A subdivision map approval is also being requested for the neighborhood south of Sequoia Drive. This neighborhood would be subdivided into 199 residential lots and parcels containing a park, trails, open space, and infrastructure (e.g., a water well site). The approximately 77.9-acre portion of the project site south of Sequoia would include up to 199 residential units in a senior community. A 4.5-acre park along with open space and several detention ponds would be included in this portion of the site. Internal roadways would be constructed.

[1] YSAQMD. 2007. *Handbook for Assessing and Mitigating Air Quality Impacts*. Adopted July 11, 2007. See http://www.ysaqmd.org/wp-content/uploads/Planning/CEQAHandbook2007.pdf, accessed May 10, 2021.

Construction Control Plan

The project would include a construction emissions control plan as part of its stormwater pollution prevention plan (SWPPP) to avoid or minimize emissions from construction activities. Measures in the plan would minimize dust generation and emissions from construction equipment as appropriate. The minimization measures proposed in the construction control plan include:

Dust (PM_{10}) Control Measures:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered at least twice daily based on the construction activity, soil, and wind conditions.

2. All haul trucks transporting soil, sand, or other loose material shall maintain at least 2 feet of freeboard.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 mph.

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District’s phone number shall also be visible to ensure compliance with applicable regulations.

7. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph and visible dust extends beyond site boundaries.

8. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction adjacent to sensitive receptors. Wind breaks should have at maximum 50 percent air porosity.

9. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.

10. Construction activities shall be phased to reduce the amount of disturbed surfaces at any one time.

11. Avoid tracking of visible soil material on to public roadways by treating site accesses to a distance of 100 feet from public paved roads with a 6 to 12-inch compacted layer of wood chips, mulch, or gravel.

12. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.

<u>Exhaust Emission (NOx and PM) Control Measures:</u>

1. All diesel construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 Final emission standards for PM (PM_{10} and $PM_{2.5}$), if feasible, otherwise,

    a. If use of Tier 4 Final equipment is not available, alternatively use equipment that meets U.S. EPA emission standards for Tier 4 Interim or Tier 3 engines with particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve an 85 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment; alternatively (or in combination).
    b. The construction contractor shall demonstrate to the City of Vacaville that Tier 4 Interim equipment is not available if Tier 3 equipment is used.
    c. Use of alternatively fueled equipment with lower NOx emissions that meet the NOx and PM reduction requirements above.

2. Diesel engines, whether for off-road equipment or on-road vehicles, shall not be left idling for more than 2 minutes, except as provided in exceptions to the applicable state regulations (e.g., traffic conditions, safe operating conditions). The construction sites shall have posted legible and visible signs in designated queuing areas and at the construction site to clearly notify operators of idling limit.

3. Provide line power to the site during the early phases of construction to minimize the use of diesel-powered stationary equipment, such as generators, concrete/industrial saws, welders, and air compressors.

4. Portable equipment shall be powered by electricity if available, instead of diesel generators. If grid electricity is not available, batteries or fuel cell systems for backup power shall be considered before using fossil-fueled generators.

Setting

The project is in the eastern portion of Solano County. This portion of Solano County is on the western side of the Sacramento Valley, located within the boundaries of the Sacramento Valley Air Basin (SVAB). The SVAB encompasses eleven counties including all of Shasta, Tehama, Glenn, Colusa, Butte, Sutter, Yuba, Sacramento, and Yolo Counties, the westernmost portion of Placer County and the northeastern half of Solano County. The SVAB is bounded by the North Coast Ranges on the west and Northern Sierra Nevada Mountains on the east. The intervening terrain is relatively flat. Ambient air quality standards have been established at both the State and federal level. The Air Basin meets all ambient air quality standards except for ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

High ozone levels that sometimes exceed health protective standards are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_X). These precursor pollutants react under certain meteorological conditions to form high ozone levels. Controlling the emissions of these precursor pollutants is the focus of the region's attempts to reduce ozone levels. High ozone levels aggravate respiratory and cardiovascular diseases, reduce lung function, and increase coughing and chest discomfort.

Particulate matter is another problematic air pollutant of the SVAB. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

TACs are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complicated scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs. The most recent Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines were published in February of 2015.[2] See *Attachment 1* for a detailed description of the community risk modeling methodology used in this assessment.

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

[2] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.

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, elementary schools, and parks. For cancer risk assessments, 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 closest sensitive receptors to the site are residences along Leisure-Town Road to the east, residences along White Sand Dr. and Yellowstone Drive to the south, and residences along Sequoia Dr and Monterey Drive to the west. A commercial area and Interstate 80 lie to the north. Once constructed, the project would introduce new sensitive receptors (i.e., adult seniors) to the area.

Significance Thresholds

This air quality evaluation addresses emissions of air pollutants from construction and operation of the project and associated health risks. Health risks were addressed by predicting increased cancer risk and the health Hazard Index from project construction and operation activities that would affect nearby sensitive receptors. *The YSAQMD Handbook for Assessing and Mitigating Air Quality Impacts* contains the applicable thresholds shown in Table 1.

Table 1. Air Quality Significance Thresholds

Air Pollutant	**Thresholds of Significance**
ROG	10 tons per year
NO_x	10 tons per year
PM_{10}	80 pounds per day
$PM_{2.5}$	10 tons per year*
CO	Violation of a state ambient air quality standard
Health Risks and Hazards	**Sources Within Zone of Influence**
Excess Cancer Risk	>10 per one million
Hazard Index	>1 Hazard Index

AIR QUALITY IMPACTS

Project Emissions

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from construction activity and operation. Construction emissions include off-road equipment use, construction vehicle trips from workers and trucks, and evaporative emissions. Operational emissions include those from traffic generated by the project, energy use, fireplaces, landscaping, along with evaporative ROG emissions from architectural coatings and consumer products. There are some ROG emissions from fertilizers used for landscaping. CalEEMod combines emissions factors for various types of activities with the forecasted activity. This includes the combination of CARB's Off-Road emission factors for construction equipment with forecasted construction activity and combining CARB's EMFAC emission factors for on-road mobile sources (traffic) with traffic activity in terms of trips and vehicle miles travelled (VMT). CalEEMod also combines emission factors for other types of emission sources that could be contained in land use projects. These include estimates of emissions for natural gas usage, fireplaces, evaporative emissions from paints, consumer products, asphalt, and fertilizers. CalEEMod also predicts indirect emissions from electricity and water usage and from solid waste generation. Stationary sources of air pollutants are not identified for this project. The later inclusion of any stationary sources would be subject to review and permitting by YSAQMD.

The vehicle emission factors and fleet mix used in CalEEMod are based on EMFAC2014, which is an older CARB emission model for on-road and off-road mobile sources. Since the release of CalEEMod Version 2016.3.2, a new versions of CARB's emission factor model have been produced. EMFAC2021 recently became available for use in April 2021. This model includes the latest data on CARB's understanding of vehicle emissions and California's car and truck fleets and travel activity. EMFAC2021 emissions factors were generated and combined with CalEEMod to predict traffic-related emissions.

The project land use types and size, and anticipated construction and operation schedule are input to CalEEMod, along with the project location and climate information. The model assigns default values but these are typically refined with project-specific characteristics when known. The project modeling was conducted separately for construction and operational scenarios.

Impact: Construction Period Emissions

The CalEEMod model was used to estimate emissions from land use type project for on-site construction activity, construction vehicle trips, and evaporative emissions. The project land use types and size, and anticipated construction schedule were input to CalEEMod using CalEEMod default values. A similar model, called Roadway Construction Emissions Model (RCEM) developed by the Sacramento Metropolitan Air Quality Management District was used to model construction emissions associated with the major project roadways. RCEM was designed to specifically address roadway construction. RCEM uses the CARB EMission FACtors 2017 (EMFAC2017) model to predict emissions from construction traffic, which includes worker travel, vendor trucks and haul trucks.[3] The model output from CalEEMod, RCEM and EMFAC2021 along with construction inputs are included as *Attachment 2*.

Land Use Inputs

The proposed project land uses were entered into CalEEMod as described in

Table 2. The land uses are split up by their respective anticipated phases.

CalEEMod computes annual emissions for construction that are based on the project type, size, and acreage. The model provides emission estimates for both on-site and off-site construction

[3] See CARB's EMFAC2017 Web Database at https://www.arb.ca.gov/emfac/2017/

activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. The construction build-out scenario, including equipment list and schedule, were based on CalEEMod defaults for each project site, based on the type and size. CalEEMod defaults were used for construction equipment, equipment quantities, average hours of equipment use per day, and work schedule for each phase with the estimated construction start dates. The default construction schedules indicate almost continuous construction activity from year 2024 through year 2031.[4] CalEEMod provided on-site emissions for each construction activity. The default phases assigned by CalEEMod were used that include demolition, site preparation, grading, building construction, architectural coatings, and paving. An additional task of Trenching was added that was assigned the equivalent duration as grading.

Table 2. Summary of Project Land Use CalEEMod Inputs for Construction

Model Run (Phase-Area)	Project Land Uses	Size	Units	Acres	Year Begin
1 – R7+D3	Condo/Townhouse	245	Dwelling Unit	15.30	2024
	Parking Lot	6.50	Acre		
2 – R8	Retirement Community	117	Dwelling Unit	23.20	2025
	Parking Lot	11.50	Acre		
	City Park	4.00	Acre		
2 – D1+2	City Park	7.10	Acre	7.10	2026
2 – D4+5+6	City Park	7.10	Acre	7.10	2025
3 – R1+2	Condo/Townhouse	172	Dwelling Unit	15.80	2026
	Parking Lot	9.50	Acre		
4 – *R9*	Retirement Community	82	Dwelling Unit	20.80	2025 Grade 2027 Constr
	Parking Lot	3.00	Acre		
	City Park*	5.60	Acre		
4 – R5+6	Condo/Townhouse	231	Dwelling Unit	19.6	2026 Grad 2027 Constr
	Parking Lot	4.00	Acre		
	City Park	6.00	Acre		
4 – D5	City Park	1.70	Acre	1.7	2025 Grade 2027 Constr
5 – R3+4	Condo/Townhouse	302	Dwelling Unit	15.70	2026 Grade 2027 Constr
	Parking Lot	5.00	Acre		
	City Park	0.20	Acre		
5 – C1	Strip Mall	84.76	1000sf	4.60	2026 Grade 2029 Constr
	Parking Lot	3.90	Acre		
5 – C2	Strip Mall	71.66	1000sf	4.70	2026 Grade 2029 Constr
	Parking Lot	3.30	Acre		
6 – C3	Strip Mall	71.66	1000sf	3.50	2026 Grade 2031 Constr
	Parking Lot	2.10	Acre		
6 – C4	Strip Mall	89.95	1000sf	5.90	2026 Grade 2031 Constr
	Parking Lot	3.50	Acre		

* The actual park size is 4.5 acres. A 1.1-acre stormwater detention basin was modeled in CalEEMod as a “Park” land use as there are no specific land uses in the model for stormwater detention basins.

[4] This anticipated schedule is linked to market demand and therefore subject to some fluctuation, particularly with respect to the sequencing of individual subareas within the overall Greentree Project.

Construction would produce traffic in the form of worker trips and truck traffic. The traffic-related emissions are based on worker and vendor trip estimates produced by CalEEMod and haul trips that were estimated for demolition material to be exported, soil material imported and/or exported to the site, and cement and asphalt truck trips. CalEEMod provides daily estimates of worker and vendor trips for each applicable phase. The latest version of the CalEEMod model is based on the older version of the CARB EMFAC2014 motor vehicle emission factor model. This model has been superseded by the EMFAC2017 model and now recently by EMFAC2021. However, CalEEMod has not been updated to include EMFAC2017 nor EMFAC2021. The construction traffic information produced by CalEEMod was combined with EMFAC2021 motor vehicle emissions factors. EMFAC2021 provides aggregate emission rates in grams per mile for each vehicle type. The construction traffic vehicle mix for this study was based on CalEEMod default assumptions, where worker trips are assumed to be comprised of light-duty autos (EMFAC category LDA) and light duty trucks (EMFAC category LDT1and LDT2). Vendor trips are comprised of delivery and large trucks (EMFAC category MHDT and HHDT) and haul trips, including cement trucks, are comprised of large trucks (EMFAC category HHDT). Travel distances are based on CalEEMod default lengths, which are 10.8 miles for worker travel, 7.3 miles for vendor trips and 20 miles for hauling (demolition material export). On-site fugitive dust generation emissions from travel were estimated by CalEEMod by assigning the trip distances to one mile and assuming 10 percent of that travel was on unpaved roadways.

Roadway Inputs

Proposed major roadway improvements were modeled using RCEM Version 9.0.0. Inputs to the model are described in Table 3. Roadways were modeled as new road construction using RCEM default values.

Table 3. Summary of Roadway RCEM Inputs for Construction

Model Run (Phase-Area)	Project Land Uses	Size	Units	Acres	Year Begin
3 – I1	New Road Construction	0.75	miles	7.2	2026
3 – I2	New Road Construction	0.38	miles	3.3	2026

Soil Hauling

Soil hauling using on-site equipment was modeled using CalEEMod, while soil import hauling trips were modeled using EMFAC2021 with CalEEMod defaults for trips and trip lengths. The quantities of material movement and distance were entered in CalEEMod to develop trip characteristics that were then combined with EMFAC2021 emission factors for Heavy Duty Trucks using diesel fuel. For balanced soil transport, it was assumed both off-road and on-road equipment would be needed, given the size and shape of the site. An on-site trip distance of 3 miles was used to estimate emissions from on-road vehicles that could be used to transport soil from one portion of the site to the other. Material imported from off site was assumed to have the CalEEMod default trip length of 20 miles. Exported contaminated soil was assumed to have twice the default trip length (i.e., 40 miles). Table 4 describes the soil modeling inputs.

Model Run	Description	Cut	Fill	Truck Trips	Distance

(Phase-Area)					
Haul North	Rough Grading	152,600 cy	152,600 cy	19,075	3 mi.
	Import		61,800 cy	7,725	20 mi.
	Contaminated Soil Export*	10 cy		2	40 mi.
Haul South	Rough Grading	126,500 cy	126,500 cy	15,813	3 mi.
	Import		55,100 cy	6,888	20 mi.
	Contaminated Soil Export*	10 cy		2	40 mi.

Table 4. Summary of Haul Truck EMFAC2021 Inputs for Construction

* 20 total cy of contaminated soil will be exported off-site and transported to an approved disposal facility.

Summary of Computed Construction Period Emissions

Annual emissions were predicted using CalEEMod, RCEM and EMFAC2021. A total of 13 CalEEMod model runs, 15 EMFAC2021 runs and 2 RCEM runs were developed. A summary of the modeling results is provided in Attachment 3. Table 5 provides a summary of emissions by year. These are the sum of emissions for each year from all the model runs developed.

Table 5. Annual Greentree Construction Emissions Summary (in tons/year)

	Emission in tons per year								
Year	**ROG**	**NOx**	**CO**	**PM_{10} fug**	**PM_{10} ex**	**PM_{10} total**	**$PM_{2.5}$ fug**	**$PM_{2.5}$ ex**	**$PM_{2.5}$ total**
2023	0.24	2.38	3.91	1.02	0.04	1.06	0.15	0.02	0.17
2024	1.70	1.05	1.68	0.48	0.02	0.50	0.06	0.01	0.07
2025	0.35	4.11	6.58	2.65	0.06	2.69	0.47	0.04	0.51
2026	1.69	8.24	15.94	7.28	0.21	7.48	1.19	0.12	1.31
2027	1.61	4.76	9.24	6.65	0.07	6.72	0.81	0.05	0.86
2028	2.30	2.81	4.11	3.07	0.05	3.12	0.33	0.03	0.36
2029	0.33	4.79	7.02	1.52	0.06	1.57	0.17	0.04	0.21
2030	3.26	1.53	2.45	0.65	0.03	0.68	0.08	0.02	0.10
2031	1.21	1.21	4.96	0.62	0.0294	0.65	0.07	0.02	0.09
Threshold	*10*	*10*	--	--	--	*10.4* 80lbs/day*	--	--	*None*

*PM_{10} threshold is based on daily emissions of 80 pounds per day. Based on 260 construction days per year this would equate to 10.4 tons per year.

The YSAQMD-recommended thresholds are 10 tons per year for ROG and NOx. The district's threshold for PM_{10} is 80 pounds per day. The year with the highest PM_{10} emissions would be 2026. Since daily activities are not known due to overlapping projects occurring that year, the annual emissions of 7.28 tons were converted to a daily emission rate of 56 pounds, assuming 260 construction days that year. The district does not have a published $PM_{2.5}$ threshold. However, $PM_{2.5}$ emissions are below the thresholds for all other air pollutants or those used by other neighboring air districts, such as the Bay Area Air Quality Management District and the Sacramento Metropolitan Air Quality Management District.

Operational Period Emissions

Operational air emissions from the project would be generated primarily from autos driven by future residents, employees, retail customers and guests. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are typical emissions from these types of uses. CalEEMod was used to estimate emissions from operation of the proposed project assuming full build-out.

Land Uses

The project land uses were input to CalEEMod as shown in Table 6. The size of each land use was derived by aggregating the land uses used to estimate construction emissions (see Table 2).

Table 6. Summary of CalEEMod Inputs for Operation

Project Land Use Types	Size	Units
Parking Lot	52.3	Acres
City Park*	31.7	Acres
Condo/Townhouse	950	Dwelling Units
Retirement Community	199	Dwelling Units
Strip Mall	300	1,000 sf

*Park is 4.5 acres; the remainder is open space and stormwater detention basins input to CalEEMod as "City Park."

Model Year

Emissions associated with vehicle travel depend on daily vehicle miles traveled (VMT) and the year of analysis because emission control technology requirements are phased-in over time. Therefore, the higher the VMT, the higher emissions. Likewise, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The earliest full year of operation (i.e., highest possible VMT) would be 2033 if construction begins in July of 2022. Therefore, emissions associated with build-out earlier than 2033 would be lower than those estimated for 2032 because of the higher emission rates utilized by CalEEMod.

Trip Generation Rates

The traffic report provided by the city includes both daily trip generation rates and VMT.[5] Trip generation was provided for each land use with adjustments for internal capture (trips made from one project land use to another) and pass by trips. Pass-by trips are from vehicles that do not travel out of their way to visit the project site. These traffic data were assumed to represent each day since they were generated using a daily regional travel demand model.

[5] Provided via email by Gwen Owens, City of Vacaville Traffic Engineer. May 24, 2021. Note the dwelling units used in the City's analysis do not match those in the application.

CalEEMod allows the user to enter specific vehicle trip generation rates. Therefore, project-specific daily trip generation rates were entered into CalEEMod based on the VMT trip ends provided by the city and dwelling units proposed by the project (199 Retirement Community and 950 Condo/Townhouse). The trip generation rates and VMT data were used to estimate operational emissions by:

1. Dividing the "VMT Trip Ends" (i.e., trips) by the units used by CalEEMod to develop trip generation rates.

2. Inputting the computed project-specific trip lengths, based on VMT, provided by the city for each land use type.

3. Setting pass-by and diverted trip percentages to 0 and primary trip percentages to 100. The VMT data assume all trips are primary trips.

4. Assuming one-mile trip lengths for park trips.

The CalEEMod trip generation totals were compared to the traffic study to confirm proper adjustments were made.

EMFAC2021 Adjustment

As previously described, the vehicle emission factors and fleet mix used in CalEEMod are based on EMFAC2014, which is an older CARB emission model for on-road and off-road mobile sources. Since the release of CalEEMod Version 2016.3.2, new versions of the emission factor model have been produced by CARB. EMFAC2021 recently became available for use in April 2021. This version includes the CARB's updated understanding of emission processes from motor vehicle travel on roadways along with the latest data on California's car and truck fleets and travel activity. The CalEEMod vehicle emission factors and fleet mix were updated with the emission rates and fleet mix from EMFAC2021, which were adjusted with the CARB EMFAC off-model adjustment factors. On-road emission rates for Solano County, calendar year 2032 were used.

Fugitive Road Dust Emissions

For estimating paved road dust emissions, CalEEMod uses the U.S. EPA's Compilation of Air Pollutant Emissions Factors (AP-42) method, which relies on the use of a silt loading factor and an average vehicle weight. The silt loading factor used in CalEEMod is 0.1 g/m^2 and the default average vehicle weight is 2.4 tons. These are generic factors provided by EPA and will overestimate fugitive road dust emissions for travel on busy roadways. CARB has developed specific silt loading factors grouped into four roadway categories: Freeway, Major/Collector, Local Urban, and Local Rural. During the operation phase of this project, paved road dust emissions would be generated on primarily Major/Collector roadways, which has a CARB silt loading factor of $0.032g/m^2$. This silt loading factor, along with an area-specific average vehicle weight and CARB precipitation correction factor were used to estimate paved road dust emissions. CT-EMFAC2017 was used to develop the needed paved road dust emissions factors for both PM_{10} and $PM_{2.5}$ in grams per VMT based on both the specific silt loading ($0.032g/m^2$), an average vehicle weight based on the vehicle fleet in Solano County, and CARB precipitation factors specific to Solano County. CT-EMFAC2017 is the Caltrans version of the CARB's EMFAC2017 emissions model and provides emission factors for mobile source criteria pollutants and TACs, including paved road dust. The CT-EMFAC2017 road dust emissions factors were multiplied by the project's daily VMT produced by CalEEMod to estimate PM_{10} and $PM_{2.5}$ fugitive road dust emissions.

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. CalEEMod has a default emission factor of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on Pacific Gas and Electric's (PG&E) 2008 emissions rate. However, PG&E published in 2019 emissions rates for 2010 through 2018, which showed the emission rate for delivered electricity had been reduced to 206 pounds CO_2 per megawatt of electricity delivered in the year 2018.[6] This intensity factor was used in the model as it was assumed that all powered was supplied by PG&E.

Other Inputs

Default model assumptions for emissions associated with solid waste generation were applied to the project. Water/wastewater use was changed to 100% aerobic conditions to represent wastewater treatment plant conditions. All hearths were assumed to be natural gas powered (i.e., no wood burning).

Existing Uses

A vast majority of the project is currently undeveloped land. However, the area used to be a public golf course that closed in 2016. Emissions from golf course operations are usually low. Therefore, no existing land use model was included since operational period emissions would be low.

Summary of Computed Operational Period Emissions

Annual emissions were predicted using CalEEMod and daily emissions were estimating assuming 365 days of operation. Table 7 shows the annual emissions (in tons) and the average daily emissions (in pounds per day) of ROG, NO_X, total PM_{10} (i.e., direct emissions and fugitive road dust), and total $PM_{2.5}$ during operation of the project.

Table 7. Operational Period Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2032 Project Operational Emissions (*tons/year*)	13.69 tons	8.63 tons	6.51 tons	1.21 tons
Existing Site Operational Emissions (*tons/year*)	0.00 tons	0.00 tons	0.00 tons	0.00 tons
Net Annual Emissions (*tons/year*)	**13.69 tons**	8.63 tons	6.51 tons	1.21 tons
YSAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	--	*10 tons*

[6] PG&E, 2020. *Corporate Responsibility and Sustainability Report*. Web: http://www.pgecorp.com/corp_responsibility/reports/2019/assets/PGE_CRSR_2019.pdf

Exceed Threshold?	**Yes**	No	--	No
2032 Project Operational Emissions (*lbs./day*)[1]	75.0 lbs.	47.3 lbs.	35.6 lbs.	6.6 lbs.
YSAQMD Thresholds (lbs./day)	--	--	*80 lbs.*	*54 lbs[2].*
Exceed Threshold?	NA	NA	No	No

Notes: [1] Assumes 365-day operation. [2]Using BAAQMD threshold since YSAQMD does not recommend a threshold.

The project is estimated to have annual and daily emissions below YSAQMD thresholds for each pollutant except for ROG. ROG emissions are estimated to exceed the 10 tons per year threshold by almost 4 tons per year. A majority of the project's ROG emissions (8.92 tons, or 65%) are associated with area sources such as architectural coatings and consumer products. ROG emissions from consumer product (i.e., solvents used in cleaning supplies, kitchen aerosols, cosmetics, and toiletries) make up most of the area source emissions (6.72 tons, approximately 75%). CalEEMod's ROG emissions factor for consumer products is based on statewide emissions data and statewide total building area. While CARB's Consumer Products Regulatory Program has established tighter emissions limits on several types of products over the years, the emissions reductions are almost offset by increases in population and product usage. Therefore, adjustments to the consumer products emissions factor would not be significant enough to achieve the reductions needed.

Requiring low VOC architectural coatings[7] would reduce ROG emissions by 0.97 tons per year. Table 8 shows the mitigated ROG emissions resulting from the use of low VOC coatings. Reductions in other area sources of ROG would not provide enough reduction to achieve the 10 ton per year threshold.

Table 8. Mitigated Operational Period ROG Emissions

Scenario	ROG
2032 Project Unmitigated Operational ROG Emissions (*tons/year*)	13.69 tons
2032 Project Mitigated Operational ROG Emissions (*tons/year*)	12.72 tons
Reduction in Annual Emissions (*tons/year*)	0.97 tons
YSAQMD Thresholds (tons /year)	*10 tons*
Exceed Threshold?	**Yes**
2032 Project Mitigated Operational ROG Emissions (*lbs./day*)[1]	69.7 lbs.
YSAQMD Thresholds (lbs./day)	--
Exceed Threshold?	NA

To reduce annual ROG emissions to below 10 tons per year, the project would need to either reduce the planned number of residential dwelling units or reduce mobile sources of ROG emissions, estimated at 4.65 tons per year. Reducing the number of dwelling units would have the largest impact on ROG emissions as it would reduce both consumer product emissions and VMT. However, this project is linked to the adjoining California Bio Manufacturing Center which would generate 10,000 new high technology jobs (biotechnology and high technology manufacturing). Therefore, a reduction in dwelling units is not feasible and any additional VMT reduction would

[7] As defined by the SCAQMD as 50 g VOC/L or less.

need to be achieved on a regional (i.e., city-wide) scale.

Impact: Expose sensitive receptors to substantial pollutant concentrations?

This project would introduce new sources of TACs during construction (i.e., on-site construction activity and truck hauling emissions) and operation (i.e., project traffic). Project construction activity would generate dust and equipment exhaust that would affect nearby sensitive receptors. The project would add traffic that would continue to operate throughout the life of the project (i.e., at least 30 years). Therefore, project impacts to existing sensitive receptors were addressed for temporary construction activities and long-term operational conditions.

Community Risk Methodology for Construction and Operation

Health risk impacts were addressed by predicting increased cancer risk and computing the Hazard Index (HI) for non-cancer health risks. The risk impacts from the project are a combination of construction and operation sources. These sources include on-site construction activity, construction truck hauling, and increased traffic from the project. To evaluate the increased cancer risks from the project, a 30-year exposure period was assumed with the sensitive receptors being exposed to project both construction and operation during this timeframe.

The project increased cancer risk is computed by summing the project construction and operation contribution. Unlike the increased maximum cancer risk, the HI values are not additive but based on an annual maximum risk for the entirety of the project. The project MEI is identified as the sensitive receptor that is most impacted by the project's construction and operation.

The methodology for computing community risks impacts is contained in *Attachment 1*. This involved the modeling of TAC emissions, dispersion modeling and cancer risk computations.

Community Risks from Project Construction

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. Although it was concluded in the previous sections (see Table 5) that construction exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations, construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issue associated with construction emissions is cancer risk. A health risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM.[8]

Construction Period Emissions

[8] DPM, diesel particulate matter, is identified by California as a toxic air contaminant due to the potential to cause cancer.

The CalEEMod model provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment, while EMFAC2021 was used to estimate emissions from on-road activities. On-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. Trip lengths of three (3) miles was used to represent vehicle travel while at or near the construction site. It was assumed emissions from on-road vehicles traveling at or near the site would occur at the construction site.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict DPM concentrations at sensitive receptors (i.e., residents) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling ambient impacts of these types of emission activities for CEQA projects.[9] Area sources were created for each year of construction to represent the active on-site construction sites being worked as part of each phase. To represent the construction equipment exhaust emissions, an emission release height of 16.4 feet (5 meters) was used for the area source per Sacramento Metropolitan Air Quality Management District modeling guidance[10]. The elevated source height reflects the height of the equipment exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources. Construction emissions were modeled as occurring daily between 7:00 a.m. to 6:00 p.m. when most of the construction activity would occur.

The modeling used a five-year data set (2009-2014) of hourly meteorological data from Nut Tree Airport that was prepared for use with the AERMOD model by CARB. The Nut Tree Airport is approximately 1 mile west of the project site. Annual DPM concentrations from construction activities spanning nine years (2023 through 2031) were calculated using the model. DPM concentrations were calculated at nearby sensitive receptors. A receptor height of 5 feet (1.5 meters) was used to represent the breathing height at nearby single-family and multi-family homes. There are no other types of sensitive receptors (i.e., no schools, hospitals, daycares, …) near the project site.

Project Construction Community Risk Impacts

The maximum modeled annual DPM concentrations were identified at nearby sensitive receptors (i.e., residents as shown in Figure 1) to find the maximally exposed individuals (MEIs). Using the maximum annual modeled DPM concentrations, the maximum increased cancer risks were calculated using State of California Office of Environmental Health Hazard Assessment (OEHHA) recommended methods and exposure parameters described in *Attachment 1*. Non-cancer health hazards were also calculated and identified. *Attachment 4* to this report includes the emission calculations used for the construction area source modeling and the cancer risk calculations.

[9] Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May.
[10] *Dispersion Modeling of Construction-Generated PM_{10} Emissions*, Section 2.2. http://www.airquality.org/LandUseTransportation/Documents/Ch3PMDispersionModelingGuidanceFINAL7-2013.pdf

Results of this assessment indicated that the construction MEI was located at a single-family residence in the Casa Grande Mobile Home Park adjacent to Leisure Town Road, east of the project boundary (as seen in Figure 1). The maximum increased cancer risks at the MEI from all nine years of construction is 6.04 per million. The non-cancer hazards from construction activities would be below the threshold of 1.0. Table 9 summarizes the maximum cancer risks and health hazard indexes for project related construction activities affecting the MEI.

Figure 1. Project Construction Sites, Locations of Off-Site Sensitive Receptors, and Locations of DPM Impacts

Table 9. Construction Risk Impacts at the Off-site MEI

Source		Cancer Risk (per million)	Hazard Index
Project Construction	Unmitigated*	6.04 (infant/child exposure)	<0.01
	YSAQMD Threshold	***10***	***1***
Exceed Threshold?	Unmitigated*	*No*	*No*

* Project construction control plan measures include construction equipment engines with Tier 4 engines assumed to meet at a minimum Tier 4 Interim emissions limits.

<u>Health Risks from Project Operation – Stationary Sources</u>

The project will not construct or install stationary sources of emissions. Therefore, there are no operational health risks associated with stationary sources.

Health Risks from Project Operation – Traffic

Once the project is constructed, it will generate traffic to and from the new residential dwelling units and the new commercial spaces. While the YSAQMD provides a basis for a threshold for TACs from stationary sources, it does not have a policy for TACs from mobile sources and no specific mobile source TAC threshold is proposed at this time[11].

A traffic study was completed to address the project's traffic impacts for the project, and despite the fact there is not a mobile source TAC policy, a health impacts analysis to offsite receptors from the traffic increases was conducted using the findings of the traffic study[12]. Health risk impacts were addressed by predicting increased cancer risk and computing the Hazard Index (HI) for non-cancer health risks. This involved the modeling of mobile source TAC emissions, roadway dispersion modeling, and cancer risk computations. The methodology for computing increased cancer risk is provided in *Attachment 1*.

Modeling Local Roadway Emissions

Analysis of local roadway TAC impacts involved developing estimates of DPM and organic TACs (as TOG) emissions based on an analysis year of 2024 to represent emissions after the project is operational. Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Overall vehicle emissions, in particular diesel truck emissions, will decrease in the future. Therefore, the earlier the year analyzed, the higher the emission rates produced. Therefore, 2024 emissions were conservatively assumed as being representative of future conditions over the period that cancer risks are evaluated (30 years).

Analysis of the local roadways impacted by increased traffic from the project (i.e., Leisure Town Road and Orange Drive) required developing emissions rates for DPM and organic TACs (as TOG). The latest version of CARB's EMFAC emissions model (EMFAC2021) was used to develop the emissions rates needed. However, because EMFAC2021 only produces emissions rates using county-wide vehicle populations and does not provide specific emissions rates for DPM, CT-EMFAC2017 was also used to aid in the development of emissions rates used in the analysis. CT-EMFAC2017 is the Caltrans version of the CARB's EMFAC2017 emissions model and provides emission factors for mobile source criteria pollutants and TACs, including DPM, based on specific truck fractions input by the user. A 4.3 percent truck fraction was used for the analysis of project traffic impacts and was derived assuming the local roadways would have half the trucks as nearby Interstate 80 (I-80). I-80 near the project has a truck fraction of approximately 8.6 percent.

[11] *Handbook for Assessing and Mitigating Air Quality Impacts*, Section 3.2.1.Yolo-Solano Air Quality Management District. July 11, 2007.
[12] Project Traffic Impacts provided by Gwen Owens, City of Vacaville Traffic Engineer on March 29, 2021.

CT-EMFAC2017 was used to estimate the fraction of gasoline and diesel vehicles in three vehicle categories (i.e., Non-Truck, Truck 1, and Truck 2) based on the truck percentage of 4.3 percent. These CT-EMFAC2017 fractions were then applied to the EMFAC2021 emissions rates and aggregated to provide one emissions factor for each pollutant and speed needed. The ratio of DPM to $PM_{2.5}$ produced by CT-EMFAC2017 was used to derive a DPM emissions rate using EMFAC2021 for each speed needed.

Emission processes modeled for the analysis include running exhaust for DPM and TOG and running evaporative losses for TOG. Inputs to the emissions models (both EMFAC2021 and CT-EMFAC2017) include region (i.e., Solano County), type of road (i.e., major/collector), truck traffic percentage (4.3), year of analysis (i.e., 2024), and season (i.e., annual).

The fraction of traffic volume each hour on I-80 near the project site in 2019 was used to estimate hourly traffic volumes and emissions for the local roadways. Hourly traffic distributions were obtained from Caltrans Performance Measurement System (PeMS). PeMS data is collected in real-time from nearly 40,000 individual detectors spanning the freeway system across all major metropolitan areas of California . The fraction of traffic volume each hour on I-80 was calculated and applied to the daily traffic projections for the project to obtain hourly traffic emissions for each pollutant. For all hours of the day, other than during peak a.m. and p.m. periods, an average speed of 45 mph was assumed for project-generated traffic on Orange Drive and 40 mph was assumed for Leisure Town Road. These speeds reflect posted speed limits. For the 2-hour a.m. and 2-hour p.m. peak periods, an average travel speed of 40 mph and 35 mph was used to represent congested traffic conditions, respectively.

Roadway TAC concentrations created by the traffic increase associated with the project's build-out were estimated at existing nearby single-family and multi-family homes (i.e., receptors) using the hourly emissions described above and the AERMOD dispersion model. Maximum increased lifetime cancer risk for the construction MEI was computed using the methods and exposure parameters described in *Attachment 1*.

<u>Dispersion Modeling</u>

Dispersion modeling was conducted using the U.S. EPA AERMOD dispersion model, which is recommended for this type of analysis. Project traffic emissions were modeled in AERMOD using a series of area sources along a line (line area sources). The modeling used a five-year data set (2009-2014) of hourly meteorological data from the Nut Tree Airport in Vacaville, CA prepared by the CARB for use with the AERMOD model. The airport is about 1 mile west of project site. Other inputs to the model included road geometry and elevations, hourly traffic emissions, and receptor locations and heights.

Figure 2 shows the roadway links used for the modeling, receptor locations where concentrations were calculated, and the location of the construction MEI. The cancer risk and HI related to the traffic generated by the project's buildout are shown in Table 10. Details of the emission calculations, dispersion modeling, and cancer risk calculations are contained in *Attachment 4*.

Figure 2. Operational Traffic Sources and Location of MEI

Table 10. Construction and Operation Risk Impacts at the Offsite Project MEI

Source	Cancer Risk (per million)	Hazard Index
Unmitigated Project Construction* (Years 0-9)	6.04 (infant)	<0.01
Project Traffic (Years 10-30)		
Orange Drive	<0.1	<0.01
Leisure Town Road	0.5	<0.01
Unmitigated Total/Maximum Project (Years 0-30)*	<6.6	<0.03
YSAQMD Single-Source Threshold	***>10.0***	***>1.0***
Exceed Threshold?	*No*	*No*

* Project construction control plan measures include construction equipment engines with Tier 4 engines assumed to meet at a minimum Tier 4 Interim emissions limits.

The unmitigated maximum cancer risks from construction and operation activities would not exceed the single-source significance threshold of 10 in a million. The HI from construction and operation activities would not exceed the single-source significance threshold of 1.0. Therefore, the project risks and hazards would not exceed the YSAQMD single-source thresholds.

Cumulative Health Risks

There are three existing stationary sources of TACs in the vicinity of the project: Caliber Collision Center, Quik Stop (Gas Dispensing Facility), and diesel-fueled emergency generator (internal combustion engine) owned by the City of Vacaville. Documents related to emissions and health impacts of these sources were requested from the YSAQMD for inclusion in a cumulative impact analysis of the project[13]. Because the project does not exceed the single-source significant thresholds, it would not be considered cumulatively significant[14]. Therefore, a cumulative health risk assessment is not required. However, an assessment was conducted using the information provided by the YSAQMD.

The cumulative impacts at the MEI from the three identified stationary sources were evaluated using the risk impact materials provided. The City of Vacaville generator is located over 2.5 miles to the south of the MEI and would not add a measurable increased cancer risk. Caliber Collision Center is over 4,115 feet to the west of the project's MEI and would add less than 0.2 per million cancer risk. The Quik Stop Gas Dispensing Facility is located approximately 405 feet north of the MEI and would contribute a cancer risk of 9.8 in a million. Therefore, it is estimated the cumulative cancer risk at the MEI given the project's construction, operation, and the existing nearby stationary sources would be 16.6 in a million. The YSAQMD has not implemented a cumulative source threshold for TAC cancer risk, however the BAAQMD has. They use a cumulative cancer risk of 100 per million as their significance threshold. By this standard, the project would not be considered significant.

[13] Request made via email on April 16, 2021. Data provided by Stephanie Holliday on May 6, 2021.
[14] *Handbook for Assessing and Mitigating Air Quality Impacts*, Section 3.2.2.Yolo-Solano Air Quality Management District. July 11, 2007.

GREENHOUSE GAS EMISSIONS

CalEEMod GHG Modeling

CalEEMod was used to predict GHG emissions from operation of the site assuming full build-out of the project. The project land use types and size and other project-specific information were input to the model, as described above within the operational period emissions. CalEEMod output is included in *Attachment 2*.

Construction Emissions

GHG emissions associated with construction were computed to be 12,244 MT of CO_2e for the total construction period (2023-2031), with the highest annual GHG emissions estimate being 3,918 MT of CO2e for the 2026-2027 construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor the YSAQMD have an adopted threshold of significance for construction related GHG emissions.

Operational Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully developed site under the proposed project. As shown in Table 11, the annual emissions resulting from operation of the proposed project are predicted to be 15,076 MT of CO_2e at full build-out in 2032.

Table 11. Annual Project GHG Emissions (CO_2e) in Metric Tons

Source Category	Proposed Project
	2032
Area	834
Energy Consumption	2,019
Mobile	11,655
Solid Waste Generation	426
Water Usage	142
Total (MT CO_2e/yr)	15,076

Supporting Documentation

Attachment 1 is the methodology used to compute community risk impacts, including the methods to compute lifetime cancer risk from exposure to project emissions.

Attachment 2 includes the CalEEMod and RCEM modeling assumptions and summary output for project construction and operational criteria air pollutant and GHG emissions. This attachment also includes the EMFAC2021 emissions modeling. The CalEEMod input and output files for these calculations are voluminous and are available upon request in digital format.

Attachment 3 is the construction health risk assessment. AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format.

Attachment 4 is the traffic operational health risk assessment. AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format.

Attachment 1: Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[15] These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods.[16] This HRA used the 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.[17] Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

Potential increased cancer risk from inhalation of TACs is calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency and duration of exposure. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day) or liters per kilogram of body weight per 8-hour period for the case of worker or school child exposures. As recommended by the BAAQMD for residential exposures, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. For children at schools and daycare facilities, BAAQMD recommends using the 95th percentile 8-hour breathing rates. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways). For workers, assumed to be adults,

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[15] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.

[16] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.

[17] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

a 25-year exposure period is recommended by the BAAQMD. For school children a 9-year exposure period is recommended by the BAAQMD.

Under previous OEHHA and BAAQMD HRA guidance, residential receptors are assumed to be at their home 24 hours a day, or 100 percent of the time. In the 2015 Risk Assessment Guidance, OEHHA includes adjustments to exposure duration to account for the fraction of time at home (FAH), which can be less than 100 percent of the time, based on updated population and activity statistics. The FAH factors are age-specific and are: 0.85 for third trimester of pregnancy to less than 2 years old, 0.72 for ages 2 to less than 16 years, and 0.73 for ages 16 to 70 years. Use of the FAH factors is allowed by the BAAQMD if there are no schools in the project vicinity have a cancer risk of one in a million or greater assuming 100 percent exposure (FAH = 1.0).

Functionally, cancer risk is calculated using the following parameters and formulas:

Cancer Risk (per million) = $CPF \times Inhalation\ Dose \times ASF \times ED/AT \times FAH \times 10^6$

Where:

CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = $C_{air} \times DBR^{*} \times A \times (EF/365) \times 10^{-6}$

Where:

C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
8HrBR = 8-hour breathing rate (L/kg body weight-8 hours)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

* An 8-hour breathing rate (8HrBR) is used for worker and school child exposures.

The health risk parameters used in this evaluation are summarized as follows:

Parameter	***Exposure Type →***	**Infant**		**Child**	**Adult**
	Age Range →	**3rd Trimester**	**0<2**	**2 < 16**	**16 - 30**
DPM Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$		1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day) 80th Percentile Rate		273	758	572	261
Daily Breathing Rate (L/kg-day) 95th Percentile Rate		361	1,090	745	335
8-hour Breathing Rate (L/kg-8 hours) 95th Percentile Rate		-	1,200	520	240
Inhalation Absorption Factor		1	1	1	1
Averaging Time (years)		70	70	70	70
Exposure Duration (years)		0.25	2	14	14*
Exposure Frequency (days/year)		350	350	350	350*
Age Sensitivity Factor		10	10	3	1
Fraction of Time at Home (FAH)		0.85-1.0	0.85-1.0	0.72-1.0	0.73*

Non-Cancer Hazards

Non-cancer health risk is usually determined by comparing the predicted level of exposure to a chemical to the level of exposure that is not expected to cause any adverse effects (reference exposure level), even to the most susceptible people. Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The total HI is calculated as the sum of the HIs for each TAC evaluated and the total HI is compared to the BAAQMD significance thresholds to determine whether a significant non-cancer health impact from a project would occur.

Typically, for residential projects located near roadways with substantial TAC emissions, the primary TAC of concern with non-cancer health effects is diesel particulate matter (DPM). For DPM, the chronic inhalation REL is 5 micrograms per cubic meter ($\mu g/m^3$).

Annual $PM_{2.5}$ Concentrations

While not a TAC, fine particulate matter ($PM_{2.5}$) has been identified by the BAAQMD as a pollutant with potential non-cancer health effects that should be included when evaluating potential community health impacts under the California Environmental Quality Act (CEQA). The thresholds of significance for $PM_{2.5}$ (project level and cumulative) are in terms of an increase in the annual average concentration. When considering $PM_{2.5}$ impacts, the contribution from all sources of $PM_{2.5}$ emissions should be included. For projects with potential impacts from nearby local roadways, the $PM_{2.5}$ impacts should include those from vehicle exhaust emissions, $PM_{2.5}$ generated from vehicle tire and brake wear, and fugitive emissions from re-suspended dust on the roads.

Attachment 2: Construction and Operational CalEEMod, RCEM and EMFAC2021 Modeling Summary

Construction emissions provided in separate digital files as output from the numerous CalEEMod, EMFAC2021 and RCEM is too voluminous to print.

Greentree Construciton Emissions Summary - by Phase

		From Mitigated Output (Tier 4 equipment)									
Phase	**Year**	**ROG**	**NOx**	**CO**	**PM10fug**	**PM10ex**	**PM10tot**	**PM2.5fug**	**PM2.5ex**	**PM2.5tot**	**CO2e**
CalEEMod Emissions											
1-R1	2023	0.12	2.02	3.02	0.79	0.0146	0.81	0.12	0.01	0.13	464
	2024	1.64	0.86	1.21	0.36	0.0057	0.37	0.04	0.01	0.04	183
3-R2	2026	0.11	2.09	3.01	2.31	0.0115	2.32	0.27	0.01	0.28	472
	2027	1.21	0.88	1.84	1.12	0.0048	1.13	0.11	0.00	0.12	185
2-R3	2025	0.12	2.25	3.05	1.81	0.0115	1.81	0.22	0.01	0.23	506
	2026	0.94	1.63	1.99	1.54	0.0083	1.54	0.16	0.01	0.17	340
2-I6	2025	0.03	0.64	1.17	0.30	0.0030	0.31	0.14	0.00	0.14	166
2-I3	2026	0.01	0.17	0.31	0.07	0.0008	0.07	0.03	0.00	0.03	44
4-R4	2025	0.03	0.53	1.01	0.13	0.0027	0.13	0.05	0.00	0.05	148
	2027	0.08	1.48	1.99	1.60	0.0088	1.61	0.16	0.01	0.17	311
	2028	0.62	1.38	1.88	1.45	0.0080	1.45	0.15	0.01	0.16	290
4-R6	2026	0.02	0.49	0.91	0.12	0.0025	0.12	0.04	0.00	0.05	134
	2027	0.09	1.65	2.11	2.54	0.0091	2.55	0.26	0.01	0.27	349
	2028	1.54	0.90	1.19	1.30	0.0048	1.30	0.13	0.00	0.14	190
4-I5	2025	0.00	0.06	0.11	0.04	0.0003	0.04	0.01	0.00	0.01	17
5-R5	2026	0.02	0.49	0.91	0.10	0.0025	0.10	0.04	0.00	0.04	134
	2029	0.08	1.50	2.04	0.73	0.0090	0.73	0.08	0.01	0.09	321
	2030	1.99	0.83	1.16	0.37	0.0048	0.37	0.04	0.00	0.04	196
5-C1	2026	0.01	0.30	0.55	0.07	0.0014	0.07	0.03	0.00	0.03	78
	2029	0.07	1.42	2.04	0.28	0.0092	0.29	0.03	0.01	0.04	299
	2030	0.64	0.24	0.37	0.03	0.0012	0.03	0.01	0.00	0.01	56
5-C2	2026	0.01	0.21	0.38	0.03	0.0010	0.03	0.02	0.00	0.02	53
	2029	0.07	1.47	2.14	0.26	0.0098	0.27	0.03	0.01	0.04	310
	2030	0.54	0.11	0.18	0.01	0.0005	0.01	0.00	0.00	0.00	26
6-C3	2026	0.01	0.03	0.36	0.03	0.0010	0.03	0.02	0.00	0.02	53
	2031	0.44	0.41	2.19	0.18	0.0051	0.19	0.02	0.01	0.02	350
6-C4	2026	0.01	0.22	0.55	0.07	0.0014	0.07	0.03	0.00	0.03	78
	2031	0.71	0.53	2.33	0.30	0.0054	0.31	0.03	0.01	0.04	381
EMFAC2021 Emissions											
Haul South	2026	0.01	0.52	0.20	0.06	0.0288	0.09	0.01	0.01	0.02	366
Haul North	2026	0.02	0.60	0.24	0.07	0.0330	0.10	0.01	0.01	0.03	336
1-R1	2023	0.12	0.36	0.89	0.23	0.0249	0.26	0.03	0.01	0.04	366
	2024	0.06	0.19	0.47	0.12	0.0132	0.14	0.02	0.01	0.02	194
3-R2	2026	0.10	0.37	0.75	0.24	0.0276	0.26	0.04	0.01	0.05	376
	2027	0.05	0.20	0.40	0.13	0.0148	0.14	0.02	0.01	0.03	201
2-R3	2025	0.14	0.54	1.07	0.31	0.0377	0.35	0.05	0.02	0.06	526
	2026	0.11	0.44	0.88	0.25	0.0310	0.29	0.04	0.01	0.05	432
2-I6	2025	0.00	0.01	0.02	0.01	0.0006	0.01	0.00	0.00	0.00	9
2-I3	2026	0.00	0.00	0.01	0.00	0.0003	0.00	0.00	0.00	0.00	4

4-R4	2025	0.02	0.08	0.14	0.05	0.0056	0.05	0.01	0.00	0.01	75
	2027	0.06	0.23	0.43	0.14	0.0169	0.15	0.02	0.01	0.03	227
	2028	0.06	0.26	0.48	0.15	0.0186	0.17	0.02	0.01	0.03	249
4-R6	2026	0.02	0.08	0.17	0.05	0.0061	0.06	0.01	0.00	0.01	84
	2027	0.08	0.29	0.60	0.19	0.0218	0.21	0.03	0.01	0.04	298
	2028	0.07	0.27	0.56	0.18	0.0202	0.20	0.03	0.01	0.03	277
4-I5	2025	0.00	0.00	0.00	0.00	0.0001	0.00	0.00	0.00	0.00	1
5-R5	2026	0.02	0.06	0.15	0.05	0.0048	0.05	0.01	0.00	0.01	68
	2029	0.07	0.21	0.52	0.17	0.0171	0.18	0.02	0.01	0.03	240
	2030	0.06	0.20	0.49	0.15	0.0159	0.17	0.02	0.01	0.03	223
5-C1	2026	0.01	0.03	0.04	0.01	0.0018	0.01	0.00	0.00	0.00	24
	2029	0.02	0.09	0.15	0.05	0.0064	0.05	0.01	0.00	0.01	84
	2030	0.02	0.09	0.14	0.04	0.0060	0.05	0.01	0.00	0.01	78
5-C2	2026	0.00	0.02	0.04	0.01	0.0015	0.01	0.00	0.00	0.00	20
	2029	0.02	0.08	0.13	0.04	0.0055	0.05	0.01	0.00	0.01	72
	2030	0.01	0.07	0.12	0.04	0.0051	0.04	0.01	0.00	0.01	67
6-C3	2026	0.00	0.02	0.02	0.01	0.0010	0.01	0.00	0.00	0.00	14
	2031	0.02	0.10	0.17	0.05	0.0072	0.06	0.01	0.00	0.01	94
6-C4	2026	0.01	0.02	0.04	0.01	0.0017	0.01	0.00	0.00	0.00	23
	2031	0.03	0.17	0.27	0.09	0.0118	0.10	0.01	0.00	0.02	155
RCEM Emissions											
3-I1	2026	0.12	0.37	2.51	1.12	0.0214	1.14	0.23	0.02	0.25	439
3 - I2	2027	0.12	0.32	2.46	1.12	0.0188	1.14	0.23	0.01	0.25	424

Greentree Construciton Emissions Summary - by Phase

From Mitigated Output (Tier 4 equipment)

Year	ROG	NOx	CO	PM10fug	PM10ex	PM10tot	PM2.5fug	PM2.5ex	PM2.5tot	CO2e
2023	0.24	2.38	3.91	1.02	0.04	1.06	0.15	0.02	0.17	829.81
2024	1.70	1.05	1.68	0.48	0.02	0.50	0.06	0.01	0.07	377.69
2025	0.35	4.11	6.58	2.65	0.06	2.69	0.47	0.04	0.51	1447.95
2026	1.69	8.24	15.94	7.28	0.21	7.48	1.19	0.12	1.31	3916.51
2027	1.61	4.76	9.24	6.65	0.07	6.72	0.81	0.05	0.86	1697.30
2028	2.30	2.81	4.11	3.07	0.05	3.12	0.33	0.03	0.36	1006.56
2029	0.33	4.79	7.02	1.52	0.06	1.57	0.17	0.04	0.21	1325.70
2030	3.26	1.53	2.45	0.65	0.03	0.68	0.08	0.02	0.10	645.69
2031	1.21	1.21	4.96	0.62	0.0294	0.65	0.07	0.02	0.09	979.59
Total	12.69	30.87	55.90	23.95	0.57	24.48	3.34	0.35	3.69	12,227

Greentree Vacaville Operations
Solano-Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	52.30	Acre	52.30	2,278,197.00	0
City Park	31.70	Acre	31.70	196,020.80	0
Condo/Townhouse	950.00	Dwelling Unit	35.20	1,140,000.00	2717
Retirement Community	199.00	Dwelling Unit	19.90	238,800.00	569
Strip Mall	300.00	1000sqft	6.90	300,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	6.8	**Precipitation Freq (Days)**	56
Climate Zone	4			**Operational Year**	2032
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Latest reported intensity rate (2018)

Land Use - Estimated using Table 2 in Report, Park acresge = 4.5 and 4,000 sf building

Construction Phase - Not Used. Ops run only

Off-road Equipment - Ops run

Off-road Equipment - Ops run

Off-road Equipment - Ops Run

Off-road Equipment - Ops run

Off-road Equipment - Ops run

Off-road Equipment - OPs Run

Off-road Equipment - Added trenching equipment

Trips and VMT - OPs run... no construction emissions

On-road Fugitive Dust - Adjusted trip off-road travel to 0.1 mi or 10% of on and near site travel

Grading - OPs run

Architectural Coating - Ops Run

Vehicle Trips - From VMT provided by Gwen Owens, City of Vacaville May 24, 2021. See Trips_VMT_V3.xlsx for caculations

Vehicle Emission Factors - From EMFAC2021, Year 2032

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust - Assume only 100% of roads are paved. Silt loading from CARB Major/Collector Roadtype 0.032

Woodstoves - Assume all fireplaces are NG, # from CalEEMod Default

Consumer Products -

Area Coating - Per Land Use Calcs used for construction analysis (Land Use Calcs from Construction.xlsx)

Energy Use -

Water And Wastewater - Assume 100% WWTP

Construction Off-road Equipment Mitigation - Ops analysis, no construction

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	456,000.00	0.00
tblArchitecturalCoating	ConstArea_Parking	136,692.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	930,690.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,792,070.00	0.00
tblAreaCoating	Area_Parking	136692	2278197
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	NumberGas	522.50	855.00

tblFireplaces	NumberGas	109.45	179.10
tblFireplaces	NumberWood	332.50	0.00
tblFireplaces	NumberWood	69.65	0.00
tblFleetMix	HHD	0.05	0.05
tblFleetMix	HHD	0.05	0.05
tblFleetMix	HHD	0.05	0.05
tblFleetMix	HHD	0.05	0.05
tblFleetMix	HHD	0.05	0.05
tblFleetMix	LDA	0.61	0.52
tblFleetMix	LDA	0.61	0.52
tblFleetMix	LDA	0.61	0.52
tblFleetMix	LDA	0.61	0.52
tblFleetMix	LDA	0.61	0.52
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT2	0.18	0.21
tblFleetMix	LDT2	0.18	0.21
tblFleetMix	LDT2	0.18	0.21
tblFleetMix	LDT2	0.18	0.21
tblFleetMix	LDT2	0.18	0.21
tblFleetMix	LHD1	0.01	0.03
tblFleetMix	LHD1	0.01	0.03
tblFleetMix	LHD1	0.01	0.03
tblFleetMix	LHD1	0.01	0.03
tblFleetMix	LHD1	0.01	0.03
tblFleetMix	LHD2	4.6650e-003	7.2210e-003
tblFleetMix	LHD2	4.6650e-003	7.2210e-003

tblFleetMix	LHD2	4.6650e-003	7.2210e-003
tblFleetMix	LHD2	4.6650e-003	7.2210e-003
tblFleetMix	LHD2	4.6650e-003	7.2210e-003
tblFleetMix	MCY	5.6260e-003	3.4320e-003
tblFleetMix	MCY	5.6260e-003	3.4320e-003
tblFleetMix	MCY	5.6260e-003	3.4320e-003
tblFleetMix	MCY	5.6260e-003	3.4320e-003
tblFleetMix	MCY	5.6260e-003	3.4320e-003
tblFleetMix	MDV	0.10	0.13
tblFleetMix	MDV	0.10	0.13
tblFleetMix	MDV	0.10	0.13
tblFleetMix	MDV	0.10	0.13
tblFleetMix	MDV	0.10	0.13
tblFleetMix	MH	6.5100e-004	8.0300e-004
tblFleetMix	MH	6.5100e-004	8.0300e-004
tblFleetMix	MH	6.5100e-004	8.0300e-004
tblFleetMix	MH	6.5100e-004	8.0300e-004
tblFleetMix	MH	6.5100e-004	8.0300e-004
tblFleetMix	MHD	9.2020e-003	0.01
tblFleetMix	MHD	9.2020e-003	0.01
tblFleetMix	MHD	9.2020e-003	0.01
tblFleetMix	MHD	9.2020e-003	0.01
tblFleetMix	MHD	9.2020e-003	0.01
tblFleetMix	OBUS	3.2560e-003	1.3680e-003
tblFleetMix	OBUS	3.2560e-003	1.3680e-003
tblFleetMix	OBUS	3.2560e-003	1.3680e-003
tblFleetMix	OBUS	3.2560e-003	1.3680e-003
tblFleetMix	OBUS	3.2560e-003	1.3680e-003
tblFleetMix	SBUS	6.1800e-004	6.6300e-004
tblFleetMix	SBUS	6.1800e-004	6.6300e-004

tblFleetMix	SBUS	6.1800e-004	6.6300e-004
tblFleetMix	SBUS	6.1800e-004	6.6300e-004
tblFleetMix	SBUS	6.1800e-004	6.6300e-004
tblFleetMix	UBUS	1.6670e-003	1.0150e-003
tblFleetMix	UBUS	1.6670e-003	1.0150e-003
tblFleetMix	UBUS	1.6670e-003	1.0150e-003
tblFleetMix	UBUS	1.6670e-003	1.0150e-003
tblFleetMix	UBUS	1.6670e-003	1.0150e-003
tblLandUse	LandUseSquareFeet	2,278,188.00	2,278,197.00
tblLandUse	LandUseSquareFeet	1,380,852.00	196,020.80
tblLandUse	LandUseSquareFeet	950,000.00	1,140,000.00
tblLandUse	LandUseSquareFeet	199,000.00	238,800.00
tblLandUse	LotAcreage	59.38	35.20
tblLandUse	LotAcreage	39.80	19.90
tblLandUse	LotAcreage	6.89	6.90
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblRoadDust	RoadPercentPave	94	100
tblRoadDust	RoadSiltLoading	0.1	0
tblTripsAndVMT	VendorTripNumber	578.00	0.00
tblTripsAndVMT	WorkerTripNumber	1,962.00	0.00
tblTripsAndVMT	WorkerTripNumber	392.00	0.00
tblVehicleEF	HHD	0.53	0.10

tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	0.06	0.00
tblVehicleEF	HHD	1.79	5.61
tblVehicleEF	HHD	0.65	0.20
tblVehicleEF	HHD	1.98	3.2900e-004
tblVehicleEF	HHD	5,260.87	771.49
tblVehicleEF	HHD	1,460.28	1,286.77
tblVehicleEF	HHD	5.96	2.6610e-003
tblVehicleEF	HHD	14.89	4.39
tblVehicleEF	HHD	1.42	1.32
tblVehicleEF	HHD	20.06	2.48
tblVehicleEF	HHD	2.3500e-003	1.7550e-003
tblVehicleEF	HHD	0.06	0.08
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	5.3960e-003	0.03
tblVehicleEF	HHD	6.7000e-005	0.00
tblVehicleEF	HHD	2.2480e-003	1.6750e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.9210e-003	8.9300e-003
tblVehicleEF	HHD	5.1630e-003	0.03
tblVehicleEF	HHD	6.2000e-005	0.00
tblVehicleEF	HHD	5.2000e-005	3.0000e-006
tblVehicleEF	HHD	2.3370e-003	1.0000e-006
tblVehicleEF	HHD	0.48	0.37
tblVehicleEF	HHD	3.2000e-005	3.0000e-006
tblVehicleEF	HHD	0.08	0.01
tblVehicleEF	HHD	1.8800e-004	7.0000e-006
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	HHD	0.05	7.0310e-003
tblVehicleEF	HHD	0.01	0.01

tblVehicleEF	HHD	9.2000e-005	0.00
tblVehicleEF	HHD	5.2000e-005	3.0000e-006
tblVehicleEF	HHD	2.3370e-003	1.0000e-006
tblVehicleEF	HHD	0.55	0.50
tblVehicleEF	HHD	3.2000e-005	3.0000e-006
tblVehicleEF	HHD	0.10	0.03
tblVehicleEF	HHD	1.8800e-004	7.0000e-006
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	LDA	1.7830e-003	1.2390e-003
tblVehicleEF	LDA	1.9150e-003	0.05
tblVehicleEF	LDA	0.29	0.46
tblVehicleEF	LDA	0.59	2.14
tblVehicleEF	LDA	185.07	224.11
tblVehicleEF	LDA	40.33	56.81
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.19
tblVehicleEF	LDA	0.04	5.4150e-003
tblVehicleEF	LDA	1.0410e-003	7.5700e-004
tblVehicleEF	LDA	1.6340e-003	1.4170e-003
tblVehicleEF	LDA	0.02	1.8950e-003
tblVehicleEF	LDA	9.5800e-004	6.9600e-004
tblVehicleEF	LDA	1.5030e-003	1.3030e-003
tblVehicleEF	LDA	0.02	0.28
tblVehicleEF	LDA	0.06	0.07
tblVehicleEF	LDA	0.02	0.28
tblVehicleEF	LDA	4.4620e-003	4.1970e-003
tblVehicleEF	LDA	0.03	0.21
tblVehicleEF	LDA	0.03	0.20
tblVehicleEF	LDA	1.8510e-003	2.2150e-003
tblVehicleEF	LDA	4.1300e-004	5.6200e-004

tblVehicleEF	LDA	0.02	0.28
tblVehicleEF	LDA	0.06	0.07
tblVehicleEF	LDA	0.02	0.28
tblVehicleEF	LDA	6.4930e-003	6.1210e-003
tblVehicleEF	LDA	0.03	0.21
tblVehicleEF	LDA	0.03	0.22
tblVehicleEF	LDT1	3.1920e-003	2.5920e-003
tblVehicleEF	LDT1	4.4160e-003	0.07
tblVehicleEF	LDT1	0.44	0.74
tblVehicleEF	LDT1	1.08	3.58
tblVehicleEF	LDT1	237.78	295.33
tblVehicleEF	LDT1	52.50	76.34
tblVehicleEF	LDT1	0.04	0.05
tblVehicleEF	LDT1	0.05	0.29
tblVehicleEF	LDT1	0.04	6.8010e-003
tblVehicleEF	LDT1	1.3140e-003	1.0850e-003
tblVehicleEF	LDT1	2.0310e-003	2.0780e-003
tblVehicleEF	LDT1	0.02	2.3800e-003
tblVehicleEF	LDT1	1.2080e-003	9.9800e-004
tblVehicleEF	LDT1	1.8670e-003	1.9110e-003
tblVehicleEF	LDT1	0.05	0.56
tblVehicleEF	LDT1	0.12	0.14
tblVehicleEF	LDT1	0.04	0.56
tblVehicleEF	LDT1	7.9110e-003	0.01
tblVehicleEF	LDT1	0.08	0.41
tblVehicleEF	LDT1	0.06	0.36
tblVehicleEF	LDT1	2.3810e-003	2.9200e-003
tblVehicleEF	LDT1	5.4300e-004	7.5500e-004
tblVehicleEF	LDT1	0.05	0.56
tblVehicleEF	LDT1	0.12	0.14

tblVehicleEF	LDT1	0.04	0.56
tblVehicleEF	LDT1	0.01	0.02
tblVehicleEF	LDT1	0.08	0.41
tblVehicleEF	LDT1	0.07	0.39
tblVehicleEF	LDT2	2.6890e-003	1.6180e-003
tblVehicleEF	LDT2	2.7820e-003	0.06
tblVehicleEF	LDT2	0.42	0.55
tblVehicleEF	LDT2	0.82	2.68
tblVehicleEF	LDT2	269.14	301.79
tblVehicleEF	LDT2	58.54	75.72
tblVehicleEF	LDT2	0.04	0.03
tblVehicleEF	LDT2	0.04	0.25
tblVehicleEF	LDT2	0.04	6.5540e-003
tblVehicleEF	LDT2	1.1960e-003	8.4300e-004
tblVehicleEF	LDT2	1.8340e-003	1.5080e-003
tblVehicleEF	LDT2	0.02	2.2940e-003
tblVehicleEF	LDT2	1.1000e-003	7.7500e-004
tblVehicleEF	LDT2	1.6860e-003	1.3860e-003
tblVehicleEF	LDT2	0.03	0.28
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.02	0.28
tblVehicleEF	LDT2	6.6780e-003	5.5920e-003
tblVehicleEF	LDT2	0.05	0.21
tblVehicleEF	LDT2	0.04	0.26
tblVehicleEF	LDT2	2.6930e-003	2.9830e-003
tblVehicleEF	LDT2	5.9800e-004	7.4900e-004
tblVehicleEF	LDT2	0.03	0.28
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.02	0.28
tblVehicleEF	LDT2	9.7360e-003	8.1490e-003

tblVehicleEF	LDT2	0.05	0.21
tblVehicleEF	LDT2	0.04	0.28
tblVehicleEF	LHD1	3.6420e-003	3.9460e-003
tblVehicleEF	LHD1	8.4020e-003	4.7160e-003
tblVehicleEF	LHD1	9.9250e-003	0.02
tblVehicleEF	LHD1	0.13	0.17
tblVehicleEF	LHD1	0.64	0.55
tblVehicleEF	LHD1	1.51	1.77
tblVehicleEF	LHD1	9.12	8.06
tblVehicleEF	LHD1	635.98	646.73
tblVehicleEF	LHD1	24.47	13.97
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.80	0.51
tblVehicleEF	LHD1	0.63	0.30
tblVehicleEF	LHD1	8.6900e-004	8.1100e-004
tblVehicleEF	LHD1	0.08	0.07
tblVehicleEF	LHD1	0.01	9.5250e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	6.0200e-004	1.3100e-004
tblVehicleEF	LHD1	8.3200e-004	7.7500e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.6300e-003	2.3810e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	5.5300e-004	1.2000e-004
tblVehicleEF	LHD1	1.8210e-003	0.09
tblVehicleEF	LHD1	0.08	0.02
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	9.8600e-004	0.09
tblVehicleEF	LHD1	0.11	0.07
tblVehicleEF	LHD1	0.25	0.13

tblVehicleEF	LHD1	0.13	0.07
tblVehicleEF	LHD1	9.0000e-005	7.8000e-005
tblVehicleEF	LHD1	6.2050e-003	6.2960e-003
tblVehicleEF	LHD1	2.7200e-004	1.3800e-004
tblVehicleEF	LHD1	1.8210e-003	0.09
tblVehicleEF	LHD1	0.08	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	9.8600e-004	0.09
tblVehicleEF	LHD1	0.12	0.08
tblVehicleEF	LHD1	0.25	0.13
tblVehicleEF	LHD1	0.15	0.08
tblVehicleEF	LHD2	2.4360e-003	2.2380e-003
tblVehicleEF	LHD2	5.1380e-003	4.9320e-003
tblVehicleEF	LHD2	2.9110e-003	7.5280e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.46	0.40
tblVehicleEF	LHD2	0.85	0.92
tblVehicleEF	LHD2	13.65	14.12
tblVehicleEF	LHD2	672.64	702.91
tblVehicleEF	LHD2	21.34	7.16
tblVehicleEF	LHD2	0.07	0.10
tblVehicleEF	LHD2	0.24	0.64
tblVehicleEF	LHD2	0.25	0.15
tblVehicleEF	LHD2	1.0240e-003	1.5510e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.3830e-003	0.02
tblVehicleEF	LHD2	3.6000e-004	4.3000e-005
tblVehicleEF	LHD2	9.7900e-004	1.4830e-003
tblVehicleEF	LHD2	0.04	0.03

tblVehicleEF	LHD2	2.7110e-003	2.6570e-003
tblVehicleEF	LHD2	8.9540e-003	0.02
tblVehicleEF	LHD2	3.3100e-004	3.9000e-005
tblVehicleEF	LHD2	5.0600e-004	0.05
tblVehicleEF	LHD2	0.02	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.0600e-004	0.05
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.06
tblVehicleEF	LHD2	0.04	0.03
tblVehicleEF	LHD2	1.3300e-004	1.3500e-004
tblVehicleEF	LHD2	6.5340e-003	6.7480e-003
tblVehicleEF	LHD2	2.2800e-004	7.1000e-005
tblVehicleEF	LHD2	5.0600e-004	0.05
tblVehicleEF	LHD2	0.02	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.0600e-004	0.05
tblVehicleEF	LHD2	0.11	0.11
tblVehicleEF	LHD2	0.03	0.06
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	MCY	0.49	0.15
tblVehicleEF	MCY	0.16	0.18
tblVehicleEF	MCY	19.62	11.92
tblVehicleEF	MCY	10.45	8.29
tblVehicleEF	MCY	183.65	188.49
tblVehicleEF	MCY	43.23	47.02
tblVehicleEF	MCY	1.17	0.56
tblVehicleEF	MCY	0.32	0.12
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	2.3110e-003	1.8670e-003

tblVehicleEF	MCY	3.1380e-003	3.1250e-003
tblVehicleEF	MCY	5.0400e-003	4.2000e-003
tblVehicleEF	MCY	2.1560e-003	1.7440e-003
tblVehicleEF	MCY	2.9330e-003	2.9250e-003
tblVehicleEF	MCY	0.96	4.82
tblVehicleEF	MCY	0.67	3.58
tblVehicleEF	MCY	0.49	4.82
tblVehicleEF	MCY	2.31	0.98
tblVehicleEF	MCY	0.38	3.95
tblVehicleEF	MCY	2.14	1.29
tblVehicleEF	MCY	2.2260e-003	1.8630e-003
tblVehicleEF	MCY	6.6600e-004	4.6500e-004
tblVehicleEF	MCY	0.96	0.12
tblVehicleEF	MCY	0.67	3.58
tblVehicleEF	MCY	0.49	0.12
tblVehicleEF	MCY	2.89	1.19
tblVehicleEF	MCY	0.38	3.95
tblVehicleEF	MCY	2.33	1.40
tblVehicleEF	MDV	4.2530e-003	1.9190e-003
tblVehicleEF	MDV	7.2330e-003	0.07
tblVehicleEF	MDV	0.54	0.60
tblVehicleEF	MDV	1.51	2.97
tblVehicleEF	MDV	363.65	364.06
tblVehicleEF	MDV	80.29	92.26
tblVehicleEF	MDV	0.06	0.05
tblVehicleEF	MDV	0.11	0.30
tblVehicleEF	MDV	0.04	6.6440e-003
tblVehicleEF	MDV	1.2420e-003	8.6600e-004
tblVehicleEF	MDV	1.9290e-003	1.6000e-003
tblVehicleEF	MDV	0.02	2.3250e-003

tblVehicleEF	MDV	1.1430e-003	7.9800e-004
tblVehicleEF	MDV	1.7740e-003	1.4710e-003
tblVehicleEF	MDV	0.06	0.38
tblVehicleEF	MDV	0.14	0.09
tblVehicleEF	MDV	0.05	0.38
tblVehicleEF	MDV	0.01	7.2150e-003
tblVehicleEF	MDV	0.09	0.28
tblVehicleEF	MDV	0.10	0.33
tblVehicleEF	MDV	3.6350e-003	3.5970e-003
tblVehicleEF	MDV	8.2800e-004	9.1200e-004
tblVehicleEF	MDV	0.06	0.38
tblVehicleEF	MDV	0.14	0.09
tblVehicleEF	MDV	0.05	0.38
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	0.09	0.28
tblVehicleEF	MDV	0.11	0.36
tblVehicleEF	MH	8.8630e-003	6.1670e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.49	0.38
tblVehicleEF	MH	3.82	1.84
tblVehicleEF	MH	1,189.75	1,651.59
tblVehicleEF	MH	57.22	19.85
tblVehicleEF	MH	0.91	1.47
tblVehicleEF	MH	0.66	0.35
tblVehicleEF	MH	0.13	0.04
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.01	0.03
tblVehicleEF	MH	8.2700e-004	2.0700e-004
tblVehicleEF	MH	0.06	0.02
tblVehicleEF	MH	3.2190e-003	3.3420e-003

tblVehicleEF	MH	0.01	0.03
tblVehicleEF	MH	7.6100e-004	1.9000e-004
tblVehicleEF	MH	0.52	24.19
tblVehicleEF	MH	0.04	5.34
tblVehicleEF	MH	0.21	24.19
tblVehicleEF	MH	0.04	0.06
tblVehicleEF	MH	0.01	0.13
tblVehicleEF	MH	0.23	0.09
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	6.3900e-004	1.9600e-004
tblVehicleEF	MH	0.52	24.19
tblVehicleEF	MH	0.04	5.34
tblVehicleEF	MH	0.21	24.19
tblVehicleEF	MH	0.05	0.07
tblVehicleEF	MH	0.01	0.13
tblVehicleEF	MH	0.25	0.10
tblVehicleEF	MHD	0.02	0.01
tblVehicleEF	MHD	3.0630e-003	8.0670e-003
tblVehicleEF	MHD	0.03	5.9480e-003
tblVehicleEF	MHD	0.41	0.61
tblVehicleEF	MHD	0.26	0.14
tblVehicleEF	MHD	4.16	0.61
tblVehicleEF	MHD	113.56	141.07
tblVehicleEF	MHD	1,173.77	1,000.74
tblVehicleEF	MHD	67.80	5.93
tblVehicleEF	MHD	0.29	0.73
tblVehicleEF	MHD	0.99	0.49
tblVehicleEF	MHD	8.44	1.13
tblVehicleEF	MHD	4.6000e-005	4.9300e-004
tblVehicleEF	MHD	0.13	0.04

tblVehicleEF	MHD	2.9390e-003	4.2440e-003
tblVehicleEF	MHD	9.2100e-004	6.8000e-005
tblVehicleEF	MHD	4.4000e-005	4.7100e-004
tblVehicleEF	MHD	0.06	0.01
tblVehicleEF	MHD	2.8010e-003	4.0520e-003
tblVehicleEF	MHD	8.4700e-004	6.3000e-005
tblVehicleEF	MHD	7.7500e-004	0.02
tblVehicleEF	MHD	0.04	3.1720e-003
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	4.6400e-004	0.02
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.26	0.03
tblVehicleEF	MHD	1.0980e-003	1.3010e-003
tblVehicleEF	MHD	0.01	9.4920e-003
tblVehicleEF	MHD	7.5100e-004	5.9000e-005
tblVehicleEF	MHD	7.7500e-004	0.02
tblVehicleEF	MHD	0.04	3.1720e-003
tblVehicleEF	MHD	0.04	0.04
tblVehicleEF	MHD	4.6400e-004	0.02
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.29	0.03
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	3.7190e-003	0.01
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.25	0.98
tblVehicleEF	OBUS	0.31	0.38
tblVehicleEF	OBUS	3.81	1.70
tblVehicleEF	OBUS	195.26	148.64

tblVehicleEF	OBUS	1,283.27	1,440.57
tblVehicleEF	OBUS	58.61	14.40
tblVehicleEF	OBUS	0.47	0.53
tblVehicleEF	OBUS	0.99	1.09
tblVehicleEF	OBUS	4.52	0.92
tblVehicleEF	OBUS	4.3000e-005	4.5500e-004
tblVehicleEF	OBUS	0.13	0.06
tblVehicleEF	OBUS	3.1210e-003	0.02
tblVehicleEF	OBUS	8.5600e-004	1.3000e-004
tblVehicleEF	OBUS	4.1000e-005	4.3600e-004
tblVehicleEF	OBUS	0.06	0.02
tblVehicleEF	OBUS	2.9700e-003	0.02
tblVehicleEF	OBUS	7.8700e-004	1.1900e-004
tblVehicleEF	OBUS	1.1360e-003	0.10
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.04	0.07
tblVehicleEF	OBUS	5.2800e-004	0.10
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	0.02	0.11
tblVehicleEF	OBUS	0.24	0.09
tblVehicleEF	OBUS	1.8730e-003	1.4030e-003
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.5300e-004	1.4200e-004
tblVehicleEF	OBUS	1.1360e-003	0.10
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.05	0.09
tblVehicleEF	OBUS	5.2800e-004	0.10
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	0.02	0.11
tblVehicleEF	OBUS	0.26	0.09

tblVehicleEF	SBUS	0.82	0.04
tblVehicleEF	SBUS	5.1070e-003	0.07
tblVehicleEF	SBUS	0.05	1.9890e-003
tblVehicleEF	SBUS	8.77	0.90
tblVehicleEF	SBUS	0.33	0.46
tblVehicleEF	SBUS	6.93	0.24
tblVehicleEF	SBUS	1,018.66	151.68
tblVehicleEF	SBUS	975.22	918.23
tblVehicleEF	SBUS	60.71	1.40
tblVehicleEF	SBUS	3.63	1.09
tblVehicleEF	SBUS	1.28	1.69
tblVehicleEF	SBUS	10.83	0.47
tblVehicleEF	SBUS	1.3650e-003	7.4300e-004
tblVehicleEF	SBUS	0.74	0.04
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.0020e-003	0.01
tblVehicleEF	SBUS	1.1210e-003	1.7000e-005
tblVehicleEF	SBUS	1.3060e-003	7.1000e-004
tblVehicleEF	SBUS	0.32	0.01
tblVehicleEF	SBUS	2.5420e-003	2.7540e-003
tblVehicleEF	SBUS	5.7190e-003	9.9050e-003
tblVehicleEF	SBUS	1.0300e-003	1.5000e-005
tblVehicleEF	SBUS	3.7740e-003	0.02
tblVehicleEF	SBUS	0.03	3.3020e-003
tblVehicleEF	SBUS	1.04	0.08
tblVehicleEF	SBUS	1.7970e-003	0.02
tblVehicleEF	SBUS	0.05	0.04
tblVehicleEF	SBUS	0.02	0.01
tblVehicleEF	SBUS	0.36	0.01
tblVehicleEF	SBUS	0.01	1.3630e-003

tblVehicleEF	SBUS	9.4360e-003	8.4980e-003
tblVehicleEF	SBUS	7.2700e-004	1.4000e-005
tblVehicleEF	SBUS	3.7740e-003	0.02
tblVehicleEF	SBUS	0.03	3.3020e-003
tblVehicleEF	SBUS	1.51	0.14
tblVehicleEF	SBUS	1.7970e-003	0.02
tblVehicleEF	SBUS	0.06	0.11
tblVehicleEF	SBUS	0.02	0.01
tblVehicleEF	SBUS	0.40	0.01
tblVehicleEF	UBUS	0.52	1.14
tblVehicleEF	UBUS	0.06	0.02
tblVehicleEF	UBUS	3.57	12.57
tblVehicleEF	UBUS	9.56	1.74
tblVehicleEF	UBUS	1,852.49	1,009.43
tblVehicleEF	UBUS	143.35	15.11
tblVehicleEF	UBUS	2.80	0.18
tblVehicleEF	UBUS	12.33	0.14
tblVehicleEF	UBUS	0.50	0.12
tblVehicleEF	UBUS	0.01	0.04
tblVehicleEF	UBUS	0.04	3.1830e-003
tblVehicleEF	UBUS	1.4440e-003	1.1300e-004
tblVehicleEF	UBUS	0.21	0.04
tblVehicleEF	UBUS	3.0000e-003	9.5120e-003
tblVehicleEF	UBUS	0.04	3.0390e-003
tblVehicleEF	UBUS	1.3270e-003	1.0400e-004
tblVehicleEF	UBUS	4.1740e-003	0.03
tblVehicleEF	UBUS	0.06	6.2250e-003
tblVehicleEF	UBUS	2.4160e-003	0.03
tblVehicleEF	UBUS	0.17	0.05
tblVehicleEF	UBUS	0.02	0.03

tblVehicleEF	UBUS	0.86	0.07
tblVehicleEF	UBUS	0.01	6.2570e-003
tblVehicleEF	UBUS	1.6100e-003	1.4900e-004
tblVehicleEF	UBUS	4.1740e-003	0.03
tblVehicleEF	UBUS	0.06	6.2250e-003
tblVehicleEF	UBUS	2.4160e-003	0.03
tblVehicleEF	UBUS	0.71	1.20
tblVehicleEF	UBUS	0.02	0.03
tblVehicleEF	UBUS	0.95	0.08
tblVehicleTrips	CC_TL	5.00	0.00
tblVehicleTrips	CC_TL	5.00	8.83
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	7.00	0.00
tblVehicleTrips	CNW_TL	7.00	8.83
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	10.00	0.00
tblVehicleTrips	CW_TL	10.00	8.83
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	HO_TL	0.00	1.00
tblVehicleTrips	HO_TL	7.00	11.17
tblVehicleTrips	HO_TL	7.00	9.85
tblVehicleTrips	HO_TTP	0.00	100.00
tblVehicleTrips	HS_TL	0.00	1.00
tblVehicleTrips	HS_TL	5.00	11.17
tblVehicleTrips	HS_TL	5.00	9.85
tblVehicleTrips	HW_TL	0.00	1.00

tblVehicleTrips	HW_TL	10.00	11.17
tblVehicleTrips	HW_TL	10.00	9.85
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	ST_TR	22.75	8.28
tblVehicleTrips	ST_TR	5.67	4.89
tblVehicleTrips	ST_TR	2.03	3.11
tblVehicleTrips	ST_TR	42.04	11.90
tblVehicleTrips	SU_TR	16.74	8.28
tblVehicleTrips	SU_TR	4.84	4.89
tblVehicleTrips	SU_TR	1.95	3.11
tblVehicleTrips	SU_TR	20.43	11.90
tblVehicleTrips	WD_TR	1.89	8.28
tblVehicleTrips	WD_TR	5.81	4.89
tblVehicleTrips	WD_TR	2.40	3.11
tblVehicleTrips	WD_TR	44.32	11.90
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	47.50	0.00
tblWoodstoves	NumberCatalytic	9.95	0.00
tblWoodstoves	NumberNoncatalytic	47.50	0.00
tblWoodstoves	NumberNoncatalytic	9.95	0.00
tblWoodstoves	WoodstoveWoodMass	4,558.40	0.00
tblWoodstoves	WoodstoveWoodMass	4,558.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2027	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2028	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2029	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

2031	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2032	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2033	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2034	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2035	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2036	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2037	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2038	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2039	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2040	0.0570	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2041	0.5399	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.5399**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2027	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2028	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2029	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

2031	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2032	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2033	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2034	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2035	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2036	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2037	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2038	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2039	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2040	0.0570	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2041	0.5399	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.5399**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
58	**4-1-2040**	**6-30-2040**	0.0162	0.0162
59	**7-1-2040**	**9-30-2040**	0.0205	0.0205
60	**10-1-2040**	**12-31-2040**	0.0205	0.0205
61	**1-1-2041**	**3-31-2041**	0.0783	0.0783
62	**4-1-2041**	**6-30-2041**	0.1561	0.1561
63	**7-1-2041**	**9-30-2041**	0.1578	0.1578
		Highest	0.1578	0.1578

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	8.9244	0.8014	8.8117	4.9400e-003		0.1042	0.1042		0.1042	0.1042	0.0000	828.4515	828.4515	0.0289	0.0149	833.6241
Energy	0.1107	0.9480	0.4178	6.0400e-003		0.0765	0.0765		0.0765	0.0765	0.0000	2,001.8739	2,001.8739	0.1486	0.0465	2,019.4412
Mobile	4.6524	6.8838	28.8518	0.1248	0.8176	0.1068	0.9245	0.2514	0.1010	0.3524	0.0000	11,647.1362	11,647.1362	0.3307	0.0000	11,655.4045
Waste						0.0000	0.0000		0.0000	0.0000	171.7852	0.0000	171.7852	10.1522	0.0000	425.5905
Water						0.0000	0.0000		0.0000	0.0000	34.3484	81.3273	115.6757	0.1297	0.0771	141.8829
Total	**13.6875**	**8.6332**	**38.0813**	**0.1358**	**0.8176**	**0.2875**	**1.1051**	**0.2514**	**0.2817**	**0.5331**	**206.1335**	**14,558.7888**	**14,764.9224**	**10.7901**	**0.1385**	**15,075.9432**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	8.9244	0.8014	8.8117	4.9400e-003		0.1042	0.1042		0.1042	0.1042	0.0000	828.4515	828.4515	0.0289	0.0149	833.6241
Energy	0.1107	0.9480	0.4178	6.0400e-003		0.0765	0.0765		0.0765	0.0765	0.0000	2,001.8739	2,001.8739	0.1486	0.0465	2,019.4412
Mobile	4.6524	6.8838	28.8518	0.1248	0.8176	0.1068	0.9245	0.2514	0.1010	0.3524	0.0000	11,647.1362	11,647.1362	0.3307	0.0000	11,655.4045
Waste						0.0000	0.0000		0.0000	0.0000	171.7852	0.0000	171.7852	10.1522	0.0000	425.5905
Water						0.0000	0.0000		0.0000	0.0000	34.3484	81.3273	115.6757	0.1297	0.0771	141.8829
Total	**13.6875**	**8.6332**	**38.0813**	**0.1358**	**0.8176**	**0.2875**	**1.1051**	**0.2514**	**0.2817**	**0.5331**	**206.1335**	**14,558.7888**	**14,764.9224**	**10.7901**	**0.1385**	**15,075.9432**

Total	**0.5284**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.6524	6.8838	28.8518	0.1248	0.8176	0.1068	0.9245	0.2514	0.1010	0.3524	0.0000	11,647.1362	11,647.1362	0.3307	0.0000	11,655.4045
Unmitigated	4.6524	6.8838	28.8518	0.1248	0.8176	0.1068	0.9245	0.2514	0.1010	0.3524	0.0000	11,647.1362	11,647.1362	0.3307	0.0000	11,655.4045

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	262.48	262.48	262.48	95,541	95,541
Condo/Townhouse	4,645.50	4,645.50	4645.50	18,888,046	18,888,046
Parking Lot	0.00	0.00	0.00		
Retirement Community	618.89	618.89	618.89	2,218,968	2,218,968
Strip Mall	3,570.00	3,570.00	3570.00	11,474,408	11,474,408
Total	9,096.87	9,096.87	9,096.87	32,676,963	32,676,963

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	0.00	0.00	0.00	0.00	0.00	0.00	100	0	0
Condo/Townhouse	11.17	11.17	11.17	46.00	13.00	41.00	100	0	0
Parking Lot	10.00	5.00	7.00	0.00	0.00	0.00	0	0	0
Retirement Community	9.85	9.85	9.85	46.00	13.00	41.00	100	0	0
Strip Mall	8.83	8.83	8.83	16.60	64.40	19.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.524739	0.029436	0.209441	0.128328	0.028193	0.007221	0.010435	0.054925	0.001368	0.001015	0.003432	0.000663	0.000803
Condo/Townhouse	0.524739	0.029436	0.209441	0.128328	0.028193	0.007221	0.010435	0.054925	0.001368	0.001015	0.003432	0.000663	0.000803
Parking Lot	0.524739	0.029436	0.209441	0.128328	0.028193	0.007221	0.010435	0.054925	0.001368	0.001015	0.003432	0.000663	0.000803
Retirement Community	0.524739	0.029436	0.209441	0.128328	0.028193	0.007221	0.010435	0.054925	0.001368	0.001015	0.003432	0.000663	0.000803
Strip Mall	0.524739	0.029436	0.209441	0.128328	0.028193	0.007221	0.010435	0.054925	0.001368	0.001015	0.003432	0.000663	0.000803

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	906.4520	906.4520	0.1276	0.0264	917.5098
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	906.4520	906.4520	0.1276	0.0264	917.5098
NaturalGas Mitigated	0.1107	0.9480	0.4178	6.0400e-003		0.0765	0.0765		0.0765	0.0765	0.0000	1,095.4219	1,095.4219	0.0210	0.0201	1,101.9314
NaturalGas Unmitigated	0.1107	0.9480	0.4178	6.0400e-003		0.0765	0.0765		0.0765	0.0765	0.0000	1,095.4219	1,095.4219	0.0210	0.0201	1,101.9314

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.77869e+007	0.0959	0.8196	0.3488	5.2300e-003		0.0663	0.0663		0.0663	0.0663	0.0000	949.1746	949.1746	0.0182	0.0174	954.8150
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Retirement Community	2.02957e+006	0.0109	0.0935	0.0398	6.0000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	108.3057	108.3057	2.0800e-003	1.9900e-003	108.9493
Strip Mall	711000	3.8300e-003	0.0349	0.0293	2.1000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003	0.0000	37.9417	37.9417	7.3000e-004	7.0000e-004	38.1671
Total		**0.1107**	**0.9480**	**0.4178**	**6.0400e-003**		**0.0765**	**0.0765**		**0.0765**	**0.0765**	**0.0000**	**1,095.4219**	**1,095.4219**	**0.0210**	**0.0201**	**1,101.9314**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.77869e+007	0.0959	0.8196	0.3488	5.2300e-003		0.0663	0.0663		0.0663	0.0663	0.0000	949.1746	949.1746	0.0182	0.0174	954.8150
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Retirement Community	2.02957e+006	0.0109	0.0935	0.0398	6.0000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	108.3057	108.3057	2.0800e-003	1.9900e-003	108.9493
Strip Mall	711000	3.8300e-003	0.0349	0.0293	2.1000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003	0.0000	37.9417	37.9417	7.3000e-004	7.0000e-004	38.1671
Total		**0.1107**	**0.9480**	**0.4178**	**6.0400e-003**		**0.0765**	**0.0765**		**0.0765**	**0.0765**	**0.0000**	**1,095.4219**	**1,095.4219**	**0.0210**	**0.0201**	**1,101.9314**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	4.79316e+006	447.8729	0.0631	0.0130	453.3365
Parking Lot	797369	74.5062	0.0105	2.1700e-003	75.4151
Retirement Community	903368	84.4108	0.0119	2.4600e-003	85.4405
Strip Mall	3.207e+006	299.6622	0.0422	8.7300e-003	303.3178
Total		**906.4520**	**0.1276**	**0.0264**	**917.5098**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	4.79316e+006	447.8729	0.0631	0.0130	453.3365
Parking Lot	797369	74.5062	0.0105	2.1700e-003	75.4151
Retirement Community	903368	84.4108	0.0119	2.4600e-003	85.4405
Strip Mall	3.207e+006	299.6622	0.0422	8.7300e-003	303.3178
Total		**906.4520**	**0.1276**	**0.0264**	**917.5098**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	8.9244	0.8014	8.8117	4.9400e-003		0.1042	0.1042		0.1042	0.1042	0.0000	828.4515	828.4515	0.0289	0.0149	833.6241
Unmitigated	8.9244	0.8014	8.8117	4.9400e-003		0.1042	0.1042		0.1042	0.1042	0.0000	828.4515	828.4515	0.0289	0.0149	833.6241

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.8661					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.7213					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0823	0.7033	0.2993	4.4900e-003		0.0569	0.0569		0.0569	0.0569	0.0000	814.5087	814.5087	0.0156	0.0149	819.3489
Landscaping	0.2548	0.0981	8.5124	4.5000e-004		0.0473	0.0473		0.0473	0.0473	0.0000	13.9429	13.9429	0.0133	0.0000	14.2752
Total	**8.9244**	**0.8014**	**8.8117**	**4.9400e-003**		**0.1042**	**0.1042**		**0.1042**	**0.1042**	**0.0000**	**828.4515**	**828.4515**	**0.0289**	**0.0149**	**833.6241**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.8661					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.7213					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0823	0.7033	0.2993	4.4900e-003		0.0569	0.0569		0.0569	0.0569	0.0000	814.5087	814.5087	0.0156	0.0149	819.3489
Landscaping	0.2548	0.0981	8.5124	4.5000e-004		0.0473	0.0473		0.0473	0.0473	0.0000	13.9429	13.9429	0.0133	0.0000	14.2752
Total	**8.9244**	**0.8014**	**8.8117**	**4.9400e-003**		**0.1042**	**0.1042**		**0.1042**	**0.1042**	**0.0000**	**828.4515**	**828.4515**	**0.0289**	**0.0149**	**833.6241**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	115.6757	0.1297	0.0771	141.8829
Unmitigated	115.6757	0.1297	0.0771	141.8829

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 37.77	12.3523	1.7400e-003	3.6000e-004	12.5030
Condo/Townhouse	61.8963 / 39.0216	65.9557	0.0816	0.0489	82.5692
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	12.9657 / 8.174	13.8160	0.0171	0.0102	17.2961
Strip Mall	22.2218 / 13.6198	23.5517	0.0293	0.0176	29.5147
Total		**115.6757**	**0.1297**	**0.0771**	**141.8829**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 37.77	12.3523	1.7400e-003	3.6000e-004	12.5030
Condo/Townhouse	61.8963 / 39.0216	65.9557	0.0816	0.0489	82.5692
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	12.9657 / 8.174	13.8160	0.0171	0.0102	17.2961
Strip Mall	22.2218 / 13.6198	23.5517	0.0293	0.0176	29.5147
Total		**115.6757**	**0.1297**	**0.0771**	**141.8829**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	171.7852	10.1522	0.0000	425.5905
Unmitigated	171.7852	10.1522	0.0000	425.5905

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	2.73	0.5542	0.0328	0.0000	1.3729
Condo/Townhouse	437	88.7071	5.2424	0.0000	219.7680
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	91.54	18.5818	1.0982	0.0000	46.0356
Strip Mall	315	63.9422	3.7789	0.0000	158.4140
Total		**171.7852**	**10.1522**	**0.0000**	**425.5905**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	2.73	0.5542	0.0328	0.0000	1.3729
Condo/Townhouse	437	88.7071	5.2424	0.0000	219.7680
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	91.54	18.5818	1.0982	0.0000	46.0356

Strip Mall	315	63.9422	3.7789	0.0000	158.4140
Total		**171.7852**	**10.1522**	**0.0000**	**425.5905**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Greentree Vacaville Operations

Solano-Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	52.30	Acre	52.30	2,278,197.00	0
City Park	31.70	Acre	31.70	196,020.80	0
Condo/Townhouse	950.00	Dwelling Unit	35.20	1,140,000.00	2717
Retirement Community	199.00	Dwelling Unit	19.90	238,800.00	569
Strip Mall	300.00	1000sqft	6.90	300,000.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 6.8 **Precipitation Freq (Days)** 56

Climate Zone 4 **Operational Year** 2032

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr) 206 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Latest reported intensity rate (2018)

Land Use - Estimated using Table 2 in Report, Park acresge = 4.5 and 4,000 sf building

Construction Phase - Not Used. Ops run only

Off-road Equipment - Ops run

Off-road Equipment - Ops run

Off-road Equipment - Ops Run

Off-road Equipment - Ops run

Off-road Equipment - Ops run

Off-road Equipment - OPs Run

Off-road Equipment - Added trenching equipment

Trips and VMT - OPs run... no construction emissions

On-road Fugitive Dust - Adjusted trip off-road travel to 0.1 mi or 10% of on and near site travel

Grading - OPs run

Architectural Coating - Ops Run

Vehicle Trips - From VMT provided by Gwen Owens, City of Vacaville May 24, 2021. See Trips_VMT_V3.xlsx for caculations

Vehicle Emission Factors - From EMFAC2021, Year 2032

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust - Assume only 100% of roads are paved. Silt loading from CARB Major/Collector Roadtype 0.032

Woodstoves - Assume all fireplaces are NG, # from CalEEMod Default

Consumer Products -

Area Coating - Per Land Use Calcs used for construction analysis (Land Use Calcs from Construction.xlsx)

Energy Use -

Water And Wastewater - Assume 100% WWTP

Construction Off-road Equipment Mitigation - Ops analysis, no construction

Area Mitigation - Low VOC paint defined as 50 g/L VOC per SCAQMD Rule 113; Assume same 50% reduction for Parking paint

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	456,000.00	0.00
tblArchitecturalCoating	ConstArea_Parking	136,692.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	930,690.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	2,792,070.00	0.00
tblAreaCoating	Area_Parking	136692	2278197
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	50
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True

tblAreaMitigation	UseLowVOCPaintParkingValue	150	75
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	100	50
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	100	50
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	FireplaceWoodMass	4,558.40	0.00
tblFireplaces	NumberGas	522.50	855.00
tblFireplaces	NumberGas	109.45	179.10
tblFireplaces	NumberWood	332.50	0.00
tblFireplaces	NumberWood	69.65	0.00
tblFleetMix	HHD	0.05	0.05
tblFleetMix	HHD	0.05	0.05
tblFleetMix	HHD	0.05	0.05
tblFleetMix	HHD	0.05	0.05
tblFleetMix	HHD	0.05	0.05
tblFleetMix	LDA	0.61	0.52
tblFleetMix	LDA	0.61	0.52
tblFleetMix	LDA	0.61	0.52
tblFleetMix	LDA	0.61	0.52
tblFleetMix	LDA	0.61	0.52
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT2	0.18	0.21
tblFleetMix	LDT2	0.18	0.21
tblFleetMix	LDT2	0.18	0.21
tblFleetMix	LDT2	0.18	0.21
tblFleetMix	LDT2	0.18	0.21
tblFleetMix	LHD1	0.01	0.03

tblFleetMix	LHD1	0.01	0.03
tblFleetMix	LHD1	0.01	0.03
tblFleetMix	LHD1	0.01	0.03
tblFleetMix	LHD1	0.01	0.03
tblFleetMix	LHD2	4.6650e-003	7.2210e-003
tblFleetMix	LHD2	4.6650e-003	7.2210e-003
tblFleetMix	LHD2	4.6650e-003	7.2210e-003
tblFleetMix	LHD2	4.6650e-003	7.2210e-003
tblFleetMix	LHD2	4.6650e-003	7.2210e-003
tblFleetMix	MCY	5.6260e-003	3.4320e-003
tblFleetMix	MCY	5.6260e-003	3.4320e-003
tblFleetMix	MCY	5.6260e-003	3.4320e-003
tblFleetMix	MCY	5.6260e-003	3.4320e-003
tblFleetMix	MCY	5.6260e-003	3.4320e-003
tblFleetMix	MDV	0.10	0.13
tblFleetMix	MDV	0.10	0.13
tblFleetMix	MDV	0.10	0.13
tblFleetMix	MDV	0.10	0.13
tblFleetMix	MDV	0.10	0.13
tblFleetMix	MH	6.5100e-004	8.0300e-004
tblFleetMix	MH	6.5100e-004	8.0300e-004
tblFleetMix	MH	6.5100e-004	8.0300e-004
tblFleetMix	MH	6.5100e-004	8.0300e-004
tblFleetMix	MH	6.5100e-004	8.0300e-004
tblFleetMix	MHD	9.2020e-003	0.01
tblFleetMix	MHD	9.2020e-003	0.01
tblFleetMix	MHD	9.2020e-003	0.01
tblFleetMix	MHD	9.2020e-003	0.01
tblFleetMix	MHD	9.2020e-003	0.01
tblFleetMix	OBUS	3.2560e-003	1.3680e-003

tblFleetMix	OBUS	3.2560e-003	1.3680e-003
tblFleetMix	OBUS	3.2560e-003	1.3680e-003
tblFleetMix	OBUS	3.2560e-003	1.3680e-003
tblFleetMix	OBUS	3.2560e-003	1.3680e-003
tblFleetMix	SBUS	6.1800e-004	6.6300e-004
tblFleetMix	SBUS	6.1800e-004	6.6300e-004
tblFleetMix	SBUS	6.1800e-004	6.6300e-004
tblFleetMix	SBUS	6.1800e-004	6.6300e-004
tblFleetMix	SBUS	6.1800e-004	6.6300e-004
tblFleetMix	UBUS	1.6670e-003	1.0150e-003
tblFleetMix	UBUS	1.6670e-003	1.0150e-003
tblFleetMix	UBUS	1.6670e-003	1.0150e-003
tblFleetMix	UBUS	1.6670e-003	1.0150e-003
tblFleetMix	UBUS	1.6670e-003	1.0150e-003
tblLandUse	LandUseSquareFeet	2,278,188.00	2,278,197.00
tblLandUse	LandUseSquareFeet	1,380,852.00	196,020.80
tblLandUse	LandUseSquareFeet	950,000.00	1,140,000.00
tblLandUse	LandUseSquareFeet	199,000.00	238,800.00
tblLandUse	LotAcreage	59.38	35.20
tblLandUse	LotAcreage	39.80	19.90
tblLandUse	LotAcreage	6.89	6.90
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	206

tblRoadDust	RoadPercentPave	94	100
tblRoadDust	RoadSiltLoading	0.1	0
tblTripsAndVMT	VendorTripNumber	578.00	0.00
tblTripsAndVMT	WorkerTripNumber	1,962.00	0.00
tblTripsAndVMT	WorkerTripNumber	392.00	0.00
tblVehicleEF	HHD	0.53	0.10
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	0.06	0.00
tblVehicleEF	HHD	1.79	5.61
tblVehicleEF	HHD	0.65	0.20
tblVehicleEF	HHD	1.98	3.2900e-004
tblVehicleEF	HHD	5,260.87	771.49
tblVehicleEF	HHD	1,460.28	1,286.77
tblVehicleEF	HHD	5.96	2.6610e-003
tblVehicleEF	HHD	14.89	4.39
tblVehicleEF	HHD	1.42	1.32
tblVehicleEF	HHD	20.06	2.48
tblVehicleEF	HHD	2.3500e-003	1.7550e-003
tblVehicleEF	HHD	0.06	0.08
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	5.3960e-003	0.03
tblVehicleEF	HHD	6.7000e-005	0.00
tblVehicleEF	HHD	2.2480e-003	1.6750e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.9210e-003	8.9300e-003
tblVehicleEF	HHD	5.1630e-003	0.03
tblVehicleEF	HHD	6.2000e-005	0.00
tblVehicleEF	HHD	5.2000e-005	3.0000e-006
tblVehicleEF	HHD	2.3370e-003	1.0000e-006
tblVehicleEF	HHD	0.48	0.37

tblVehicleEF	HHD	3.2000e-005	3.0000e-006
tblVehicleEF	HHD	0.08	0.01
tblVehicleEF	HHD	1.8800e-004	7.0000e-006
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	HHD	0.05	7.0310e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	9.2000e-005	0.00
tblVehicleEF	HHD	5.2000e-005	3.0000e-006
tblVehicleEF	HHD	2.3370e-003	1.0000e-006
tblVehicleEF	HHD	0.55	0.50
tblVehicleEF	HHD	3.2000e-005	3.0000e-006
tblVehicleEF	HHD	0.10	0.03
tblVehicleEF	HHD	1.8800e-004	7.0000e-006
tblVehicleEF	HHD	0.04	0.00
tblVehicleEF	LDA	1.7830e-003	1.2390e-003
tblVehicleEF	LDA	1.9150e-003	0.05
tblVehicleEF	LDA	0.29	0.46
tblVehicleEF	LDA	0.59	2.14
tblVehicleEF	LDA	185.07	224.11
tblVehicleEF	LDA	40.33	56.81
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.19
tblVehicleEF	LDA	0.04	5.4150e-003
tblVehicleEF	LDA	1.0410e-003	7.5700e-004
tblVehicleEF	LDA	1.6340e-003	1.4170e-003
tblVehicleEF	LDA	0.02	1.8950e-003
tblVehicleEF	LDA	9.5800e-004	6.9600e-004
tblVehicleEF	LDA	1.5030e-003	1.3030e-003
tblVehicleEF	LDA	0.02	0.28
tblVehicleEF	LDA	0.06	0.07

tblVehicleEF	LDA	0.02	0.28
tblVehicleEF	LDA	4.4620e-003	4.1970e-003
tblVehicleEF	LDA	0.03	0.21
tblVehicleEF	LDA	0.03	0.20
tblVehicleEF	LDA	1.8510e-003	2.2150e-003
tblVehicleEF	LDA	4.1300e-004	5.6200e-004
tblVehicleEF	LDA	0.02	0.28
tblVehicleEF	LDA	0.06	0.07
tblVehicleEF	LDA	0.02	0.28
tblVehicleEF	LDA	6.4930e-003	6.1210e-003
tblVehicleEF	LDA	0.03	0.21
tblVehicleEF	LDA	0.03	0.22
tblVehicleEF	LDT1	3.1920e-003	2.5920e-003
tblVehicleEF	LDT1	4.4160e-003	0.07
tblVehicleEF	LDT1	0.44	0.74
tblVehicleEF	LDT1	1.08	3.58
tblVehicleEF	LDT1	237.78	295.33
tblVehicleEF	LDT1	52.50	76.34
tblVehicleEF	LDT1	0.04	0.05
tblVehicleEF	LDT1	0.05	0.29
tblVehicleEF	LDT1	0.04	6.8010e-003
tblVehicleEF	LDT1	1.3140e-003	1.0850e-003
tblVehicleEF	LDT1	2.0310e-003	2.0780e-003
tblVehicleEF	LDT1	0.02	2.3800e-003
tblVehicleEF	LDT1	1.2080e-003	9.9800e-004
tblVehicleEF	LDT1	1.8670e-003	1.9110e-003
tblVehicleEF	LDT1	0.05	0.56
tblVehicleEF	LDT1	0.12	0.14
tblVehicleEF	LDT1	0.04	0.56
tblVehicleEF	LDT1	7.9110e-003	0.01

tblVehicleEF	LDT1	0.08	0.41
tblVehicleEF	LDT1	0.06	0.36
tblVehicleEF	LDT1	2.3810e-003	2.9200e-003
tblVehicleEF	LDT1	5.4300e-004	7.5500e-004
tblVehicleEF	LDT1	0.05	0.56
tblVehicleEF	LDT1	0.12	0.14
tblVehicleEF	LDT1	0.04	0.56
tblVehicleEF	LDT1	0.01	0.02
tblVehicleEF	LDT1	0.08	0.41
tblVehicleEF	LDT1	0.07	0.39
tblVehicleEF	LDT2	2.6890e-003	1.6180e-003
tblVehicleEF	LDT2	2.7820e-003	0.06
tblVehicleEF	LDT2	0.42	0.55
tblVehicleEF	LDT2	0.82	2.68
tblVehicleEF	LDT2	269.14	301.79
tblVehicleEF	LDT2	58.54	75.72
tblVehicleEF	LDT2	0.04	0.03
tblVehicleEF	LDT2	0.04	0.25
tblVehicleEF	LDT2	0.04	6.5540e-003
tblVehicleEF	LDT2	1.1960e-003	8.4300e-004
tblVehicleEF	LDT2	1.8340e-003	1.5080e-003
tblVehicleEF	LDT2	0.02	2.2940e-003
tblVehicleEF	LDT2	1.1000e-003	7.7500e-004
tblVehicleEF	LDT2	1.6860e-003	1.3860e-003
tblVehicleEF	LDT2	0.03	0.28
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.02	0.28
tblVehicleEF	LDT2	6.6780e-003	5.5920e-003
tblVehicleEF	LDT2	0.05	0.21
tblVehicleEF	LDT2	0.04	0.26

tblVehicleEF	LDT2	2.6930e-003	2.9830e-003
tblVehicleEF	LDT2	5.9800e-004	7.4900e-004
tblVehicleEF	LDT2	0.03	0.28
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.02	0.28
tblVehicleEF	LDT2	9.7360e-003	8.1490e-003
tblVehicleEF	LDT2	0.05	0.21
tblVehicleEF	LDT2	0.04	0.28
tblVehicleEF	LHD1	3.6420e-003	3.9460e-003
tblVehicleEF	LHD1	8.4020e-003	4.7160e-003
tblVehicleEF	LHD1	9.9250e-003	0.02
tblVehicleEF	LHD1	0.13	0.17
tblVehicleEF	LHD1	0.64	0.55
tblVehicleEF	LHD1	1.51	1.77
tblVehicleEF	LHD1	9.12	8.06
tblVehicleEF	LHD1	635.98	646.73
tblVehicleEF	LHD1	24.47	13.97
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.80	0.51
tblVehicleEF	LHD1	0.63	0.30
tblVehicleEF	LHD1	8.6900e-004	8.1100e-004
tblVehicleEF	LHD1	0.08	0.07
tblVehicleEF	LHD1	0.01	9.5250e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	6.0200e-004	1.3100e-004
tblVehicleEF	LHD1	8.3200e-004	7.7500e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.6300e-003	2.3810e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	5.5300e-004	1.2000e-004

tblVehicleEF	LHD1	1.8210e-003	0.09
tblVehicleEF	LHD1	0.08	0.02
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	9.8600e-004	0.09
tblVehicleEF	LHD1	0.11	0.07
tblVehicleEF	LHD1	0.25	0.13
tblVehicleEF	LHD1	0.13	0.07
tblVehicleEF	LHD1	9.0000e-005	7.8000e-005
tblVehicleEF	LHD1	6.2050e-003	6.2960e-003
tblVehicleEF	LHD1	2.7200e-004	1.3800e-004
tblVehicleEF	LHD1	1.8210e-003	0.09
tblVehicleEF	LHD1	0.08	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	9.8600e-004	0.09
tblVehicleEF	LHD1	0.12	0.08
tblVehicleEF	LHD1	0.25	0.13
tblVehicleEF	LHD1	0.15	0.08
tblVehicleEF	LHD2	2.4360e-003	2.2380e-003
tblVehicleEF	LHD2	5.1380e-003	4.9320e-003
tblVehicleEF	LHD2	2.9110e-003	7.5280e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.46	0.40
tblVehicleEF	LHD2	0.85	0.92
tblVehicleEF	LHD2	13.65	14.12
tblVehicleEF	LHD2	672.64	702.91
tblVehicleEF	LHD2	21.34	7.16
tblVehicleEF	LHD2	0.07	0.10
tblVehicleEF	LHD2	0.24	0.64
tblVehicleEF	LHD2	0.25	0.15
tblVehicleEF	LHD2	1.0240e-003	1.5510e-003

tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.3830e-003	0.02
tblVehicleEF	LHD2	3.6000e-004	4.3000e-005
tblVehicleEF	LHD2	9.7900e-004	1.4830e-003
tblVehicleEF	LHD2	0.04	0.03
tblVehicleEF	LHD2	2.7110e-003	2.6570e-003
tblVehicleEF	LHD2	8.9540e-003	0.02
tblVehicleEF	LHD2	3.3100e-004	3.9000e-005
tblVehicleEF	LHD2	5.0600e-004	0.05
tblVehicleEF	LHD2	0.02	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.0600e-004	0.05
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.06
tblVehicleEF	LHD2	0.04	0.03
tblVehicleEF	LHD2	1.3300e-004	1.3500e-004
tblVehicleEF	LHD2	6.5340e-003	6.7480e-003
tblVehicleEF	LHD2	2.2800e-004	7.1000e-005
tblVehicleEF	LHD2	5.0600e-004	0.05
tblVehicleEF	LHD2	0.02	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.0600e-004	0.05
tblVehicleEF	LHD2	0.11	0.11
tblVehicleEF	LHD2	0.03	0.06
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	MCY	0.49	0.15
tblVehicleEF	MCY	0.16	0.18
tblVehicleEF	MCY	19.62	11.92
tblVehicleEF	MCY	10.45	8.29

tblVehicleEF	MCY	183.65	188.49
tblVehicleEF	MCY	43.23	47.02
tblVehicleEF	MCY	1.17	0.56
tblVehicleEF	MCY	0.32	0.12
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	2.3110e-003	1.8670e-003
tblVehicleEF	MCY	3.1380e-003	3.1250e-003
tblVehicleEF	MCY	5.0400e-003	4.2000e-003
tblVehicleEF	MCY	2.1560e-003	1.7440e-003
tblVehicleEF	MCY	2.9330e-003	2.9250e-003
tblVehicleEF	MCY	0.96	4.82
tblVehicleEF	MCY	0.67	3.58
tblVehicleEF	MCY	0.49	4.82
tblVehicleEF	MCY	2.31	0.98
tblVehicleEF	MCY	0.38	3.95
tblVehicleEF	MCY	2.14	1.29
tblVehicleEF	MCY	2.2260e-003	1.8630e-003
tblVehicleEF	MCY	6.6600e-004	4.6500e-004
tblVehicleEF	MCY	0.96	0.12
tblVehicleEF	MCY	0.67	3.58
tblVehicleEF	MCY	0.49	0.12
tblVehicleEF	MCY	2.89	1.19
tblVehicleEF	MCY	0.38	3.95
tblVehicleEF	MCY	2.33	1.40
tblVehicleEF	MDV	4.2530e-003	1.9190e-003
tblVehicleEF	MDV	7.2330e-003	0.07
tblVehicleEF	MDV	0.54	0.60
tblVehicleEF	MDV	1.51	2.97
tblVehicleEF	MDV	363.65	364.06
tblVehicleEF	MDV	80.29	92.26

tblVehicleEF	MDV	0.06	0.05
tblVehicleEF	MDV	0.11	0.30
tblVehicleEF	MDV	0.04	6.6440e-003
tblVehicleEF	MDV	1.2420e-003	8.6600e-004
tblVehicleEF	MDV	1.9290e-003	1.6000e-003
tblVehicleEF	MDV	0.02	2.3250e-003
tblVehicleEF	MDV	1.1430e-003	7.9800e-004
tblVehicleEF	MDV	1.7740e-003	1.4710e-003
tblVehicleEF	MDV	0.06	0.38
tblVehicleEF	MDV	0.14	0.09
tblVehicleEF	MDV	0.05	0.38
tblVehicleEF	MDV	0.01	7.2150e-003
tblVehicleEF	MDV	0.09	0.28
tblVehicleEF	MDV	0.10	0.33
tblVehicleEF	MDV	3.6350e-003	3.5970e-003
tblVehicleEF	MDV	8.2800e-004	9.1200e-004
tblVehicleEF	MDV	0.06	0.38
tblVehicleEF	MDV	0.14	0.09
tblVehicleEF	MDV	0.05	0.38
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	0.09	0.28
tblVehicleEF	MDV	0.11	0.36
tblVehicleEF	MH	8.8630e-003	6.1670e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.49	0.38
tblVehicleEF	MH	3.82	1.84
tblVehicleEF	MH	1,189.75	1,651.59
tblVehicleEF	MH	57.22	19.85
tblVehicleEF	MH	0.91	1.47
tblVehicleEF	MH	0.66	0.35

tblVehicleEF	MH	0.13	0.04
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.01	0.03
tblVehicleEF	MH	8.2700e-004	2.0700e-004
tblVehicleEF	MH	0.06	0.02
tblVehicleEF	MH	3.2190e-003	3.3420e-003
tblVehicleEF	MH	0.01	0.03
tblVehicleEF	MH	7.6100e-004	1.9000e-004
tblVehicleEF	MH	0.52	24.19
tblVehicleEF	MH	0.04	5.34
tblVehicleEF	MH	0.21	24.19
tblVehicleEF	MH	0.04	0.06
tblVehicleEF	MH	0.01	0.13
tblVehicleEF	MH	0.23	0.09
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	6.3900e-004	1.9600e-004
tblVehicleEF	MH	0.52	24.19
tblVehicleEF	MH	0.04	5.34
tblVehicleEF	MH	0.21	24.19
tblVehicleEF	MH	0.05	0.07
tblVehicleEF	MH	0.01	0.13
tblVehicleEF	MH	0.25	0.10
tblVehicleEF	MHD	0.02	0.01
tblVehicleEF	MHD	3.0630e-003	8.0670e-003
tblVehicleEF	MHD	0.03	5.9480e-003
tblVehicleEF	MHD	0.41	0.61
tblVehicleEF	MHD	0.26	0.14
tblVehicleEF	MHD	4.16	0.61
tblVehicleEF	MHD	113.56	141.07
tblVehicleEF	MHD	1,173.77	1,000.74

tblVehicleEF	MHD	67.80	5.93
tblVehicleEF	MHD	0.29	0.73
tblVehicleEF	MHD	0.99	0.49
tblVehicleEF	MHD	8.44	1.13
tblVehicleEF	MHD	4.6000e-005	4.9300e-004
tblVehicleEF	MHD	0.13	0.04
tblVehicleEF	MHD	2.9390e-003	4.2440e-003
tblVehicleEF	MHD	9.2100e-004	6.8000e-005
tblVehicleEF	MHD	4.4000e-005	4.7100e-004
tblVehicleEF	MHD	0.06	0.01
tblVehicleEF	MHD	2.8010e-003	4.0520e-003
tblVehicleEF	MHD	8.4700e-004	6.3000e-005
tblVehicleEF	MHD	7.7500e-004	0.02
tblVehicleEF	MHD	0.04	3.1720e-003
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	4.6400e-004	0.02
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.26	0.03
tblVehicleEF	MHD	1.0980e-003	1.3010e-003
tblVehicleEF	MHD	0.01	9.4920e-003
tblVehicleEF	MHD	7.5100e-004	5.9000e-005
tblVehicleEF	MHD	7.7500e-004	0.02
tblVehicleEF	MHD	0.04	3.1720e-003
tblVehicleEF	MHD	0.04	0.04
tblVehicleEF	MHD	4.6400e-004	0.02
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.29	0.03
tblVehicleEF	OBUS	0.01	0.01

tblVehicleEF	OBUS	3.7190e-003	0.01
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.25	0.98
tblVehicleEF	OBUS	0.31	0.38
tblVehicleEF	OBUS	3.81	1.70
tblVehicleEF	OBUS	195.26	148.64
tblVehicleEF	OBUS	1,283.27	1,440.57
tblVehicleEF	OBUS	58.61	14.40
tblVehicleEF	OBUS	0.47	0.53
tblVehicleEF	OBUS	0.99	1.09
tblVehicleEF	OBUS	4.52	0.92
tblVehicleEF	OBUS	4.3000e-005	4.5500e-004
tblVehicleEF	OBUS	0.13	0.06
tblVehicleEF	OBUS	3.1210e-003	0.02
tblVehicleEF	OBUS	8.5600e-004	1.3000e-004
tblVehicleEF	OBUS	4.1000e-005	4.3600e-004
tblVehicleEF	OBUS	0.06	0.02
tblVehicleEF	OBUS	2.9700e-003	0.02
tblVehicleEF	OBUS	7.8700e-004	1.1900e-004
tblVehicleEF	OBUS	1.1360e-003	0.10
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.04	0.07
tblVehicleEF	OBUS	5.2800e-004	0.10
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	0.02	0.11
tblVehicleEF	OBUS	0.24	0.09
tblVehicleEF	OBUS	1.8730e-003	1.4030e-003
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.5300e-004	1.4200e-004
tblVehicleEF	OBUS	1.1360e-003	0.10

tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.05	0.09
tblVehicleEF	OBUS	5.2800e-004	0.10
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	0.02	0.11
tblVehicleEF	OBUS	0.26	0.09
tblVehicleEF	SBUS	0.82	0.04
tblVehicleEF	SBUS	5.1070e-003	0.07
tblVehicleEF	SBUS	0.05	1.9890e-003
tblVehicleEF	SBUS	8.77	0.90
tblVehicleEF	SBUS	0.33	0.46
tblVehicleEF	SBUS	6.93	0.24
tblVehicleEF	SBUS	1,018.66	151.68
tblVehicleEF	SBUS	975.22	918.23
tblVehicleEF	SBUS	60.71	1.40
tblVehicleEF	SBUS	3.63	1.09
tblVehicleEF	SBUS	1.28	1.69
tblVehicleEF	SBUS	10.83	0.47
tblVehicleEF	SBUS	1.3650e-003	7.4300e-004
tblVehicleEF	SBUS	0.74	0.04
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.0020e-003	0.01
tblVehicleEF	SBUS	1.1210e-003	1.7000e-005
tblVehicleEF	SBUS	1.3060e-003	7.1000e-004
tblVehicleEF	SBUS	0.32	0.01
tblVehicleEF	SBUS	2.5420e-003	2.7540e-003
tblVehicleEF	SBUS	5.7190e-003	9.9050e-003
tblVehicleEF	SBUS	1.0300e-003	1.5000e-005
tblVehicleEF	SBUS	3.7740e-003	0.02
tblVehicleEF	SBUS	0.03	3.3020e-003

tblVehicleEF	SBUS	1.04	0.08
tblVehicleEF	SBUS	1.7970e-003	0.02
tblVehicleEF	SBUS	0.05	0.04
tblVehicleEF	SBUS	0.02	0.01
tblVehicleEF	SBUS	0.36	0.01
tblVehicleEF	SBUS	0.01	1.3630e-003
tblVehicleEF	SBUS	9.4360e-003	8.4980e-003
tblVehicleEF	SBUS	7.2700e-004	1.4000e-005
tblVehicleEF	SBUS	3.7740e-003	0.02
tblVehicleEF	SBUS	0.03	3.3020e-003
tblVehicleEF	SBUS	1.51	0.14
tblVehicleEF	SBUS	1.7970e-003	0.02
tblVehicleEF	SBUS	0.06	0.11
tblVehicleEF	SBUS	0.02	0.01
tblVehicleEF	SBUS	0.40	0.01
tblVehicleEF	UBUS	0.52	1.14
tblVehicleEF	UBUS	0.06	0.02
tblVehicleEF	UBUS	3.57	12.57
tblVehicleEF	UBUS	9.56	1.74
tblVehicleEF	UBUS	1,852.49	1,009.43
tblVehicleEF	UBUS	143.35	15.11
tblVehicleEF	UBUS	2.80	0.18
tblVehicleEF	UBUS	12.33	0.14
tblVehicleEF	UBUS	0.50	0.12
tblVehicleEF	UBUS	0.01	0.04
tblVehicleEF	UBUS	0.04	3.1830e-003
tblVehicleEF	UBUS	1.4440e-003	1.1300e-004
tblVehicleEF	UBUS	0.21	0.04
tblVehicleEF	UBUS	3.0000e-003	9.5120e-003
tblVehicleEF	UBUS	0.04	3.0390e-003

tblVehicleEF	UBUS	1.3270e-003	1.0400e-004
tblVehicleEF	UBUS	4.1740e-003	0.03
tblVehicleEF	UBUS	0.06	6.2250e-003
tblVehicleEF	UBUS	2.4160e-003	0.03
tblVehicleEF	UBUS	0.17	0.05
tblVehicleEF	UBUS	0.02	0.03
tblVehicleEF	UBUS	0.86	0.07
tblVehicleEF	UBUS	0.01	6.2570e-003
tblVehicleEF	UBUS	1.6100e-003	1.4900e-004
tblVehicleEF	UBUS	4.1740e-003	0.03
tblVehicleEF	UBUS	0.06	6.2250e-003
tblVehicleEF	UBUS	2.4160e-003	0.03
tblVehicleEF	UBUS	0.71	1.20
tblVehicleEF	UBUS	0.02	0.03
tblVehicleEF	UBUS	0.95	0.08
tblVehicleTrips	CC_TL	5.00	0.00
tblVehicleTrips	CC_TL	5.00	8.83
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	7.00	0.00
tblVehicleTrips	CNW_TL	7.00	8.83
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	10.00	0.00
tblVehicleTrips	CW_TL	10.00	8.83
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	HO_TL	0.00	1.00
tblVehicleTrips	HO_TL	7.00	11.17

tblVehicleTrips	HO_TL	7.00	9.85
tblVehicleTrips	HO_TTP	0.00	100.00
tblVehicleTrips	HS_TL	0.00	1.00
tblVehicleTrips	HS_TL	5.00	11.17
tblVehicleTrips	HS_TL	5.00	9.85
tblVehicleTrips	HW_TL	0.00	1.00
tblVehicleTrips	HW_TL	10.00	11.17
tblVehicleTrips	HW_TL	10.00	9.85
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	ST_TR	22.75	8.28
tblVehicleTrips	ST_TR	5.67	4.89
tblVehicleTrips	ST_TR	2.03	3.11
tblVehicleTrips	ST_TR	42.04	11.90
tblVehicleTrips	SU_TR	16.74	8.28
tblVehicleTrips	SU_TR	4.84	4.89
tblVehicleTrips	SU_TR	1.95	3.11
tblVehicleTrips	SU_TR	20.43	11.90
tblVehicleTrips	WD_TR	1.89	8.28
tblVehicleTrips	WD_TR	5.81	4.89
tblVehicleTrips	WD_TR	2.40	3.11
tblVehicleTrips	WD_TR	44.32	11.90
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00

tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	47.50	0.00
tblWoodstoves	NumberCatalytic	9.95	0.00
tblWoodstoves	NumberNoncatalytic	47.50	0.00
tblWoodstoves	NumberNoncatalytic	9.95	0.00
tblWoodstoves	WoodstoveWoodMass	4,558.40	0.00
tblWoodstoves	WoodstoveWoodMass	4,558.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

2027	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2028	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2029	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2031	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2032	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2033	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2034	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2035	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2036	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2037	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2038	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2039	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2040	0.0570	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2041	0.5399	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.5399**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

2027	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2028	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2029	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2031	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2032	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2033	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2034	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2035	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2036	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2037	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2038	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2039	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2040	0.0570	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2041	0.5399	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.5399**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
58	**4-1-2040**	**6-30-2040**	0.0162	0.0162
59	**7-1-2040**	**9-30-2040**	0.0205	0.0205
60	**10-1-2040**	**12-31-2040**	0.0205	0.0205
61	**1-1-2041**	**3-31-2041**	0.0783	0.0783

62	**4-1-2041**	**6-30-2041**	0.1561	0.1561
63	**7-1-2041**	**9-30-2041**	0.1578	0.1578
		Highest	0.1578	0.1578

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	8.9244	0.8014	8.8117	4.9400e-003		0.1042	0.1042		0.1042	0.1042	0.0000	828.4515	828.4515	0.0289	0.0149	833.6241
Energy	0.1107	0.9480	0.4178	6.0400e-003		0.0765	0.0765		0.0765	0.0765	0.0000	2,001.8739	2,001.8739	0.1486	0.0465	2,019.4412
Mobile	4.6524	6.8838	28.8518	0.1248	0.8176	0.1068	0.9245	0.2514	0.1010	0.3524	0.0000	11,647.1362	11,647.1362	0.3307	0.0000	11,655.4045
Waste						0.0000	0.0000		0.0000	0.0000	171.7852	0.0000	171.7852	10.1522	0.0000	425.5905
Water						0.0000	0.0000		0.0000	0.0000	34.3484	81.3273	115.6757	0.1297	0.0771	141.8829
Total	**13.6875**	**8.6332**	**38.0813**	**0.1358**	**0.8176**	**0.2875**	**1.1051**	**0.2514**	**0.2817**	**0.5331**	**206.1335**	**14,558.7888**	**14,764.9224**	**10.7901**	**0.1385**	**15,075.9432**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	7.9562	0.8014	8.8117	4.9400e-003		0.1042	0.1042		0.1042	0.1042	0.0000	828.4515	828.4515	0.0289	0.0149	833.6241
Energy	0.1107	0.9480	0.4178	6.0400e-003		0.0765	0.0765		0.0765	0.0765	0.0000	2,001.8739	2,001.8739	0.1486	0.0465	2,019.4412
Mobile	4.6524	6.8838	28.8518	0.1248	0.8176	0.1068	0.9245	0.2514	0.1010	0.3524	0.0000	11,647.1362	11,647.1362	0.3307	0.0000	11,655.4045

Waste						0.0000	0.0000		0.0000	0.0000	171.7852	0.0000	171.7852	10.1522	0.0000	425.5905
Water						0.0000	0.0000		0.0000	0.0000	34.3484	81.3273	115.6757	0.1297	0.0771	141.8829
Total	**12.7193**	**8.6332**	**38.0813**	**0.1358**	**0.8176**	**0.2875**	**1.1051**	**0.2514**	**0.2817**	**0.5331**	**206.1335**	**14,558.7888**	**14,764.9224**	**10.7901**	**0.1385**	**15,075.9432**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**7.07**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2026	10/7/2026	5	200	
2	Site Preparation	Site Preparation	10/8/2026	3/24/2027	5	120	
3	Grading	Grading	3/25/2027	5/31/2028	5	310	
4	Building Construction	Building Construction	6/1/2028	4/18/2040	5	3100	
5	Paving	Paving	4/19/2040	2/20/2041	5	220	
6	Architectural Coating	Architectural Coating	2/21/2041	12/25/2041	5	220	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 52.3

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 152,000; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Excavators	0	0.00	158	0.38
Demolition	Rubber Tired Dozers	0	0.00	247	0.40

Category	tons/yr										MT/yr					
Archit. Coating	0.5284					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.5284**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

Category	tons/yr										MT/yr					
Mitigated	4.6524	6.8838	28.8518	0.1248	0.8176	0.1068	0.9245	0.2514	0.1010	0.3524	0.0000	11,647.1362	11,647.1362	0.3307	0.0000	11,655.4045
Unmitigated	4.6524	6.8838	28.8518	0.1248	0.8176	0.1068	0.9245	0.2514	0.1010	0.3524	0.0000	11,647.1362	11,647.1362	0.3307	0.0000	11,655.4045

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	262.48	262.48	262.48	95,541	95,541
Condo/Townhouse	4,645.50	4,645.50	4645.50	18,888,046	18,888,046
Parking Lot	0.00	0.00	0.00		
Retirement Community	618.89	618.89	618.89	2,218,968	2,218,968
Strip Mall	3,570.00	3,570.00	3570.00	11,474,408	11,474,408
Total	9,096.87	9,096.87	9,096.87	32,676,963	32,676,963

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	0.00	0.00	0.00	0.00	0.00	0.00	100	0	0
Condo/Townhouse	11.17	11.17	11.17	46.00	13.00	41.00	100	0	0
Parking Lot	10.00	5.00	7.00	0.00	0.00	0.00	0	0	0
Retirement Community	9.85	9.85	9.85	46.00	13.00	41.00	100	0	0
Strip Mall	8.83	8.83	8.83	16.60	64.40	19.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.524739	0.029436	0.209441	0.128328	0.028193	0.007221	0.010435	0.054925	0.001368	0.001015	0.003432	0.000663	0.000803
Condo/Townhouse	0.524739	0.029436	0.209441	0.128328	0.028193	0.007221	0.010435	0.054925	0.001368	0.001015	0.003432	0.000663	0.000803
Parking Lot	0.524739	0.029436	0.209441	0.128328	0.028193	0.007221	0.010435	0.054925	0.001368	0.001015	0.003432	0.000663	0.000803
Retirement Community	0.524739	0.029436	0.209441	0.128328	0.028193	0.007221	0.010435	0.054925	0.001368	0.001015	0.003432	0.000663	0.000803
Strip Mall	0.524739	0.029436	0.209441	0.128328	0.028193	0.007221	0.010435	0.054925	0.001368	0.001015	0.003432	0.000663	0.000803

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	906.4520	906.4520	0.1276	0.0264	917.5098
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	906.4520	906.4520	0.1276	0.0264	917.5098
NaturalGas Mitigated	0.1107	0.9480	0.4178	6.0400e-003		0.0765	0.0765		0.0765	0.0765	0.0000	1,095.4219	1,095.4219	0.0210	0.0201	1,101.9314
NaturalGas Unmitigated	0.1107	0.9480	0.4178	6.0400e-003		0.0765	0.0765		0.0765	0.0765	0.0000	1,095.4219	1,095.4219	0.0210	0.0201	1,101.9314

5.2 Energy by Land Use - NaturalGas

<u>Unmitigated</u>

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.77869e+007	0.0959	0.8196	0.3488	5.2300e-003		0.0663	0.0663		0.0663	0.0663	0.0000	949.1746	949.1746	0.0182	0.0174	954.8150
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Retirement Community	2.02957e+006	0.0109	0.0935	0.0398	6.0000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	108.3057	108.3057	2.0800e-003	1.9900e-003	108.9493

Strip Mall	711000	3.8300e-003	0.0349	0.0293	2.1000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003	0.0000	37.9417	37.9417	7.3000e-004	7.0000e-004	38.1671
Total		**0.1107**	**0.9480**	**0.4178**	**6.0400e-003**		**0.0765**	**0.0765**		**0.0765**	**0.0765**	**0.0000**	**1,095.4219**	**1,095.4219**	**0.0210**	**0.0201**	**1,101.9314**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.77869e+007	0.0959	0.8196	0.3488	5.2300e-003		0.0663	0.0663		0.0663	0.0663	0.0000	949.1746	949.1746	0.0182	0.0174	954.8150
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Retirement Community	2.02957e+006	0.0109	0.0935	0.0398	6.0000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	108.3057	108.3057	2.0800e-003	1.9900e-003	108.9493
Strip Mall	711000	3.8300e-003	0.0349	0.0293	2.1000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003	0.0000	37.9417	37.9417	7.3000e-004	7.0000e-004	38.1671
Total		**0.1107**	**0.9480**	**0.4178**	**6.0400e-003**		**0.0765**	**0.0765**		**0.0765**	**0.0765**	**0.0000**	**1,095.4219**	**1,095.4219**	**0.0210**	**0.0201**	**1,101.9314**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	4.79316e+006	447.8729	0.0631	0.0130	453.3365
Parking Lot	797369	74.5062	0.0105	2.1700e-003	75.4151

Retirement Community	903368	84.4108	0.0119	2.4600e-003	85.4405
Strip Mall	3.207e+006	299.6622	0.0422	8.7300e-003	303.3178
Total		**906.4520**	**0.1276**	**0.0264**	**917.5098**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	4.79316e+006	447.8729	0.0631	0.0130	453.3365
Parking Lot	797369	74.5062	0.0105	2.1700e-003	75.4151
Retirement Community	903368	84.4108	0.0119	2.4600e-003	85.4405
Strip Mall	3.207e+006	299.6622	0.0422	8.7300e-003	303.3178
Total		**906.4520**	**0.1276**	**0.0264**	**917.5098**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Mitigated	7.9562	0.8014	8.8117	4.9400e-003		0.1042	0.1042		0.1042	0.1042	0.0000	828.4515	828.4515	0.0289	0.0149	833.6241
Unmitigated	8.9244	0.8014	8.8117	4.9400e-003		0.1042	0.1042		0.1042	0.1042	0.0000	828.4515	828.4515	0.0289	0.0149	833.6241

6.2 Area by SubCategory

Unmitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Architectural Coating	1.8661					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.7213					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0823	0.7033	0.2993	4.4900e-003		0.0569	0.0569		0.0569	0.0569	0.0000	814.5087	814.5087	0.0156	0.0149	819.3489
Landscaping	0.2548	0.0981	8.5124	4.5000e-004		0.0473	0.0473		0.0473	0.0473	0.0000	13.9429	13.9429	0.0133	0.0000	14.2752
Total	**8.9244**	**0.8014**	**8.8117**	**4.9400e-003**		**0.1042**	**0.1042**		**0.1042**	**0.1042**	**0.0000**	**828.4515**	**828.4515**	**0.0289**	**0.0149**	**833.6241**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.8978					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.7213					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0823	0.7033	0.2993	4.4900e-003		0.0569	0.0569		0.0569	0.0569	0.0000	814.5087	814.5087	0.0156	0.0149	819.3489
Landscaping	0.2548	0.0981	8.5124	4.5000e-004		0.0473	0.0473		0.0473	0.0473	0.0000	13.9429	13.9429	0.0133	0.0000	14.2752
Total	**7.9562**	**0.8014**	**8.8117**	**4.9400e-003**		**0.1042**	**0.1042**		**0.1042**	**0.1042**	**0.0000**	**828.4515**	**828.4515**	**0.0289**	**0.0149**	**833.6241**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	115.6757	0.1297	0.0771	141.8829
Unmitigated	115.6757	0.1297	0.0771	141.8829

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 37.77	12.3523	1.7400e-003	3.6000e-004	12.5030
Condo/Townhouse	61.8963 / 39.0216	65.9557	0.0816	0.0489	82.5692
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	12.9657 / 8.174	13.8160	0.0171	0.0102	17.2961
Strip Mall	22.2218 / 13.6198	23.5517	0.0293	0.0176	29.5147
Total		**115.6757**	**0.1297**	**0.0771**	**141.8829**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 37.77	12.3523	1.7400e-003	3.6000e-004	12.5030
Condo/Townhouse	61.8963 / 39.0216	65.9557	0.0816	0.0489	82.5692
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	12.9657 / 8.174	13.8160	0.0171	0.0102	17.2961
Strip Mall	22.2218 / 13.6198	23.5517	0.0293	0.0176	29.5147
Total		**115.6757**	**0.1297**	**0.0771**	**141.8829**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	171.7852	10.1522	0.0000	425.5905
Unmitigated	171.7852	10.1522	0.0000	425.5905

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	2.73	0.5542	0.0328	0.0000	1.3729
Condo/Townhouse	437	88.7071	5.2424	0.0000	219.7680
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	91.54	18.5818	1.0982	0.0000	46.0356
Strip Mall	315	63.9422	3.7789	0.0000	158.4140
Total		**171.7852**	**10.1522**	**0.0000**	**425.5905**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	2.73	0.5542	0.0328	0.0000	1.3729
Condo/Townhouse	437	88.7071	5.2424	0.0000	219.7680
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	91.54	18.5818	1.0982	0.0000	46.0356
Strip Mall	315	63.9422	3.7789	0.0000	158.4140
Total		**171.7852**	**10.1522**	**0.0000**	**425.5905**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

From: Gwen Owens
Sent: Monday, May 24, 2021 1:01 PM
To: James Reyff <JReyff@illingworthrodkin.com>
Cc: Dorothy Kam <Dorothy.Kam@cityofvacaville.com>
Subject: Greentree 2015 VMT

James,

Below the consultant provided the 2015 VMT. Please verify if that you need this information for Build Out – North East Area. Thanks

Gwen Owens
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Please see below requested table. The results are preliminary as we will have our QA/QC check early next week, but wanted to provide these to meet schedule requirements. The Trips are based on the trip generation per ITE Trip Generation Manual, 10th Ed., adjusted trips include internal capture and pass-by reductions per ITE as well. The VMT shown are the trip-based VMT outputs from the 2015 model for the project land uses, based on methodology consistent with the City's interim VMT guidelines for SB 743. Therefore, I've included a "VMT Trip Ends" column as well. The VMT and trip-ends also take into account internal-capture between the multi-family and commercial uses, based on ITE rates. The trip lengths are then calculated based on the resulting VMT and associated trips that were utilized to calculate the VMT. As a note, the trips associated with the VMT are based on the model, and not the ITE trip generation (shown below). For the shopping center, we've included both VMT results with and without pass-by trips, depending on what the Noise consultant needs.

Land Use	Size	Units	ITE Trips	ITE Trips Adjusted	VMT Trip Ends	VMT	Trip Length (mi)
Senior Adult Housing	199	DU	1,041	1,041	618	6,084	9.85
Multi-Family Residential 1-7	950	DU	7,141	5,927	4,650	51,946	11.17
Shopping Center	299.3	KSF	12,153	8,532	4,565	40,324	8.83
*Shopping Center with Pass-By Reduction for VMT**					3,561	31,453	8.83
Public Park	11.6	Acres	96	96		n/a	n/a
	*Assumes 22% of trips are pass-by trips already on the network (SANDAG).						

VMT for the Public Park was not evaluated as this is projected to be a locally-serving use that would not have a substantial effect on VMT. Additionally, the model land use inputs are limited with "public/quasi-public" as the potential use for parks, but could also include higher generating uses such as libraries, government buildings, or fire/police stations. The model also does not account for different modes, such as bike or walk trips to the park.

The above table VMT results are based on 2015 model runs with the project. Let us know if you'd like the BO-NE Area VMT results, as the resulting VMT was lower in BO-NE Area than 2015.

Attachment 3: Construction Health Risk Assessment Summary

Green Tree Construction Project (All Phases)

DPM Emissions and Modeling Emission Rates - With T4

Construction Year	Activity	Area Source	DPM Emissions (ton/year)	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2023	Construction	DPM_CONST_23	0.02400	48.0	0.03052	3.85E-03	45030.5	8.54E-08
2024	Construction	DPM_CONST_24	0.01067	21.3	0.00758	9.55E-04	45030.5	2.12E-08
2025	Construction	DPM_CONST_25	0.06183	123.7	0.04391	5.53E-03	305562.6	1.81E-08
2026	Construction	DPM_CONST_26	0.07291	145.8	0.05178	6.52E-03	515830.1	1.26E-08
2027	Construction	DPM_CONST_27	0.06647	132.9	0.04721	5.95E-03	434568.6	1.37E-08
2028	Construction	DPM_CONST_28	0.02788	55.8	0.01980	2.50E-03	233415.5	1.07E-08
2029	Construction	DPM_CONST_29	0.03923	78.5	0.02786	3.51E-03	127576.9	2.75E-08
2030	Construction	DPM_CONST_30	0.01687	33.7	0.01198	1.51E-03	127576.9	1.18E-08
2031	Construction	DPM_CONST_31	0.0179	35.9	0.0115	0.0015	50589.8	2.869E-08

Construction Hours

hr/day =	11	(7am - 6pm)
days/yr =	256	
hours/year =	2816	

Green Tree Construction Project (All Phases) , Vacaville - Construction Impacts - T4 Mitigation
MEI DPM Cancer Risk Calculations From Construction
Impacts at Off-Site Single Family Homes - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

		Infant/Child - Exposure Information				Infant/Child	Adult - Exposure Information			Adult	
	Exposure				Age	Cancer	Modeled		Age	Cancer	
Exposure	Duration		DPM Conc (ug/m3)		Sensitivity	Risk	DPM Conc (ug/m3)		Sensitivity	Risk	
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	
0	0.25	-0.25 - 0*	2023	0.0239	10	0.33					**HI**
1	1	0 - 1	2023	0.0239	10	3.93	2023	0.0239	1	0.07	0.005
2	1	1 - 2	2024	0.0059	10	0.98	2024	0.0059	1	0.02	0.001
3	1	2 - 3	2025	0.0010	3	0.02	2025	0.0010	1	0.00	0.000
4	1	3 - 4	2026	0.0084	3	0.22	2026	0.0084	1	0.02	0.002
5	1	4 - 5	2027	0.0033	3	0.09	2027	0.0033	1	0.01	0.001
6	1	5 - 6	2028	0.0018	3	0.05	2028	0.0018	1	0.01	0.000
7	1	6 - 7	2029	0.0112	3	0.29	2029	0.0112	1	0.03	0.002
8	1	7 - 8	2030	0.0048	3	0.12	2030	0.0048	1	0.01	0.001
9	1	8 - 9	2031	0.0009	3	0.02	2031	0.0009	1	0.00	0.000
10	1	9 - 10	2032	0.0000	3	0.00	2032	0.0000	1	0.00	
11	1	10 - 11	2033	0.0000	3	0.00	2033	0.0000	1	0.00	
12	1	11 - 12	2034	0.0000	3	0.00	2034	0.0000	1	0.00	
13	1	12 - 13	2035	0.0000	3	0.00	2035	0.0000	1	0.00	
14	1	13 - 14	2036	0.0000	3	0.00	2036	0.0000	1	0.00	
15	1	14 - 15	2037	0.0000	3	0.00	2037	0.0000	1	0.00	
16	1	15 - 16	2038	0.0000	3	0.00	2038	0.0000	1	0.00	
17	1	16-17	2039	0.0000	1	0.00	2039	0.0000	1	0.00	
18	1	17-18	2040	0.0000	1	0.00	2040	0.0000	1	0.00	
19	1	18-19	2041	0.0000	1	0.00	2041	0.0000	1	0.00	
20	1	19-20	2042	0.0000	1	0.00	2042	0.0000	1	0.00	
21	1	20-21	2043	0.0000	1	0.00	2043	0.0000	1	0.00	
22	1	21-22	2044	0.0000	1	0.00	2044	0.0000	1	0.00	
23	1	22-23	2045	0.0000	1	0.00	2045	0.0000	1	0.00	
24	1	23-24	2046	0.0000	1	0.00	2046	0.0000	1	0.00	
25	1	24-25	2047	0.0000	1	0.00	2047	0.0000	1	0.00	
26	1	25-26	2048	0.0000	1	0.00	2048	0.0000	1	0.00	
27	1	26-27	2049	0.0000	1	0.00	2049	0.0000	1	0.00	
28	1	27-28	2050	0.0000	1	0.00	2050	0.0000	1	0.00	
29	1	28-29	2051	0.0000	1	0.00	2051	0.0000	1	0.00	
30	1	29-30	2052	0.0000	1	0.00	2052	0.0000	1	0.00	
Total Increased Cancer Risk						**6.04**				**0.18**	

* Third trimester of pregnancy

Attachment 4: Operational Health Risk Calculations

calendar_y	season_mo	sub_area	vehicle_cla	fuel	temperatu	relative_hu	process	speed_tim	pollutant	emission_r
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	35	HC	0.019661
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	35	CO	0.256215
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	35	NOx	0.558857
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	35	SOx	0.004303
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	35	PM	0.015892
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	35	TOG	0.028345
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	35	ROG	0.024898
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	35	CO2	450.8618
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	35	CH4	0.001156
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	35	PM10	0.015796
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	35	PM2_5	0.015113
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	40	HC	0.016783
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	40	CO	0.219147
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	40	NOx	0.524834
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	40	SOx	0.004054
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	40	PM	0.015037
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	40	TOG	0.024196
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	40	ROG	0.021254
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	40	CO2	424.7834
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	40	CH4	0.000987
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	40	PM10	0.014947
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	40	PM2_5	0.0143
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	45	HC	0.014903
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	45	CO	0.19434
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	45	NOx	0.503961
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	45	SOx	0.003914
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	45	PM	0.014877
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	45	TOG	0.021486
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	45	ROG	0.018873
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	45	CO2	410.1159
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	45	CH4	0.000877
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	45	PM10	0.014788
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	45	PM2_5	0.014148
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	55	HC	0.013483
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	55	CO	0.171452
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	55	NOx	0.497723
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	55	SOx	0.004033
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	55	PM	0.0165
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	55	TOG	0.019438
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	55	ROG	0.017075
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	55	CO2	422.58
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	55	CH4	0.000793
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	55	PM10	0.016401
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	55	PM2_5	0.015691
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	60	HC	0.014
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	60	CO	0.176811
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	60	NOx	0.512735
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	60	SOx	0.004276
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	60	PM	0.018246
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	60	TOG	0.020184
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	60	ROG	0.01773
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	60	CO2	448.082
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	60	CH4	0.000824
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	60	PM10	0.018137
2024	Annual	Solano (SV)	NonTruck	Dsl	63	66	RUNEX	60	PM2_5	0.017352

2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	65	HC	0.015257
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	65	CO	0.194615
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	65	NOx	0.538847
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	65	SOx	0.004673
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	65	PM	0.020589
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	65	TOG	0.021996
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	65	ROG	0.019321
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	65	CO2	489.6617
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	65	CH4	0.000897
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	65	PM10	0.020465
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	65	PM2_5	0.01958
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	70	HC	0.016384
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	70	CO	0.207957
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	70	NOx	0.548119
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	70	SOx	0.004926
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	70	PM	0.022779
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	70	TOG	0.023621
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	70	ROG	0.020749
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	70	CO2	516.1787
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	70	CH4	0.000964
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	70	PM10	0.022642
2024	Annual	Solano (SV	NonTruck	Dsl	63	66	RUNEX	70	PM2_5	0.021662
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	35	HC	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	35	CO	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	35	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	35	SOx	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	35	PM	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	35	TOG	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	35	ROG	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	35	CO2	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	35	CH4	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	35	PM10	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	35	PM2_5	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	40	HC	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	40	CO	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	40	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	40	SOx	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	40	PM	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	40	TOG	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	40	ROG	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	40	CO2	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	40	CH4	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	40	PM10	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	40	PM2_5	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	45	HC	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	45	CO	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	45	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	45	SOx	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	45	PM	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	45	TOG	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	45	ROG	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	45	CO2	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	45	CH4	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	45	PM10	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	45	PM2_5	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	55	HC	0

2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	55	CO	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	55	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	55	SOx	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	55	PM	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	55	TOG	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	55	ROG	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	55	CO2	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	55	CH4	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	55	PM10	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	55	PM2_5	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	60	HC	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	60	CO	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	60	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	60	SOx	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	60	PM	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	60	TOG	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	60	ROG	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	60	CO2	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	60	CH4	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	60	PM10	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	60	PM2_5	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	65	HC	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	65	CO	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	65	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	65	SOx	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	65	PM	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	65	TOG	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	65	ROG	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	65	CO2	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	65	CH4	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	65	PM10	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	65	PM2_5	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	70	HC	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	70	CO	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	70	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	70	SOx	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	70	PM	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	70	TOG	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	70	ROG	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	70	CO2	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	70	CH4	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	70	PM10	0
2024	Annual	Solano (SV	NonTruck	Elec	63	66	RUNEX	70	PM2_5	0
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	35	HC	0.022829
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	35	CO	0.969276
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	35	NOx	0.059512
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	35	SOx	0.002975
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	35	PM	0.00149
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	35	TOG	0.024664
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	35	ROG	0.01815
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	35	CO2	296.5819
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	35	CH4	0.004545
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	35	PM10	0.001332
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	35	PM2_5	0.001225
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	40	HC	0.020022
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	40	CO	0.898994

2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	40	NOx	0.057147
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	40	SOx	0.00288
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	40	PM	0.001293
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	40	TOG	0.021631
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	40	ROG	0.015944
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	40	CO2	287.0979
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	40	CH4	0.004045
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	40	PM10	0.001156
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	40	PM2_5	0.001063
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	45	HC	0.018476
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	45	CO	0.838744
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	45	NOx	0.055817
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	45	SOx	0.002889
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	45	PM	0.001183
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	45	TOG	0.019959
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	45	ROG	0.014734
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	45	CO2	288.1093
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	45	CH4	0.003765
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	45	PM10	0.001058
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	45	PM2_5	0.000973
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	55	HC	0.018316
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	55	CO	0.745803
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	55	NOx	0.05604
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	55	SOx	0.003093
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	55	PM	0.001161
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	55	TOG	0.019785
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	55	ROG	0.014644
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	55	CO2	308.7554
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	55	CH4	0.003725
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	55	PM10	0.001038
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	55	PM2_5	0.000955
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	60	HC	0.01968
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	60	CO	0.713371
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	60	NOx	0.057621
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	60	SOx	0.003218
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	60	PM	0.001245
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	60	TOG	0.021257
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	60	ROG	0.01575
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	60	CO2	321.2815
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	60	CH4	0.00396
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	60	PM10	0.001114
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	60	PM2_5	0.001024
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	65	HC	0.02225
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	65	CO	0.691945
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	65	NOx	0.060301
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	65	SOx	0.003316
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	65	PM	0.001409
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	65	TOG	0.024032
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	65	ROG	0.01782
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	65	CO2	331.1014
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	65	CH4	0.004402
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	65	PM10	0.00126
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	65	PM2_5	0.001158
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	70	HC	0.024115
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	70	CO	0.68626
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	70	NOx	0.062106

2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	70	SOx	0.003346
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	70	PM	0.001528
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	70	TOG	0.026047
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	70	ROG	0.01932
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	70	CO2	334.153
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	70	CH4	0.00472
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	70	PM10	0.001367
2024	Annual	Solano (SV	NonTruck	Gas	63	66	RUNEX	70	PM2_5	0.001257
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	35	HC	1.499149
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	35	CO	11.34729
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	35	NOx	0.066711
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	35	PM	0.000184
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	35	TOG	1.496151
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	35	ROG	0.020946
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	35	CO2	690.022
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	35	CH4	1.465991
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	35	PM10	0.000174
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	35	PM2_5	0.000163
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	40	HC	1.443606
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	40	CO	10.92704
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	40	NOx	0.055271
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	40	PM	0.000145
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	40	TOG	1.440719
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	40	ROG	0.02017
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	40	CO2	582.686
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	40	CH4	1.411676
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	40	PM10	0.000137
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	40	PM2_5	0.000128
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	45	HC	1.399342
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	45	CO	10.58983
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	45	NOx	0.046921
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	45	PM	0.00012
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	45	TOG	1.396543
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	45	ROG	0.019552
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	45	CO2	503.008
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	45	CH4	1.368391
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	45	PM10	0.000113
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	45	PM2_5	0.000106
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	55	HC	1.392574
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	55	CO	10.54657
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	55	NOx	0.045745
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	55	PM	0.000117
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	55	TOG	1.389789
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	55	ROG	0.019457
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	55	CO2	496.5583
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	55	CH4	1.361773
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	55	PM10	0.000111
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	55	PM2_5	0.000104
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	60	HC	1.392574
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	60	CO	10.54657
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	60	NOx	0.045745
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	60	PM	0.000117
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	60	TOG	1.389789
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	60	ROG	0.019457
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	60	CO2	496.5583
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	60	CH4	1.361773

2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	60	PM10	0.000111
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	60	PM2_5	0.000104
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	65	HC	1.392574
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	65	CO	10.54657
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	65	NOx	0.045745
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	65	PM	0.000117
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	65	TOG	1.389789
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	65	ROG	0.019457
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	65	CO2	496.5583
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	65	CH4	1.361773
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	65	PM10	0.000111
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	65	PM2_5	0.000104
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	70	HC	1.392574
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	70	CO	10.54657
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	70	NOx	0.045745
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	70	PM	0.000117
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	70	TOG	1.389789
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	70	ROG	0.019457
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	70	CO2	496.5583
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	70	CH4	1.361773
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	70	PM10	0.000111
2024	Annual	Solano (SV	NonTruck	NG	63	66	RUNEX	70	PM2_5	0.000104
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	35	HC	0.002218
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	35	CO	0.228375
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	35	NOx	0.003334
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	35	SOx	0.001473
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	35	PM	0.000715
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	35	TOG	0.002401
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	35	ROG	0.001645
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	35	CO2	147.26
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	35	CH4	0.000692
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	35	PM10	0.000639
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	35	PM2_5	0.000588
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	40	HC	0.001924
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	40	CO	0.207191
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	40	NOx	0.003059
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	40	SOx	0.001376
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	40	PM	0.00062
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	40	TOG	0.002083
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	40	ROG	0.001428
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	40	CO2	137.6021
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	40	CH4	0.000612
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	40	PM10	0.000554
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	40	PM2_5	0.00051
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	45	HC	0.001698
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	45	CO	0.190144
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	45	NOx	0.002835
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	45	SOx	0.001296
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	45	PM	0.000567
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	45	TOG	0.001838
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	45	ROG	0.00126
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	45	CO2	129.6103
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	45	CH4	0.000549
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	45	PM10	0.000507
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	45	PM2_5	0.000466
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	55	HC	0.001372

2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	55	CO	0.164267
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	55	NOx	0.002491
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	55	SOx	0.001171
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	55	PM	0.000558
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	55	TOG	0.001485
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	55	ROG	0.001018
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	55	CO2	117.0489
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	55	CH4	0.000457
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	55	PM10	0.000499
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	55	PM2_5	0.000459
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	60	HC	0.00125
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	60	CO	0.154171
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	60	NOx	0.002355
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	60	SOx	0.00112
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	60	PM	0.000599
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	60	TOG	0.001354
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	60	ROG	0.000928
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	60	CO2	111.9878
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	60	CH4	0.000422
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	60	PM10	0.000536
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	60	PM2_5	0.000493
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	65	HC	0.001148
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	65	CO	0.145432
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	65	NOx	0.002236
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	65	SOx	0.001075
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	65	PM	0.000679
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	65	TOG	0.001243
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	65	ROG	0.000852
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	65	CO2	107.5255
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	65	CH4	0.000392
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	65	PM10	0.000607
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	65	PM2_5	0.000558
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	70	HC	0.001061
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	70	CO	0.137783
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	70	NOx	0.002132
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	70	SOx	0.001036
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	70	PM	0.000738
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	70	TOG	0.001149
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	70	ROG	0.000788
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	70	CO2	103.5527
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	70	CH4	0.000366
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	70	PM10	0.00066
2024	Annual	Solano (SV	NonTruck	Phe	63	66	RUNEX	70	PM2_5	0.000606
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	35	HC	0.127511
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	35	CO	0.420012
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	35	NOx	1.868594
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	35	SOx	0.005163
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	35	PM	0.035498
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	35	TOG	0.183833
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	35	ROG	0.161479
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	35	CO2	540.9486
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	35	CH4	0.0075
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	35	PM10	0.035285
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	35	PM2_5	0.033758
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	40	HC	0.108752
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	40	CO	0.345327

2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	40	NOx	1.838245
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	40	SOx	0.004691
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	40	PM	0.030206
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	40	TOG	0.156788
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	40	ROG	0.137722
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	40	CO2	491.5287
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	40	CH4	0.006397
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	40	PM10	0.030024
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	40	PM2_5	0.028726
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	45	HC	0.094351
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	45	CO	0.294732
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	45	NOx	1.832815
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	45	SOx	0.004369
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	45	PM	0.026495
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	45	TOG	0.136026
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	45	ROG	0.119485
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	45	CO2	457.754
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	45	CH4	0.00555
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	45	PM10	0.026336
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	45	PM2_5	0.025197
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	55	HC	0.078178
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	55	CO	0.269043
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	55	NOx	1.896229
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	55	SOx	0.004259
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	55	PM	0.023715
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	55	TOG	0.112709
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	55	ROG	0.099004
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	55	CO2	446.219
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	55	CH4	0.004599
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	55	PM10	0.023573
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	55	PM2_5	0.022553
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	60	HC	0.076566
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	60	CO	0.299436
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	60	NOx	1.964835
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	60	SOx	0.004402
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	60	PM	0.024683
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	60	TOG	0.110385
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	60	ROG	0.096962
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	60	CO2	461.2452
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	60	CH4	0.004504
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	60	PM10	0.024535
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	60	PM2_5	0.023474
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	65	HC	0.079671
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	65	CO	0.366489
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	65	NOx	2.057877
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	65	SOx	0.004695
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	65	PM	0.027317
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	65	TOG	0.114861
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	65	ROG	0.100894
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	65	CO2	491.9142
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	65	CH4	0.004686
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	65	PM10	0.027153
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	65	PM2_5	0.025978
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	70	HC	0.084708
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	70	CO	0.433626
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	70	NOx	2.151188

2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	70	SOx	0.005119
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	70	PM	0.030964
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	70	TOG	0.122123
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	70	ROG	0.107273
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	70	CO2	536.3695
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	70	CH4	0.004983
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	70	PM10	0.030779
2024	Annual	Solano (SV	Truck1	Dsl	63	66	RUNEX	70	PM2_5	0.029447
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	35	HC	0.035096
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	35	CO	0.840325
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	35	NOx	0.176766
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	35	SOx	0.006457
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	35	PM	0.001198
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	35	TOG	0.037999
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	35	ROG	0.026041
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	35	CO2	645.5818
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	35	CH4	0.006096
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	35	PM10	0.001071
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	35	PM2_5	0.000985
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	40	HC	0.030845
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	40	CO	0.780916
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	40	NOx	0.172877
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	40	SOx	0.005922
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	40	PM	0.001084
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	40	TOG	0.033396
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	40	ROG	0.022887
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	40	CO2	592.1187
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	40	CH4	0.005355
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	40	PM10	0.000969
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	40	PM2_5	0.000891
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	45	HC	0.028586
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	45	CO	0.767018
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	45	NOx	0.17141
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	45	SOx	0.005617
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	45	PM	0.001032
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	45	TOG	0.030951
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	45	ROG	0.021211
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	45	CO2	561.5561
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	45	CH4	0.004935
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	45	PM10	0.000923
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	45	PM2_5	0.000848
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	55	HC	0.029107
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	55	CO	0.881114
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	55	NOx	0.17513
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	55	SOx	0.005586
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	55	PM	0.001094
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	55	TOG	0.031514
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	55	ROG	0.021597
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	55	CO2	558.2901
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	55	CH4	0.00497
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	55	PM10	0.000978
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	55	PM2_5	0.000899
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	60	HC	0.031964
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	60	CO	1.019793
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	60	NOx	0.180258
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	60	SOx	0.005801

2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	60	PM	0.001207
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	60	TOG	0.034608
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	60	ROG	0.023717
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	60	CO2	579.5952
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	60	CH4	0.005436
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	60	PM10	0.001079
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	60	PM2_5	0.000992
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	65	HC	0.036989
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	65	CO	1.228597
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	65	NOx	0.18768
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	65	SOx	0.006134
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	65	PM	0.001381
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	65	TOG	0.040049
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	65	ROG	0.027446
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	65	CO2	612.6735
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	65	CH4	0.006239
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	65	PM10	0.001235
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	65	PM2_5	0.001135
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	70	HC	0.041009
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	70	CO	1.439264
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	70	NOx	0.193117
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	70	SOx	0.006551
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	70	PM	0.001566
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	70	TOG	0.044402
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	70	ROG	0.030429
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	70	CO2	654.1011
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	70	CH4	0.006925
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	70	PM10	0.0014
2024	Annual	Solano (SV	Truck1	Gas	63	66	RUNEX	70	PM2_5	0.001287
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	35	HC	0.009264
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	35	CO	0.12183
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	35	NOx	1.590449
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	35	SOx	0.014124
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	35	PM	0.008047
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	35	TOG	0.013356
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	35	ROG	0.011732
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	35	CO2	1480.48
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	35	CH4	0.000545
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	35	PM10	0.007998
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	35	PM2_5	0.007652
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	40	HC	0.008005
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	40	CO	0.092566
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	40	NOx	1.197418
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	40	SOx	0.013515
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	40	PM	0.010195
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	40	TOG	0.011541
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	40	ROG	0.010138
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	40	CO2	1416.574
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	40	CH4	0.000471
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	40	PM10	0.010134
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	40	PM2_5	0.009696
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	45	HC	0.007367
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	45	CO	0.069755
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	45	NOx	0.955247
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	45	SOx	0.013168
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	45	PM	0.013319

2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	45	TOG	0.01062
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	45	ROG	0.009329
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	45	CO2	1380.257
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	45	CH4	0.000433
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	45	PM10	0.013239
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	45	PM2_5	0.012666
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	55	HC	0.007927
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	55	CO	0.04341
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	55	NOx	0.923331
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	55	SOx	0.013282
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	55	PM	0.022491
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	55	TOG	0.011428
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	55	ROG	0.010039
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	55	CO2	1392.168
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	55	CH4	0.000466
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	55	PM10	0.022356
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	55	PM2_5	0.021389
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	60	HC	0.009083
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	60	CO	0.039897
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	60	NOx	1.132788
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	60	SOx	0.013741
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	60	PM	0.028498
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	60	TOG	0.013095
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	60	ROG	0.011503
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	60	CO2	1440.265
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	60	CH4	0.000534
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	60	PM10	0.028327
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	60	PM2_5	0.027102
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	65	HC	0.010764
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	65	CO	0.042702
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	65	NOx	1.491464
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	65	SOx	0.014458
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	65	PM	0.035412
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	65	TOG	0.015518
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	65	ROG	0.013631
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	65	CO2	1515.472
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	65	CH4	0.000633
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	65	PM10	0.035199
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	65	PM2_5	0.033676
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	70	HC	0.01078
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	70	CO	0.042897
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	70	NOx	1.491464
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	70	SOx	0.014458
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	70	PM	0.035412
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	70	TOG	0.015542
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	70	ROG	0.013652
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	70	CO2	1515.472
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	70	CH4	0.000634
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	70	PM10	0.035199
2024	Annual	Solano (SV	Truck2	Dsl	63	66	RUNEX	70	PM2_5	0.033676
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	35	HC	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	35	CO	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	35	NOx	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	35	SOx	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	35	PM	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	35	TOG	0

2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	35	ROG	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	35	CO2	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	35	CH4	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	35	PM10	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	35	PM2_5	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	40	HC	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	40	CO	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	40	NOx	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	40	SOx	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	40	PM	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	40	TOG	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	40	ROG	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	40	CO2	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	40	CH4	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	40	PM10	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	40	PM2_5	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	45	HC	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	45	CO	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	45	NOx	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	45	SOx	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	45	PM	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	45	TOG	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	45	ROG	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	45	CO2	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	45	CH4	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	45	PM10	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	45	PM2_5	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	55	HC	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	55	CO	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	55	NOx	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	55	SOx	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	55	PM	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	55	TOG	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	55	ROG	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	55	CO2	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	55	CH4	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	55	PM10	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	55	PM2_5	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	60	HC	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	60	CO	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	60	NOx	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	60	SOx	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	60	PM	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	60	TOG	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	60	ROG	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	60	CO2	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	60	CH4	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	60	PM10	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	60	PM2_5	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	65	HC	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	65	CO	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	65	NOx	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	65	SOx	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	65	PM	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	65	TOG	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	65	ROG	0

2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	65	CO2	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	65	CH4	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	65	PM10	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	65	PM2_5	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	70	HC	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	70	CO	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	70	NOx	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	70	SOx	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	70	PM	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	70	TOG	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	70	ROG	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	70	CO2	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	70	CH4	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	70	PM10	0
2024	Annual	Solano (SV	Truck2	Elec	63	66	RUNEX	70	PM2_5	0
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	35	HC	0.125424
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	35	CO	2.861557
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	35	NOx	0.606337
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	35	SOx	0.014788
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	35	PM	0.001268
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	35	TOG	0.1358
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	35	ROG	0.093065
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	35	CO2	1477.046
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	35	CH4	0.019611
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	35	PM10	0.001134
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	35	PM2_5	0.001042
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	40	HC	0.110659
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	40	CO	2.684432
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	40	NOx	0.587929
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	40	SOx	0.014314
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	40	PM	0.001106
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	40	TOG	0.119813
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	40	ROG	0.082109
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	40	CO2	1429.835
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	40	CH4	0.017541
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	40	PM10	0.000989
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	40	PM2_5	0.000909
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	45	HC	0.102775
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	45	CO	2.565366
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	45	NOx	0.578135
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	45	SOx	0.014362
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	45	PM	0.001017
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	45	TOG	0.111277
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	45	ROG	0.076259
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	45	CO2	1434.893
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	45	CH4	0.016407
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	45	PM10	0.000909
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	45	PM2_5	0.000836
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	55	HC	0.103323
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	55	CO	2.51209
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	55	NOx	0.582014
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	55	SOx	0.015388
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	55	PM	0.001008
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	55	TOG	0.111871
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	55	ROG	0.076666
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	55	CO2	1537.747

2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	55	CH4	0.016411
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	55	PM10	0.000901
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	55	PM2_5	0.000828
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	60	HC	0.111803
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	60	CO	2.605223
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	60	NOx	0.595459
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	60	SOx	0.016012
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	60	PM	0.001085
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	60	TOG	0.121052
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	60	ROG	0.082958
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	60	CO2	1600.134
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	60	CH4	0.017544
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	60	PM10	0.00097
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	60	PM2_5	0.000892
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	65	HC	0.127265
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	65	CO	2.819861
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	65	NOx	0.617042
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	65	SOx	0.016504
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	65	PM	0.001232
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	65	TOG	0.137793
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	65	ROG	0.09443
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	65	CO2	1649.031
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	65	CH4	0.019606
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	65	PM10	0.001101
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	65	PM2_5	0.001013
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	70	HC	0.13838
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	70	CO	2.991006
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	70	NOx	0.631134
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	70	SOx	0.016658
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	70	PM	0.001338
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	70	TOG	0.149827
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	70	ROG	0.102678
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	70	CO2	1664.206
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	70	CH4	0.021073
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	70	PM10	0.001197
2024	Annual	Solano (SV	Truck2	Gas	63	66	RUNEX	70	PM2_5	0.0011
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	35	HC	1.593397
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	35	CO	10.42133
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	35	NOx	0.604771
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	35	PM	0.001822
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	35	TOG	1.592336
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	35	ROG	0.025428
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	35	CO2	1265.285
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	35	CH4	1.556679
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	35	PM10	0.001629
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	35	PM2_5	0.001498
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	40	HC	1.385807
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	40	CO	8.80239
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	40	NOx	0.538985
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	40	PM	0.00144
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	40	TOG	1.384765
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	40	ROG	0.021939
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	40	CO2	1157.476
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	40	CH4	1.353955
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	40	PM10	0.001287
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	40	PM2_5	0.001184

2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	45	HC	1.227726
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	45	CO	7.543597
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	45	NOx	0.489343
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	45	PM	0.001203
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	45	TOG	1.226813
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	45	ROG	0.01945
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	45	CO2	1070.916
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	45	CH4	1.199501
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	45	PM10	0.001075
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	45	PM2_5	0.000989
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	55	HC	1.006155
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	55	CO	5.875266
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	55	NOx	0.420448
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	55	PM	0.001164
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	55	TOG	1.005927
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	55	ROG	0.016715
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	55	CO2	939.6785
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	55	CH4	0.982663
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	55	PM10	0.001041
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	55	PM2_5	0.000957
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	60	HC	1.00807
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	60	CO	5.875252
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	60	NOx	0.421467
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	60	PM	0.001176
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	60	TOG	1.008028
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	60	ROG	0.017024
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	60	CO2	939.6716
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	60	CH4	0.984404
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	60	PM10	0.001052
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	60	PM2_5	0.000967
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	65	HC	1.00807
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	65	CO	5.875252
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	65	NOx	0.421467
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	65	PM	0.001176
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	65	TOG	1.008028
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	65	ROG	0.017024
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	65	CO2	939.6716
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	65	CH4	0.984404
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	65	PM10	0.001052
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	65	PM2_5	0.000967
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	70	HC	1.00807
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	70	CO	5.875252
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	70	NOx	0.421467
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	70	PM	0.001176
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	70	TOG	1.008028
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	70	ROG	0.017024
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	70	CO2	939.6716
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	70	CH4	0.984404
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	70	PM10	0.001052
2024	Annual	Solano (SV	Truck2	NG	63	66	RUNEX	70	PM2_5	0.000967
2024	Annual	Solano (SV	NonTruck	Dsl			STREX	5	NOx	0.01404
2024	Annual	Solano (SV	NonTruck	Dsl			STREX	10	NOx	0.055266
2024	Annual	Solano (SV	NonTruck	Dsl			STREX	20	NOx	0.191341
2024	Annual	Solano (SV	NonTruck	Dsl			STREX	30	NOx	0.282023
2024	Annual	Solano (SV	NonTruck	Dsl			STREX	40	NOx	0.349189
2024	Annual	Solano (SV	NonTruck	Dsl			STREX	50	NOx	0.4034

2024	Annual	Solano (SV	NonTruck	Dsl		STREX	60	NOx	0.449362
2024	Annual	Solano (SV	NonTruck	Dsl		STREX	120	NOx	0.642447
2024	Annual	Solano (SV	NonTruck	Dsl		STREX	180	NOx	0.77301
2024	Annual	Solano (SV	NonTruck	Dsl		STREX	240	NOx	0.874754
2024	Annual	Solano (SV	NonTruck	Dsl		STREX	300	NOx	0.958242
2024	Annual	Solano (SV	NonTruck	Dsl		STREX	360	NOx	1.028177
2024	Annual	Solano (SV	NonTruck	Dsl		STREX	420	NOx	1.087071
2024	Annual	Solano (SV	NonTruck	Dsl		STREX	480	NOx	1.136421
2024	Annual	Solano (SV	NonTruck	Dsl		STREX	540	NOx	1.177193
2024	Annual	Solano (SV	NonTruck	Dsl		STREX	600	NOx	1.210046
2024	Annual	Solano (SV	NonTruck	Dsl		STREX	660	NOx	1.235453
2024	Annual	Solano (SV	NonTruck	Dsl		STREX	720	NOx	1.253759
2024	Annual	Solano (SV	NonTruck	Dsl		STREX	9999	NOx	1.253759
2024	Annual	Solano (SV	NonTruck	Elec		STREX	5	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec		STREX	10	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec		STREX	20	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec		STREX	30	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec		STREX	40	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec		STREX	50	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec		STREX	60	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec		STREX	120	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec		STREX	180	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec		STREX	240	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec		STREX	300	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec		STREX	360	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec		STREX	420	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec		STREX	480	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec		STREX	540	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec		STREX	600	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec		STREX	660	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec		STREX	720	NOx	0
2024	Annual	Solano (SV	NonTruck	Elec		STREX	9999	NOx	0
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	5	HC	0.050693
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	5	CO	0.352874
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	5	NOx	0.058589
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	5	SOx	0.000124
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	5	PM	0.000226
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	5	TOG	0.05296
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	5	ROG	0.048453
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	5	CO2	11.73983
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	5	CH4	0.010356
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	5	PM10	0.000204
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	5	PM2_5	0.000188
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	10	HC	0.09193
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	10	CO	0.638815
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	10	NOx	0.112022
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	10	SOx	0.000145
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	10	PM	0.000414
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	10	TOG	0.096002
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	10	ROG	0.087769
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	10	CO2	13.23637
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	10	CH4	0.017787
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	10	PM10	0.000372
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	10	PM2_5	0.000342
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	20	HC	0.177064
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	20	CO	1.198554

2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	20	NOx	0.2181
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	20	SOx	0.000191
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	20	PM	0.000777
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	20	TOG	0.184864
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	20	ROG	0.168939
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	20	CO2	16.69447
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	20	CH4	0.031873
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	20	PM10	0.000696
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	20	PM2_5	0.00064
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	30	HC	0.265743
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	30	CO	1.742107
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	30	NOx	0.323126
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	30	SOx	0.000243
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	30	PM	0.001122
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	30	TOG	0.277426
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	30	ROG	0.25349
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	30	CO2	20.77262
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	30	CH4	0.045665
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	30	PM10	0.001005
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	30	PM2_5	0.000924
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	40	HC	0.357967
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	40	CO	2.269471
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	40	NOx	0.427099
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	40	SOx	0.000301
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	40	PM	0.001451
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	40	TOG	0.373689
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	40	ROG	0.341424
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	40	CO2	25.47081
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	40	CH4	0.059455
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	40	PM10	0.001298
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	40	PM2_5	0.001194
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	50	HC	0.435565
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	50	CO	2.777371
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	50	NOx	0.511303
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	50	SOx	0.000365
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	50	PM	0.001763
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	50	TOG	0.454689
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	50	ROG	0.415419
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	50	CO2	30.78905
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	50	CH4	0.070572
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	50	PM10	0.001577
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	50	PM2_5	0.00145
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	60	HC	0.471
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	60	CO	3.251726
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	60	NOx	0.567046
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	60	SOx	0.000432
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	60	PM	0.002057
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	60	TOG	0.491678
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	60	ROG	0.449211
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	60	CO2	36.72733
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	60	CH4	0.075199
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	60	PM10	0.00184
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	60	PM2_5	0.001693
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	120	HC	0.547902
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	120	CO	4.183584
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	120	NOx	0.59805

2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	120	SOx	0.000927
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	120	PM	0.003321
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	120	TOG	0.571982
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	120	ROG	0.522621
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	120	CO2	84.57756
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	120	CH4	0.084398
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	120	PM10	0.002971
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	120	PM2_5	0.002732
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	180	HC	0.723433
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	180	CO	6.384022
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	180	NOx	0.547075
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	180	SOx	0.001081
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	180	PM	0.003689
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	180	TOG	0.755202
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	180	ROG	0.689987
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	180	CO2	95.98909
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	180	CH4	0.107383
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	180	PM10	0.0033
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	180	PM2_5	0.003036
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	240	HC	0.748769
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	240	CO	6.844523
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	240	NOx	0.514516
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	240	SOx	0.001202
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	240	PM	0.004018
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	240	TOG	0.781656
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	240	ROG	0.714165
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	240	CO2	107.3668
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	240	CH4	0.110368
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	240	PM10	0.003595
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	240	PM2_5	0.003307
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	300	HC	0.773071
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	300	CO	7.267966
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	300	NOx	0.483322
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	300	SOx	0.001323
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	300	PM	0.004307
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	300	TOG	0.80703
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	300	ROG	0.737357
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	300	CO2	118.7106
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	300	CH4	0.113256
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	300	PM10	0.003854
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	300	PM2_5	0.003546
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	360	HC	0.796338
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	360	CO	7.654351
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	360	NOx	0.453494
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	360	SOx	0.001443
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	360	PM	0.004558
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	360	TOG	0.831324
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	360	ROG	0.759562
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	360	CO2	130.0207
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	360	CH4	0.116052
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	360	PM10	0.004079
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	360	PM2_5	0.003752
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	420	HC	0.81857
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	420	CO	8.003679
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	420	NOx	0.425032
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	420	SOx	0.001561

2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	420	PM	0.004769
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	420	TOG	0.854539
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	420	ROG	0.780781
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	420	CO2	141.2969
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	420	CH4	0.118756
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	420	PM10	0.004268
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	420	PM2_5	0.003927
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	480	HC	0.839768
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	480	CO	8.315948
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	480	NOx	0.397934
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	480	SOx	0.001679
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	480	PM	0.004942
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	480	TOG	0.876673
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	480	ROG	0.801014
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	480	CO2	152.5392
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	480	CH4	0.121371
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	480	PM10	0.004422
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	480	PM2_5	0.004069
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	540	HC	0.859931
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	540	CO	8.59116
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	540	NOx	0.372203
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	540	SOx	0.001796
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	540	PM	0.005075
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	540	TOG	0.897728
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	540	ROG	0.82026
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	540	CO2	163.7478
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	540	CH4	0.123898
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	540	PM10	0.004542
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	540	PM2_5	0.004178
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	600	HC	0.87906
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	600	CO	8.829314
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	600	NOx	0.347836
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	600	SOx	0.001912
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	600	PM	0.005168
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	600	TOG	0.917702
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	600	ROG	0.83852
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	600	CO2	174.9225
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	600	CH4	0.126338
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	600	PM10	0.004626
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	600	PM2_5	0.004256
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	660	HC	0.897154
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	660	CO	9.03041
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	660	NOx	0.324835
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	660	SOx	0.002027
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	660	PM	0.005223
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	660	TOG	0.936597
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	660	ROG	0.855793
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	660	CO2	186.0634
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	660	CH4	0.128689
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	660	PM10	0.004675
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	660	PM2_5	0.004301
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	720	HC	0.915432
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	720	CO	9.19285
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	720	NOx	0.303
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	720	SOx	0.002141
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	720	PM	0.005239

2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	720	TOG	0.955684
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	720	ROG	0.873241
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	720	CO2	197.1849
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	720	CH4	0.13109
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	720	PM10	0.004689
2024	Annual	Solano (SV	NonTruck	Gas	63	STREX	720	PM2_5	0.004314
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	5	HC	0.018632
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	5	CO	0.201189
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	5	NOx	0.012024
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	5	SOx	5.26E-05
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	5	PM	8.61E-05
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	5	TOG	0.019446
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	5	ROG	0.017761
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	5	CO2	4.900757
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	5	CH4	0.00413
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	5	PM10	7.70E-05
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	5	PM2_5	7.08E-05
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	10	HC	0.024669
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	10	CO	0.26293
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	10	NOx	0.014609
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	10	SOx	5.95E-05
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	10	PM	0.000171
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	10	TOG	0.025747
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	10	ROG	0.023516
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	10	CO2	5.470181
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	10	CH4	0.005294
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	10	PM10	0.000152
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	10	PM2_5	0.00014
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	20	HC	0.036743
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	20	CO	0.386413
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	20	NOx	0.019779
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	20	SOx	7.52E-05
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	20	PM	0.000334
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	20	TOG	0.038349
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	20	ROG	0.035026
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	20	CO2	6.81186
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	20	CH4	0.007508
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	20	PM10	0.000299
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	20	PM2_5	0.000275
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	30	HC	0.048817
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	30	CO	0.509895
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	30	NOx	0.024949
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	30	SOx	9.36E-05
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	30	PM	0.000492
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	30	TOG	0.050951
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	30	ROG	0.046536
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	30	CO2	8.42398
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	30	CH4	0.00962
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	30	PM10	0.00044
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	30	PM2_5	0.000404
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	40	HC	0.060891
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	40	CO	0.633377
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	40	NOx	0.030119
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	40	SOx	0.000115
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	40	PM	0.000643
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	40	TOG	0.063553

2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	40	ROG	0.058046
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	40	CO2	10.30654
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	40	CH4	0.01166
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	40	PM10	0.000575
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	40	PM2_5	0.000528
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	50	HC	0.072965
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	50	CO	0.75686
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	50	NOx	0.035288
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	50	SOx	0.000139
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	50	PM	0.000787
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	50	TOG	0.076155
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	50	ROG	0.069556
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	50	CO2	12.45954
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	50	CH4	0.013645
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	50	PM10	0.000704
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	50	PM2_5	0.000647
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	60	HC	0.085039
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	60	CO	0.880342
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	60	NOx	0.040458
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	60	SOx	0.000165
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	60	PM	0.000925
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	60	TOG	0.088757
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	60	ROG	0.081066
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	60	CO2	14.88299
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	60	CH4	0.015585
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	60	PM10	0.000827
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	60	PM2_5	0.00076
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	120	HC	0.157483
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	120	CO	1.621236
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	120	NOx	0.071477
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	120	SOx	0.000379
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	120	PM	0.001535
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	120	TOG	0.164368
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	120	ROG	0.150125
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	120	CO2	34.94617
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	120	CH4	0.026591
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	120	PM10	0.001372
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	120	PM2_5	0.001261
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	180	HC	0.16314
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	180	CO	1.433754
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	180	NOx	0.066584
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	180	SOx	0.000423
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	180	PM	0.001721
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	180	TOG	0.170273
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	180	ROG	0.155518
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	180	CO2	39.63385
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	180	CH4	0.027296
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	180	PM10	0.001539
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	180	PM2_5	0.001415
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	240	HC	0.166451
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	240	CO	1.397248
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	240	NOx	0.073805
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	240	SOx	0.000469
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	240	PM	0.001886
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	240	TOG	0.173729
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	240	ROG	0.158675

2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	240	CO2	44.32153
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	240	CH4	0.027864
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	240	PM10	0.001686
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	240	PM2_5	0.001551
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	300	HC	0.169763
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	300	CO	1.360743
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	300	NOx	0.081026
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	300	SOx	0.000516
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	300	PM	0.002031
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	300	TOG	0.177185
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	300	ROG	0.161831
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	300	CO2	49.00921
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	300	CH4	0.028424
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	300	PM10	0.001816
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	300	PM2_5	0.001669
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	360	HC	0.173074
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	360	CO	1.324237
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	360	NOx	0.088247
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	360	SOx	0.000562
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	360	PM	0.002155
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	360	TOG	0.180641
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	360	ROG	0.164988
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	360	CO2	53.6969
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	360	CH4	0.028976
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	360	PM10	0.001926
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	360	PM2_5	0.001771
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	420	HC	0.176386
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	420	CO	1.287731
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	420	NOx	0.095468
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	420	SOx	0.000608
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	420	PM	0.002257
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	420	TOG	0.184097
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	420	ROG	0.168145
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	420	CO2	58.38458
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	420	CH4	0.029522
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	420	PM10	0.002018
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	420	PM2_5	0.001855
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	480	HC	0.179697
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	480	CO	1.251226
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	480	NOx	0.102689
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	480	SOx	0.000655
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	480	PM	0.002339
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	480	TOG	0.187553
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	480	ROG	0.171301
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	480	CO2	63.07226
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	480	CH4	0.030062
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	480	PM10	0.002091
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	480	PM2_5	0.001923
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	540	HC	0.183008
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	540	CO	1.21472
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	540	NOx	0.10991
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	540	SOx	0.000701
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	540	PM	0.0024
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	540	TOG	0.19101
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	540	ROG	0.174458
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	540	CO2	67.75994

2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	540	CH4	0.030598
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	540	PM10	0.002146
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	540	PM2_5	0.001973
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	600	HC	0.18632
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	600	CO	1.178214
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	600	NOx	0.117131
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	600	SOx	0.000747
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	600	PM	0.00244
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	600	TOG	0.194466
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	600	ROG	0.177615
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	600	CO2	72.44763
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	600	CH4	0.031129
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	600	PM10	0.002182
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	600	PM2_5	0.002006
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	660	HC	0.189631
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	660	CO	1.141709
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	660	NOx	0.124352
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	660	SOx	0.000794
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	660	PM	0.002459
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	660	TOG	0.197922
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	660	ROG	0.180771
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	660	CO2	77.13531
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	660	CH4	0.031656
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	660	PM10	0.002199
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	660	PM2_5	0.002022
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	720	HC	0.201643
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	720	CO	1.124485
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	720	NOx	0.140885
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	720	SOx	0.000841
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	720	PM	0.002458
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	720	TOG	0.210459
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	720	ROG	0.192222
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	720	CO2	81.823
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	720	CH4	0.033652
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	720	PM10	0.002197
2024	Annual	Solano (SV	NonTruck	Phe	63	STREX	720	PM2_5	0.00202
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	5	HC	0.044574
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	5	CO	0.662399
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	5	NOx	0.56503
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	5	SOx	8.65E-05
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	5	PM	0.000113
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	5	TOG	0.046523
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	5	ROG	0.042492
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	5	CO2	7.487126
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	5	CH4	0.009847
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	5	PM10	0.000101
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	5	PM2_5	9.26E-05
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	10	HC	0.087579
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	10	CO	1.306896
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	10	NOx	0.622712
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	10	SOx	0.000115
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	10	PM	0.000221
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	10	TOG	0.091408
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	10	ROG	0.083487
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	10	CO2	9.169108
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	10	CH4	0.017668

2024	Annual	Solano (SV	Truck1	Gas	63	STREX	10	PM10	0.000198
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	10	PM2_5	0.000182
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	20	HC	0.168878
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	20	CO	2.542186
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	20	NOx	0.725529
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	20	SOx	0.000173
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	20	PM	0.000425
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	20	TOG	0.176261
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	20	ROG	0.160987
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	20	CO2	12.78933
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	20	CH4	0.031222
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	20	PM10	0.00038
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	20	PM2_5	0.000349
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	30	HC	0.243897
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	30	CO	3.70587
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	30	NOx	0.811613
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	30	SOx	0.000233
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	30	PM	0.000611
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	30	TOG	0.254561
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	30	ROG	0.232502
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	30	CO2	16.75123
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	30	CH4	0.042976
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	30	PM10	0.000546
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	30	PM2_5	0.000502
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	40	HC	0.312638
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	40	CO	4.797947
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	40	NOx	0.880966
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	40	SOx	0.000295
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	40	PM	0.00078
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	40	TOG	0.326306
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	40	ROG	0.298031
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	40	CO2	21.05481
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	40	CH4	0.053365
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	40	PM10	0.000698
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	40	PM2_5	0.000641
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	50	HC	0.375098
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	50	CO	5.818418
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	50	NOx	0.933588
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	50	SOx	0.00036
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	50	PM	0.000932
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	50	TOG	0.391498
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	50	ROG	0.357573
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	50	CO2	25.70007
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	50	CH4	0.062586
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	50	PM10	0.000833
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	50	PM2_5	0.000766
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	60	HC	0.43128
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	60	CO	6.767283
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	60	NOx	0.969477
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	60	SOx	0.000426
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	60	PM	0.001066
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	60	TOG	0.450136
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	60	ROG	0.41113
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	60	CO2	30.687
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	60	CH4	0.070753
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	60	PM10	0.000953

2024	Annual	Solano (SV	Truck1	Gas	63	STREX	60	PM2_5	0.000877
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	120	HC	0.710381
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	120	CO	12.06642
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	120	NOx	1.028601
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	120	SOx	0.000861
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	120	PM	0.001497
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	120	TOG	0.741439
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	120	ROG	0.677191
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	120	CO2	65.09242
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	120	CH4	0.109645
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	120	PM10	0.001339
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	120	PM2_5	0.001231
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	180	HC	0.838922
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	180	CO	17.01451
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	180	NOx	1.020002
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	180	SOx	0.001039
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	180	PM	0.00156
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	180	TOG	0.8756
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	180	ROG	0.799727
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	180	CO2	74.68907
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	180	CH4	0.127234
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	180	PM10	0.001394
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	180	PM2_5	0.001282
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	240	HC	0.890056
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	240	CO	18.33106
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	240	NOx	1.012709
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	240	SOx	0.001155
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	240	PM	0.001621
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	240	TOG	0.92897
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	240	ROG	0.848472
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	240	CO2	84.08979
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	240	CH4	0.133936
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	240	PM10	0.001449
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	240	PM2_5	0.001332
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	300	HC	0.940494
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	300	CO	19.5035
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	300	NOx	1.001203
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	300	SOx	0.001267
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	300	PM	0.00168
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	300	TOG	0.981613
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	300	ROG	0.896553
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	300	CO2	93.2946
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	300	CH4	0.1405
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	300	PM10	0.001502
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	300	PM2_5	0.001381
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	360	HC	0.990235
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	360	CO	20.53185
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	360	NOx	0.985484
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	360	SOx	0.001374
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	360	PM	0.001738
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	360	TOG	1.033529
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	360	ROG	0.94397
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	360	CO2	102.3035
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	360	CH4	0.146931
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	360	PM10	0.001554
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	360	PM2_5	0.001429

2024	Annual	Solano (SV	Truck1	Gas	63	STREX	420	HC	1.03928
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	420	CO	21.41609
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	420	NOx	0.965552
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	420	SOx	0.001478
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	420	PM	0.001795
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	420	TOG	1.084718
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	420	ROG	0.990724
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	420	CO2	111.1165
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	420	CH4	0.153234
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	420	PM10	0.001604
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	420	PM2_5	0.001475
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	480	HC	1.087628
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	480	CO	22.15623
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	480	NOx	0.941408
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	480	SOx	0.001577
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	480	PM	0.001849
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	480	TOG	1.13518
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	480	ROG	1.036813
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	480	CO2	119.7335
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	480	CH4	0.159413
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	480	PM10	0.001653
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	480	PM2_5	0.00152
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	540	HC	1.13528
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	540	CO	22.75227
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	540	NOx	0.91305
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	540	SOx	0.001672
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	540	PM	0.001903
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	540	TOG	1.184915
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	540	ROG	1.082239
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	540	CO2	128.1546
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	540	CH4	0.16547
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	540	PM10	0.001701
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	540	PM2_5	0.001564
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	600	HC	1.182235
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	600	CO	23.20421
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	600	NOx	0.880479
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	600	SOx	0.001762
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	600	PM	0.001955
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	600	TOG	1.233924
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	600	ROG	1.127
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	600	CO2	136.3798
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	600	CH4	0.171409
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	600	PM10	0.001748
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	600	PM2_5	0.001607
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	660	HC	1.228495
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	660	CO	23.51204
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	660	NOx	0.843696
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	660	SOx	0.001849
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	660	PM	0.002005
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	660	TOG	1.282205
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	660	ROG	1.171098
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	660	CO2	144.4091
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	660	CH4	0.177233
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	660	PM10	0.001793
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	660	PM2_5	0.001648
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	720	HC	1.275124

2024	Annual	Solano (SV	Truck1	Gas	63	STREX	720	CO	23.68152
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	720	NOx	0.807119
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	720	SOx	0.001932
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	720	PM	0.002056
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	720	TOG	1.330873
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	720	ROG	1.215549
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	720	CO2	152.3261
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	720	CH4	0.18307
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	720	PM10	0.001838
2024	Annual	Solano (SV	Truck1	Gas	63	STREX	720	PM2_5	0.00169
2024	Annual	Solano (SV	Truck2	Dsl		STREX	5	NOx	0.036244
2024	Annual	Solano (SV	Truck2	Dsl		STREX	10	NOx	1.042438
2024	Annual	Solano (SV	Truck2	Dsl		STREX	20	NOx	3.499496
2024	Annual	Solano (SV	Truck2	Dsl		STREX	30	NOx	5.004739
2024	Annual	Solano (SV	Truck2	Dsl		STREX	40	NOx	6.08002
2024	Annual	Solano (SV	Truck2	Dsl		STREX	50	NOx	6.919529
2024	Annual	Solano (SV	Truck2	Dsl		STREX	60	NOx	7.609764
2024	Annual	Solano (SV	Truck2	Dsl		STREX	120	NOx	10.28125
2024	Annual	Solano (SV	Truck2	Dsl		STREX	180	NOx	11.88945
2024	Annual	Solano (SV	Truck2	Dsl		STREX	240	NOx	13.05399
2024	Annual	Solano (SV	Truck2	Dsl		STREX	300	NOx	13.96908
2024	Annual	Solano (SV	Truck2	Dsl		STREX	360	NOx	14.7212
2024	Annual	Solano (SV	Truck2	Dsl		STREX	420	NOx	15.3565
2024	Annual	Solano (SV	Truck2	Dsl		STREX	480	NOx	15.90252
2024	Annual	Solano (SV	Truck2	Dsl		STREX	540	NOx	16.37703
2024	Annual	Solano (SV	Truck2	Dsl		STREX	600	NOx	16.79215
2024	Annual	Solano (SV	Truck2	Dsl		STREX	660	NOx	17.15653
2024	Annual	Solano (SV	Truck2	Dsl		STREX	720	NOx	17.47658
2024	Annual	Solano (SV	Truck2	Dsl		STREX	9999	NOx	17.47658
2024	Annual	Solano (SV	Truck2	Elec		STREX	5	NOx	0
2024	Annual	Solano (SV	Truck2	Elec		STREX	10	NOx	0
2024	Annual	Solano (SV	Truck2	Elec		STREX	20	NOx	0
2024	Annual	Solano (SV	Truck2	Elec		STREX	30	NOx	0
2024	Annual	Solano (SV	Truck2	Elec		STREX	40	NOx	0
2024	Annual	Solano (SV	Truck2	Elec		STREX	50	NOx	0
2024	Annual	Solano (SV	Truck2	Elec		STREX	60	NOx	0
2024	Annual	Solano (SV	Truck2	Elec		STREX	120	NOx	0
2024	Annual	Solano (SV	Truck2	Elec		STREX	180	NOx	0
2024	Annual	Solano (SV	Truck2	Elec		STREX	240	NOx	0
2024	Annual	Solano (SV	Truck2	Elec		STREX	300	NOx	0
2024	Annual	Solano (SV	Truck2	Elec		STREX	360	NOx	0
2024	Annual	Solano (SV	Truck2	Elec		STREX	420	NOx	0
2024	Annual	Solano (SV	Truck2	Elec		STREX	480	NOx	0
2024	Annual	Solano (SV	Truck2	Elec		STREX	540	NOx	0
2024	Annual	Solano (SV	Truck2	Elec		STREX	600	NOx	0
2024	Annual	Solano (SV	Truck2	Elec		STREX	660	NOx	0
2024	Annual	Solano (SV	Truck2	Elec		STREX	720	NOx	0
2024	Annual	Solano (SV	Truck2	Elec		STREX	9999	NOx	0
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	5	HC	0.08549
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	5	CO	1.575652
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	5	NOx	0.237091
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	5	SOx	9.03E-05
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	5	PM	0.000195
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	5	TOG	0.089228
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	5	ROG	0.081496
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	5	CO2	6.30288

2024	Annual	Solano (SV	Truck2	Gas	63	STREX	5	CH4	0.017498
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	5	PM10	0.000174
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	5	PM2_5	0.00016
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	10	HC	0.16664
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	10	CO	3.087283
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	10	NOx	0.357235
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	10	SOx	0.000179
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	10	PM	0.000382
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	10	TOG	0.173925
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	10	ROG	0.158854
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	10	CO2	12.57088
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	10	CH4	0.031157
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	10	PM10	0.000342
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	10	PM2_5	0.000314
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	20	HC	0.315919
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	20	CO	5.918481
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	20	NOx	0.568224
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	20	SOx	0.000352
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	20	PM	0.000732
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	20	TOG	0.329731
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	20	ROG	0.301159
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	20	CO2	25.00225
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	20	CH4	0.054161
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	20	PM10	0.000655
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	20	PM2_5	0.000602
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	30	HC	0.447836
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	30	CO	8.493595
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	30	NOx	0.740148
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	30	SOx	0.00052
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	30	PM	0.001051
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	30	TOG	0.467416
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	30	ROG	0.426913
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	30	CO2	37.2941
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	30	CH4	0.073228
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	30	PM10	0.00094
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	30	PM2_5	0.000864
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	40	HC	0.562393
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	40	CO	10.81262
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	40	NOx	0.873009
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	40	SOx	0.000681
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	40	PM	0.001338
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	40	TOG	0.586981
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	40	ROG	0.536118
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	40	CO2	49.44644
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	40	CH4	0.089163
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	40	PM10	0.001196
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	40	PM2_5	0.0011
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	50	HC	0.659589
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	50	CO	12.87557
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	50	NOx	0.966805
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	50	SOx	0.000836
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	50	PM	0.001593
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	50	TOG	0.688427
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	50	ROG	0.628772
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	50	CO2	61.45927
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	50	CH4	0.102337

2024	Annual	Solano (SV	Truck2	Gas	63	STREX	50	PM10	0.001424
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	50	PM2_5	0.00131
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	60	HC	0.739424
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	60	CO	14.68243
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	60	NOx	1.021537
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	60	SOx	0.000985
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	60	PM	0.001817
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	60	TOG	0.771752
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	60	ROG	0.704877
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	60	CO2	73.33258
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	60	CH4	0.11296
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	60	PM10	0.001624
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	60	PM2_5	0.001493
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	120	HC	1.100066
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	120	CO	29.59685
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	120	NOx	1.015695
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	120	SOx	0.001744
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	120	PM	0.002491
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	120	TOG	1.148161
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	120	ROG	1.04867
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	120	CO2	124.7261
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	120	CH4	0.159241
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	120	PM10	0.002227
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	120	PM2_5	0.002047
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	180	HC	1.167242
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	180	CO	30.46204
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	180	NOx	1.011964
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	180	SOx	0.001985
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	180	PM	0.002564
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	180	TOG	1.218275
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	180	ROG	1.112708
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	180	CO2	147.3545
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	180	CH4	0.167612
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	180	PM10	0.002292
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	180	PM2_5	0.002107
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	240	HC	1.232287
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	240	CO	31.35576
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	240	NOx	1.006262
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	240	SOx	0.002214
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	240	PM	0.002639
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	240	TOG	1.286164
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	240	ROG	1.174714
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	240	CO2	168.6474
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	240	CH4	0.175656
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	240	PM10	0.002359
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	240	PM2_5	0.002169
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	300	HC	1.295201
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	300	CO	32.27799
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	300	NOx	0.99859
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	300	SOx	0.002429
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	300	PM	0.002717
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	300	TOG	1.351828
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	300	ROG	1.234688
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	300	CO2	188.6046
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	300	CH4	0.183382
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	300	PM10	0.002429

2024	Annual	Solano (SV	Truck2	Gas	63	STREX	300	PM2_5	0.002233
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	360	HC	1.355983
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	360	CO	33.22874
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	360	NOx	0.988947
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	360	SOx	0.002632
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	360	PM	0.002797
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	360	TOG	1.415267
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	360	ROG	1.29263
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	360	CO2	207.2263
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	360	CH4	0.190798
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	360	PM10	0.0025
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	360	PM2_5	0.002299
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	420	HC	1.414633
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	420	CO	34.20801
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	420	NOx	0.977334
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	420	SOx	0.002822
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	420	PM	0.002879
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	420	TOG	1.476482
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	420	ROG	1.34854
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	420	CO2	224.5124
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	420	CH4	0.19791
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	420	PM10	0.002574
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	420	PM2_5	0.002366
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	480	HC	1.471152
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	480	CO	35.2158
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	480	NOx	0.963749
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	480	SOx	0.002998
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	480	PM	0.002964
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	480	TOG	1.535472
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	480	ROG	1.402418
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	480	CO2	240.4629
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	480	CH4	0.204727
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	480	PM10	0.00265
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	480	PM2_5	0.002436
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	540	HC	1.52554
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	540	CO	36.2521
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	540	NOx	0.948195
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	540	SOx	0.003162
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	540	PM	0.003051
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	540	TOG	1.592237
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	540	ROG	1.454265
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	540	CO2	255.0779
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	540	CH4	0.211253
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	540	PM10	0.002728
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	540	PM2_5	0.002508
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	600	HC	1.577796
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	600	CO	37.31692
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	600	NOx	0.930669
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	600	SOx	0.003313
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	600	PM	0.003141
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	600	TOG	1.646778
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	600	ROG	1.50408
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	600	CO2	268.3572
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	600	CH4	0.217494
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	600	PM10	0.002808
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	600	PM2_5	0.002582

2024	Annual	Solano (SV	Truck2	Gas	63	STREX	660	HC	1.62792
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	660	CO	38.41027
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	660	NOx	0.911173
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	660	SOx	0.003451
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	660	PM	0.003233
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	660	TOG	1.699094
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	660	ROG	1.551862
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	660	CO2	280.301
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	660	CH4	0.223454
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	660	PM10	0.00289
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	660	PM2_5	0.002657
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	720	HC	1.679177
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	720	CO	39.56901
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	720	NOx	0.900349
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	720	SOx	0.003582
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	720	PM	0.00333
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	720	TOG	1.752592
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	720	ROG	1.600725
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	720	CO2	291.4789
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	720	CH4	0.229523
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	720	PM10	0.002977
2024	Annual	Solano (SV	Truck2	Gas	63	STREX	720	PM2_5	0.002737
2024	Annual	Solano (SV	NonTruck	Dsl		IDLEX		HC	1.038829
2024	Annual	Solano (SV	NonTruck	Dsl		IDLEX		CO	23.59761
2024	Annual	Solano (SV	NonTruck	Dsl		IDLEX		NOx	46.1436
2024	Annual	Solano (SV	NonTruck	Dsl		IDLEX		SOx	0.061504
2024	Annual	Solano (SV	NonTruck	Dsl		IDLEX		PM	0.049174
2024	Annual	Solano (SV	NonTruck	Dsl		IDLEX		TOG	1.49768
2024	Annual	Solano (SV	NonTruck	Dsl		IDLEX		ROG	1.315574
2024	Annual	Solano (SV	NonTruck	Dsl		IDLEX		CO2	6446.669
2024	Annual	Solano (SV	NonTruck	Dsl		IDLEX		CH4	0.061105
2024	Annual	Solano (SV	NonTruck	Dsl		IDLEX		PM10	0.048879
2024	Annual	Solano (SV	NonTruck	Dsl		IDLEX		PM2_5	0.046765
2024	Annual	Solano (SV	NonTruck	Dsl		PMTW		PM	0.008916
2024	Annual	Solano (SV	NonTruck	Dsl		PMTW		PM10	0.008916
2024	Annual	Solano (SV	NonTruck	Dsl		PMTW		PM2_5	0.002229
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	35	PM	0.02054
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	35	PM10	0.02054
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	35	PM2_5	0.007189
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	40	PM	0.018891
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	40	PM10	0.018891
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	40	PM2_5	0.006612
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	45	PM	0.015914
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	45	PM10	0.015914
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	45	PM2_5	0.00557
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	55	PM	0.011287
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	55	PM10	0.011287
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	55	PM2_5	0.00395
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	60	PM	0.010435
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	60	PM10	0.010435
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	60	PM2_5	0.003652
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	65	PM	0.009583
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	65	PM10	0.009583
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	65	PM2_5	0.003354
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	70	PM	0.009583
2024	Annual	Solano (SV	NonTruck	Dsl		PMBW	70	PM10	0.009583

2024	Annual	Solano (SV	NonTruck	Dsl	PMBW	70	PM2_5	0.003354
2024	Annual	Solano (SV	NonTruck	Elec	IDLEX		HC	0
2024	Annual	Solano (SV	NonTruck	Elec	IDLEX		CO	0
2024	Annual	Solano (SV	NonTruck	Elec	IDLEX		NOx	0
2024	Annual	Solano (SV	NonTruck	Elec	IDLEX		SOx	0
2024	Annual	Solano (SV	NonTruck	Elec	IDLEX		PM	0
2024	Annual	Solano (SV	NonTruck	Elec	IDLEX		TOG	0
2024	Annual	Solano (SV	NonTruck	Elec	IDLEX		ROG	0
2024	Annual	Solano (SV	NonTruck	Elec	IDLEX		CO2	0
2024	Annual	Solano (SV	NonTruck	Elec	IDLEX		CH4	0
2024	Annual	Solano (SV	NonTruck	Elec	IDLEX		PM10	0
2024	Annual	Solano (SV	NonTruck	Elec	IDLEX		PM2_5	0
2024	Annual	Solano (SV	NonTruck	Elec	PMTW		PM	0.008
2024	Annual	Solano (SV	NonTruck	Elec	PMTW		PM10	0.008
2024	Annual	Solano (SV	NonTruck	Elec	PMTW		PM2_5	0.002
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	35	PM	0.005378
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	35	PM10	0.005378
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	35	PM2_5	0.001882
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	40	PM	0.004966
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	40	PM10	0.004966
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	40	PM2_5	0.001738
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	45	PM	0.003946
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	45	PM10	0.003946
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	45	PM2_5	0.001381
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	55	PM	0.002162
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	55	PM10	0.002162
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	55	PM2_5	0.000757
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	60	PM	0.001644
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	60	PM10	0.001644
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	60	PM2_5	0.000575
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	65	PM	0.001129
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	65	PM10	0.001129
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	65	PM2_5	0.000395
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	70	PM	0.001129
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	70	PM10	0.001129
2024	Annual	Solano (SV	NonTruck	Elec	PMBW	70	PM2_5	0.000395
2024	Annual	Solano (SV	NonTruck	Gas	IDLEX		HC	26.9838
2024	Annual	Solano (SV	NonTruck	Gas	IDLEX		CO	154.8423
2024	Annual	Solano (SV	NonTruck	Gas	IDLEX		NOx	1.744474
2024	Annual	Solano (SV	NonTruck	Gas	IDLEX		SOx	0.064122
2024	Annual	Solano (SV	NonTruck	Gas	IDLEX		TOG	29.21598
2024	Annual	Solano (SV	NonTruck	Gas	IDLEX		ROG	20.02195
2024	Annual	Solano (SV	NonTruck	Gas	IDLEX		CO2	6096.818
2024	Annual	Solano (SV	NonTruck	Gas	IDLEX		CH4	2.588957
2024	Annual	Solano (SV	NonTruck	Gas	PMTW		PM	0.00799
2024	Annual	Solano (SV	NonTruck	Gas	PMTW		PM10	0.00799
2024	Annual	Solano (SV	NonTruck	Gas	PMTW		PM2_5	0.001997
2024	Annual	Solano (SV	NonTruck	Gas	PMBW	35	PM	0.013857
2024	Annual	Solano (SV	NonTruck	Gas	PMBW	35	PM10	0.013857
2024	Annual	Solano (SV	NonTruck	Gas	PMBW	35	PM2_5	0.00485
2024	Annual	Solano (SV	NonTruck	Gas	PMBW	40	PM	0.012477
2024	Annual	Solano (SV	NonTruck	Gas	PMBW	40	PM10	0.012477
2024	Annual	Solano (SV	NonTruck	Gas	PMBW	40	PM2_5	0.004367
2024	Annual	Solano (SV	NonTruck	Gas	PMBW	45	PM	0.009383
2024	Annual	Solano (SV	NonTruck	Gas	PMBW	45	PM10	0.009383
2024	Annual	Solano (SV	NonTruck	Gas	PMBW	45	PM2_5	0.003284

2024	Annual	Solano (SV)	NonTruck	Gas	PMBW	55	PM	0.004269
2024	Annual	Solano (SV)	NonTruck	Gas	PMBW	55	PM10	0.004269
2024	Annual	Solano (SV)	NonTruck	Gas	PMBW	55	PM2_5	0.001494
2024	Annual	Solano (SV)	NonTruck	Gas	PMBW	60	PM	0.003331
2024	Annual	Solano (SV)	NonTruck	Gas	PMBW	60	PM10	0.003331
2024	Annual	Solano (SV)	NonTruck	Gas	PMBW	60	PM2_5	0.001166
2024	Annual	Solano (SV)	NonTruck	Gas	PMBW	65	PM	0.002393
2024	Annual	Solano (SV)	NonTruck	Gas	PMBW	65	PM10	0.002393
2024	Annual	Solano (SV)	NonTruck	Gas	PMBW	65	PM2_5	0.000838
2024	Annual	Solano (SV)	NonTruck	Gas	PMBW	70	PM	0.002393
2024	Annual	Solano (SV)	NonTruck	Gas	PMBW	70	PM10	0.002393
2024	Annual	Solano (SV)	NonTruck	Gas	PMBW	70	PM2_5	0.000838
2024	Annual	Solano (SV)	NonTruck	NG	IDLEX		HC	42.10089
2024	Annual	Solano (SV)	NonTruck	NG	IDLEX		CO	85.00525
2024	Annual	Solano (SV)	NonTruck	NG	IDLEX		NOx	15.56626
2024	Annual	Solano (SV)	NonTruck	NG	IDLEX		PM	0.053815
2024	Annual	Solano (SV)	NonTruck	NG	IDLEX		TOG	42.01669
2024	Annual	Solano (SV)	NonTruck	NG	IDLEX		ROG	0.588234
2024	Annual	Solano (SV)	NonTruck	NG	IDLEX		CO2	12396.5
2024	Annual	Solano (SV)	NonTruck	NG	IDLEX		CH4	41.16969
2024	Annual	Solano (SV)	NonTruck	NG	IDLEX		PM10	0.04811
2024	Annual	Solano (SV)	NonTruck	NG	IDLEX		PM2_5	0.044236
2024	Annual	Solano (SV)	NonTruck	NG	PMTW		PM	0.012
2024	Annual	Solano (SV)	NonTruck	NG	PMTW		PM10	0.012
2024	Annual	Solano (SV)	NonTruck	NG	PMTW		PM2_5	0.003
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	35	PM	0.104718
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	35	PM10	0.104718
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	35	PM2_5	0.036651
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	40	PM	0.104718
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	40	PM10	0.104718
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	40	PM2_5	0.036651
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	45	PM	0.104718
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	45	PM10	0.104718
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	45	PM2_5	0.036651
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	55	PM	0.104718
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	55	PM10	0.104718
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	55	PM2_5	0.036651
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	60	PM	0.104718
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	60	PM10	0.104718
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	60	PM2_5	0.036651
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	65	PM	0.104718
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	65	PM10	0.104718
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	65	PM2_5	0.036651
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	70	PM	0.104718
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	70	PM10	0.104718
2024	Annual	Solano (SV)	NonTruck	NG	PMBW	70	PM2_5	0.036651
2024	Annual	Solano (SV)	NonTruck	Phe	PMTW		PM	0.008
2024	Annual	Solano (SV)	NonTruck	Phe	PMTW		PM10	0.008
2024	Annual	Solano (SV)	NonTruck	Phe	PMTW		PM2_5	0.002
2024	Annual	Solano (SV)	NonTruck	Phe	PMBW	35	PM	0.005385
2024	Annual	Solano (SV)	NonTruck	Phe	PMBW	35	PM10	0.005385
2024	Annual	Solano (SV)	NonTruck	Phe	PMBW	35	PM2_5	0.001885
2024	Annual	Solano (SV)	NonTruck	Phe	PMBW	40	PM	0.004972
2024	Annual	Solano (SV)	NonTruck	Phe	PMBW	40	PM10	0.004972
2024	Annual	Solano (SV)	NonTruck	Phe	PMBW	40	PM2_5	0.00174
2024	Annual	Solano (SV)	NonTruck	Phe	PMBW	45	PM	0.00395

2024	Annual	Solano (SV	NonTruck	Phe	PMBW	45	PM10	0.00395
2024	Annual	Solano (SV	NonTruck	Phe	PMBW	45	PM2_5	0.001383
2024	Annual	Solano (SV	NonTruck	Phe	PMBW	55	PM	0.002163
2024	Annual	Solano (SV	NonTruck	Phe	PMBW	55	PM10	0.002163
2024	Annual	Solano (SV	NonTruck	Phe	PMBW	55	PM2_5	0.000757
2024	Annual	Solano (SV	NonTruck	Phe	PMBW	60	PM	0.001644
2024	Annual	Solano (SV	NonTruck	Phe	PMBW	60	PM10	0.001644
2024	Annual	Solano (SV	NonTruck	Phe	PMBW	60	PM2_5	0.000575
2024	Annual	Solano (SV	NonTruck	Phe	PMBW	65	PM	0.001128
2024	Annual	Solano (SV	NonTruck	Phe	PMBW	65	PM10	0.001128
2024	Annual	Solano (SV	NonTruck	Phe	PMBW	65	PM2_5	0.000395
2024	Annual	Solano (SV	NonTruck	Phe	PMBW	70	PM	0.001128
2024	Annual	Solano (SV	NonTruck	Phe	PMBW	70	PM10	0.001128
2024	Annual	Solano (SV	NonTruck	Phe	PMBW	70	PM2_5	0.000395
2024	Annual	Solano (SV	Truck1	Dsl	IDLEX		HC	2.5056
2024	Annual	Solano (SV	Truck1	Dsl	IDLEX		CO	26.3
2024	Annual	Solano (SV	Truck1	Dsl	IDLEX		NOx	64.26552
2024	Annual	Solano (SV	Truck1	Dsl	IDLEX		SOx	0.042958
2024	Annual	Solano (SV	Truck1	Dsl	IDLEX		PM	0.80377
2024	Annual	Solano (SV	Truck1	Dsl	IDLEX		TOG	3.612324
2024	Annual	Solano (SV	Truck1	Dsl	IDLEX		ROG	3.173065
2024	Annual	Solano (SV	Truck1	Dsl	IDLEX		CO2	4501.051
2024	Annual	Solano (SV	Truck1	Dsl	IDLEX		CH4	0.147383
2024	Annual	Solano (SV	Truck1	Dsl	IDLEX		PM10	0.798948
2024	Annual	Solano (SV	Truck1	Dsl	IDLEX		PM2_5	0.764386
2024	Annual	Solano (SV	Truck1	Dsl	PMTW		PM	0.012
2024	Annual	Solano (SV	Truck1	Dsl	PMTW		PM10	0.012
2024	Annual	Solano (SV	Truck1	Dsl	PMTW		PM2_5	0.003
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	35	PM	0.081537
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	35	PM10	0.081537
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	35	PM2_5	0.028538
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	40	PM	0.081537
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	40	PM10	0.081537
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	40	PM2_5	0.028538
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	45	PM	0.081537
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	45	PM10	0.081537
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	45	PM2_5	0.028538
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	55	PM	0.081537
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	55	PM10	0.081537
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	55	PM2_5	0.028538
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	60	PM	0.081537
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	60	PM10	0.081537
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	60	PM2_5	0.028538
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	65	PM	0.081537
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	65	PM10	0.081537
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	65	PM2_5	0.028538
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	70	PM	0.081537
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	70	PM10	0.081537
2024	Annual	Solano (SV	Truck1	Dsl	PMBW	70	PM2_5	0.028538
2024	Annual	Solano (SV	Truck1	Elec	PMTW		PM	0.008
2024	Annual	Solano (SV	Truck1	Elec	PMTW		PM10	0.008
2024	Annual	Solano (SV	Truck1	Elec	PMTW		PM2_5	0.002
2024	Annual	Solano (SV	Truck1	Elec	PMBW	35	PM	0.04028
2024	Annual	Solano (SV	Truck1	Elec	PMBW	35	PM10	0.04028
2024	Annual	Solano (SV	Truck1	Elec	PMBW	35	PM2_5	0.014098
2024	Annual	Solano (SV	Truck1	Elec	PMBW	40	PM	0.04028

2024	Annual	Solano (SV	Truck1	Elec	PMBW	40	PM10	0.04028
2024	Annual	Solano (SV	Truck1	Elec	PMBW	40	PM2_5	0.014098
2024	Annual	Solano (SV	Truck1	Elec	PMBW	45	PM	0.04028
2024	Annual	Solano (SV	Truck1	Elec	PMBW	45	PM10	0.04028
2024	Annual	Solano (SV	Truck1	Elec	PMBW	45	PM2_5	0.014098
2024	Annual	Solano (SV	Truck1	Elec	PMBW	55	PM	0.04028
2024	Annual	Solano (SV	Truck1	Elec	PMBW	55	PM10	0.04028
2024	Annual	Solano (SV	Truck1	Elec	PMBW	55	PM2_5	0.014098
2024	Annual	Solano (SV	Truck1	Elec	PMBW	60	PM	0.04028
2024	Annual	Solano (SV	Truck1	Elec	PMBW	60	PM10	0.04028
2024	Annual	Solano (SV	Truck1	Elec	PMBW	60	PM2_5	0.014098
2024	Annual	Solano (SV	Truck1	Elec	PMBW	65	PM	0.04028
2024	Annual	Solano (SV	Truck1	Elec	PMBW	65	PM10	0.04028
2024	Annual	Solano (SV	Truck1	Elec	PMBW	65	PM2_5	0.014098
2024	Annual	Solano (SV	Truck1	Elec	PMBW	70	PM	0.04028
2024	Annual	Solano (SV	Truck1	Elec	PMBW	70	PM10	0.04028
2024	Annual	Solano (SV	Truck1	Elec	PMBW	70	PM2_5	0.014098
2024	Annual	Solano (SV	Truck1	Gas	IDLEX		HC	23.89594
2024	Annual	Solano (SV	Truck1	Gas	IDLEX		CO	153.9788
2024	Annual	Solano (SV	Truck1	Gas	IDLEX		NOx	1.548014
2024	Annual	Solano (SV	Truck1	Gas	IDLEX		SOx	0.049607
2024	Annual	Solano (SV	Truck1	Gas	IDLEX		TOG	25.87269
2024	Annual	Solano (SV	Truck1	Gas	IDLEX		ROG	17.73076
2024	Annual	Solano (SV	Truck1	Gas	IDLEX		CO2	4653.387
2024	Annual	Solano (SV	Truck1	Gas	IDLEX		CH4	2.325526
2024	Annual	Solano (SV	Truck1	Gas	PMTW		PM	0.008
2024	Annual	Solano (SV	Truck1	Gas	PMTW		PM10	0.008
2024	Annual	Solano (SV	Truck1	Gas	PMTW		PM2_5	0.002
2024	Annual	Solano (SV	Truck1	Gas	PMBW	35	PM	0.079256
2024	Annual	Solano (SV	Truck1	Gas	PMBW	35	PM10	0.079256
2024	Annual	Solano (SV	Truck1	Gas	PMBW	35	PM2_5	0.02774
2024	Annual	Solano (SV	Truck1	Gas	PMBW	40	PM	0.079256
2024	Annual	Solano (SV	Truck1	Gas	PMBW	40	PM10	0.079256
2024	Annual	Solano (SV	Truck1	Gas	PMBW	40	PM2_5	0.02774
2024	Annual	Solano (SV	Truck1	Gas	PMBW	45	PM	0.079256
2024	Annual	Solano (SV	Truck1	Gas	PMBW	45	PM10	0.079256
2024	Annual	Solano (SV	Truck1	Gas	PMBW	45	PM2_5	0.02774
2024	Annual	Solano (SV	Truck1	Gas	PMBW	55	PM	0.079256
2024	Annual	Solano (SV	Truck1	Gas	PMBW	55	PM10	0.079256
2024	Annual	Solano (SV	Truck1	Gas	PMBW	55	PM2_5	0.02774
2024	Annual	Solano (SV	Truck1	Gas	PMBW	60	PM	0.079256
2024	Annual	Solano (SV	Truck1	Gas	PMBW	60	PM10	0.079256
2024	Annual	Solano (SV	Truck1	Gas	PMBW	60	PM2_5	0.02774
2024	Annual	Solano (SV	Truck1	Gas	PMBW	65	PM	0.079256
2024	Annual	Solano (SV	Truck1	Gas	PMBW	65	PM10	0.079256
2024	Annual	Solano (SV	Truck1	Gas	PMBW	65	PM2_5	0.02774
2024	Annual	Solano (SV	Truck1	Gas	PMBW	70	PM	0.079256
2024	Annual	Solano (SV	Truck1	Gas	PMBW	70	PM10	0.079256
2024	Annual	Solano (SV	Truck1	Gas	PMBW	70	PM2_5	0.02774
2024	Annual	Solano (SV	Truck2	Dsl	IDLEX		HC	1.842884
2024	Annual	Solano (SV	Truck2	Dsl	IDLEX		CO	34.53623
2024	Annual	Solano (SV	Truck2	Dsl	IDLEX		NOx	28.50894
2024	Annual	Solano (SV	Truck2	Dsl	IDLEX		SOx	0.052103
2024	Annual	Solano (SV	Truck2	Dsl	IDLEX		PM	0.012842
2024	Annual	Solano (SV	Truck2	Dsl	IDLEX		TOG	2.656886
2024	Annual	Solano (SV	Truck2	Dsl	IDLEX		ROG	2.333829

2024	Annual	Solano (SV	Truck2	Dsl	IDLEX		CO2	5461.245
2024	Annual	Solano (SV	Truck2	Dsl	IDLEX		CH4	0.1084
2024	Annual	Solano (SV	Truck2	Dsl	IDLEX		PM10	0.012765
2024	Annual	Solano (SV	Truck2	Dsl	IDLEX		PM2_5	0.012213
2024	Annual	Solano (SV	Truck2	Dsl	PMTW		PM	0.034685
2024	Annual	Solano (SV	Truck2	Dsl	PMTW		PM10	0.034685
2024	Annual	Solano (SV	Truck2	Dsl	PMTW		PM2_5	0.008671
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	35	PM	0.104698
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	35	PM10	0.104698
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	35	PM2_5	0.036644
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	40	PM	0.091277
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	40	PM10	0.091277
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	40	PM2_5	0.031947
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	45	PM	0.077856
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	45	PM10	0.077856
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	45	PM2_5	0.02725
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	55	PM	0.068193
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	55	PM10	0.068193
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	55	PM2_5	0.023868
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	60	PM	0.068193
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	60	PM10	0.068193
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	60	PM2_5	0.023868
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	65	PM	0.068193
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	65	PM10	0.068193
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	65	PM2_5	0.023868
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	70	PM	0.068193
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	70	PM10	0.068193
2024	Annual	Solano (SV	Truck2	Dsl	PMBW	70	PM2_5	0.023868
2024	Annual	Solano (SV	Truck2	Elec	IDLEX		HC	0
2024	Annual	Solano (SV	Truck2	Elec	IDLEX		CO	0
2024	Annual	Solano (SV	Truck2	Elec	IDLEX		NOx	0
2024	Annual	Solano (SV	Truck2	Elec	IDLEX		SOx	0
2024	Annual	Solano (SV	Truck2	Elec	IDLEX		PM	0
2024	Annual	Solano (SV	Truck2	Elec	IDLEX		TOG	0
2024	Annual	Solano (SV	Truck2	Elec	IDLEX		ROG	0
2024	Annual	Solano (SV	Truck2	Elec	IDLEX		CO2	0
2024	Annual	Solano (SV	Truck2	Elec	IDLEX		CH4	0
2024	Annual	Solano (SV	Truck2	Elec	IDLEX		PM10	0
2024	Annual	Solano (SV	Truck2	Elec	IDLEX		PM2_5	0
2024	Annual	Solano (SV	Truck2	Elec	PMTW		PM	0.032644
2024	Annual	Solano (SV	Truck2	Elec	PMTW		PM10	0.032644
2024	Annual	Solano (SV	Truck2	Elec	PMTW		PM2_5	0.008161
2024	Annual	Solano (SV	Truck2	Elec	PMBW	35	PM	0.049676
2024	Annual	Solano (SV	Truck2	Elec	PMBW	35	PM10	0.049676
2024	Annual	Solano (SV	Truck2	Elec	PMBW	35	PM2_5	0.017387
2024	Annual	Solano (SV	Truck2	Elec	PMBW	40	PM	0.043591
2024	Annual	Solano (SV	Truck2	Elec	PMBW	40	PM10	0.043591
2024	Annual	Solano (SV	Truck2	Elec	PMBW	40	PM2_5	0.015257
2024	Annual	Solano (SV	Truck2	Elec	PMBW	45	PM	0.037507
2024	Annual	Solano (SV	Truck2	Elec	PMBW	45	PM10	0.037507
2024	Annual	Solano (SV	Truck2	Elec	PMBW	45	PM2_5	0.013127
2024	Annual	Solano (SV	Truck2	Elec	PMBW	55	PM	0.033126
2024	Annual	Solano (SV	Truck2	Elec	PMBW	55	PM10	0.033126
2024	Annual	Solano (SV	Truck2	Elec	PMBW	55	PM2_5	0.011594
2024	Annual	Solano (SV	Truck2	Elec	PMBW	60	PM	0.033126
2024	Annual	Solano (SV	Truck2	Elec	PMBW	60	PM10	0.033126

2024	Annual	Solano (SV	Truck2	Elec	PMBW	60	PM2_5	0.011594
2024	Annual	Solano (SV	Truck2	Elec	PMBW	65	PM	0.033126
2024	Annual	Solano (SV	Truck2	Elec	PMBW	65	PM10	0.033126
2024	Annual	Solano (SV	Truck2	Elec	PMBW	65	PM2_5	0.011594
2024	Annual	Solano (SV	Truck2	Elec	PMBW	70	PM	0.033126
2024	Annual	Solano (SV	Truck2	Elec	PMBW	70	PM10	0.033126
2024	Annual	Solano (SV	Truck2	Elec	PMBW	70	PM2_5	0.011594
2024	Annual	Solano (SV	Truck2	Gas	IDLEX		HC	36.42598
2024	Annual	Solano (SV	Truck2	Gas	IDLEX		CO	403.6968
2024	Annual	Solano (SV	Truck2	Gas	IDLEX		NOx	2.363243
2024	Annual	Solano (SV	Truck2	Gas	IDLEX		SOx	0.142017
2024	Annual	Solano (SV	Truck2	Gas	IDLEX		TOG	39.43925
2024	Annual	Solano (SV	Truck2	Gas	IDLEX		ROG	27.02804
2024	Annual	Solano (SV	Truck2	Gas	IDLEX		CO2	13481.69
2024	Annual	Solano (SV	Truck2	Gas	IDLEX		CH4	3.35515
2024	Annual	Solano (SV	Truck2	Gas	PMTW		PM	0.012031
2024	Annual	Solano (SV	Truck2	Gas	PMTW		PM10	0.012031
2024	Annual	Solano (SV	Truck2	Gas	PMTW		PM2_5	0.003008
2024	Annual	Solano (SV	Truck2	Gas	PMBW	35	PM	0.041917
2024	Annual	Solano (SV	Truck2	Gas	PMBW	35	PM10	0.041917
2024	Annual	Solano (SV	Truck2	Gas	PMBW	35	PM2_5	0.014671
2024	Annual	Solano (SV	Truck2	Gas	PMBW	40	PM	0.041853
2024	Annual	Solano (SV	Truck2	Gas	PMBW	40	PM10	0.041853
2024	Annual	Solano (SV	Truck2	Gas	PMBW	40	PM2_5	0.014648
2024	Annual	Solano (SV	Truck2	Gas	PMBW	45	PM	0.041788
2024	Annual	Solano (SV	Truck2	Gas	PMBW	45	PM10	0.041788
2024	Annual	Solano (SV	Truck2	Gas	PMBW	45	PM2_5	0.014626
2024	Annual	Solano (SV	Truck2	Gas	PMBW	55	PM	0.041741
2024	Annual	Solano (SV	Truck2	Gas	PMBW	55	PM10	0.041741
2024	Annual	Solano (SV	Truck2	Gas	PMBW	55	PM2_5	0.014609
2024	Annual	Solano (SV	Truck2	Gas	PMBW	60	PM	0.041741
2024	Annual	Solano (SV	Truck2	Gas	PMBW	60	PM10	0.041741
2024	Annual	Solano (SV	Truck2	Gas	PMBW	60	PM2_5	0.014609
2024	Annual	Solano (SV	Truck2	Gas	PMBW	65	PM	0.041741
2024	Annual	Solano (SV	Truck2	Gas	PMBW	65	PM10	0.041741
2024	Annual	Solano (SV	Truck2	Gas	PMBW	65	PM2_5	0.014609
2024	Annual	Solano (SV	Truck2	Gas	PMBW	70	PM	0.041741
2024	Annual	Solano (SV	Truck2	Gas	PMBW	70	PM10	0.041741
2024	Annual	Solano (SV	Truck2	Gas	PMBW	70	PM2_5	0.014609
2024	Annual	Solano (SV	Truck2	NG	IDLEX		HC	32.95904
2024	Annual	Solano (SV	Truck2	NG	IDLEX		CO	82.89801
2024	Annual	Solano (SV	Truck2	NG	IDLEX		NOx	12.35131
2024	Annual	Solano (SV	Truck2	NG	IDLEX		PM	0.035776
2024	Annual	Solano (SV	Truck2	NG	IDLEX		TOG	32.90171
2024	Annual	Solano (SV	Truck2	NG	IDLEX		ROG	0.473293
2024	Annual	Solano (SV	Truck2	NG	IDLEX		CO2	10812.88
2024	Annual	Solano (SV	Truck2	NG	IDLEX		CH4	32.22408
2024	Annual	Solano (SV	Truck2	NG	IDLEX		PM10	0.031984
2024	Annual	Solano (SV	Truck2	NG	IDLEX		PM2_5	0.029408
2024	Annual	Solano (SV	Truck2	NG	PMTW		PM	0.034785
2024	Annual	Solano (SV	Truck2	NG	PMTW		PM10	0.034785
2024	Annual	Solano (SV	Truck2	NG	PMTW		PM2_5	0.008696
2024	Annual	Solano (SV	Truck2	NG	PMBW	35	PM	0.151745
2024	Annual	Solano (SV	Truck2	NG	PMBW	35	PM10	0.151745
2024	Annual	Solano (SV	Truck2	NG	PMBW	35	PM2_5	0.053111
2024	Annual	Solano (SV	Truck2	NG	PMBW	40	PM	0.144821

2024	Annual	Solano (SV	Truck2	NG	PMBW	40	PM10	0.144821
2024	Annual	Solano (SV	Truck2	NG	PMBW	40	PM2_5	0.050687
2024	Annual	Solano (SV	Truck2	NG	PMBW	45	PM	0.137897
2024	Annual	Solano (SV	Truck2	NG	PMBW	45	PM10	0.137897
2024	Annual	Solano (SV	Truck2	NG	PMBW	45	PM2_5	0.048264
2024	Annual	Solano (SV	Truck2	NG	PMBW	55	PM	0.132912
2024	Annual	Solano (SV	Truck2	NG	PMBW	55	PM10	0.132912
2024	Annual	Solano (SV	Truck2	NG	PMBW	55	PM2_5	0.046519
2024	Annual	Solano (SV	Truck2	NG	PMBW	60	PM	0.132912
2024	Annual	Solano (SV	Truck2	NG	PMBW	60	PM10	0.132912
2024	Annual	Solano (SV	Truck2	NG	PMBW	60	PM2_5	0.046519
2024	Annual	Solano (SV	Truck2	NG	PMBW	65	PM	0.132912
2024	Annual	Solano (SV	Truck2	NG	PMBW	65	PM10	0.132912
2024	Annual	Solano (SV	Truck2	NG	PMBW	65	PM2_5	0.046519
2024	Annual	Solano (SV	Truck2	NG	PMBW	70	PM	0.132912
2024	Annual	Solano (SV	Truck2	NG	PMBW	70	PM10	0.132912
2024	Annual	Solano (SV	Truck2	NG	PMBW	70	PM2_5	0.046519
2024	Annual	Solano (SV	NonTruck	Gas	HOTSOAK		HC	0.14857
2024	Annual	Solano (SV	NonTruck	Gas	HOTSOAK		TOG	0.15884
2024	Annual	Solano (SV	NonTruck	Gas	HOTSOAK		ROG	0.15884
2024	Annual	Solano (SV	NonTruck	Phe	HOTSOAK		HC	0.031103
2024	Annual	Solano (SV	NonTruck	Phe	HOTSOAK		TOG	0.033253
2024	Annual	Solano (SV	NonTruck	Phe	HOTSOAK		ROG	0.033253
2024	Annual	Solano (SV	Truck1	Gas	HOTSOAK		HC	0.050999
2024	Annual	Solano (SV	Truck1	Gas	HOTSOAK		TOG	0.054525
2024	Annual	Solano (SV	Truck1	Gas	HOTSOAK		ROG	0.054525
2024	Annual	Solano (SV	Truck2	Gas	HOTSOAK		HC	0.038577
2024	Annual	Solano (SV	Truck2	Gas	HOTSOAK		TOG	0.041244
2024	Annual	Solano (SV	Truck2	Gas	HOTSOAK		ROG	0.041244
2024	Annual	Solano (SV	NonTruck	Gas	RUNLOSS		HC	1.231162
2024	Annual	Solano (SV	NonTruck	Gas	RUNLOSS		TOG	1.316271
2024	Annual	Solano (SV	NonTruck	Gas	RUNLOSS		ROG	1.316271
2024	Annual	Solano (SV	NonTruck	Phe	RUNLOSS		HC	0.218521
2024	Annual	Solano (SV	NonTruck	Phe	RUNLOSS		TOG	0.233627
2024	Annual	Solano (SV	NonTruck	Phe	RUNLOSS		ROG	0.233627
2024	Annual	Solano (SV	Truck1	Gas	RUNLOSS		HC	2.651483
2024	Annual	Solano (SV	Truck1	Gas	RUNLOSS		TOG	2.834778
2024	Annual	Solano (SV	Truck1	Gas	RUNLOSS		ROG	2.834778
2024	Annual	Solano (SV	Truck2	Gas	RUNLOSS		HC	2.820176
2024	Annual	Solano (SV	Truck2	Gas	RUNLOSS		TOG	3.015133
2024	Annual	Solano (SV	Truck2	Gas	RUNLOSS		ROG	3.015133
2024	Annual	Solano (SV	NonTruck	Gas	DIURN		HC	0.077175
2024	Annual	Solano (SV	NonTruck	Gas	DIURN		TOG	0.083825
2024	Annual	Solano (SV	NonTruck	Gas	DIURN		ROG	0.083825
2024	Annual	Solano (SV	NonTruck	Phe	DIURN		HC	0.018356
2024	Annual	Solano (SV	NonTruck	Phe	DIURN		TOG	0.019938
2024	Annual	Solano (SV	NonTruck	Phe	DIURN		ROG	0.019938
2024	Annual	Solano (SV	Truck1	Gas	DIURN		HC	0.139367
2024	Annual	Solano (SV	Truck1	Gas	DIURN		TOG	0.151376
2024	Annual	Solano (SV	Truck1	Gas	DIURN		ROG	0.151376
2024	Annual	Solano (SV	Truck2	Gas	DIURN		HC	0.151236
2024	Annual	Solano (SV	Truck2	Gas	DIURN		TOG	0.164267
2024	Annual	Solano (SV	Truck2	Gas	DIURN		ROG	0.164267

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.011	0.597	0.403
Truck 2	0.032	0.971	0.027
Non-Truck	0.957	0.013	0.966

	35	40	45	55	60	65	70
PM2_5 Ex							
Dsl							
NonTruck	0.00019647	0.000185899	0.000183924	0.000203984	0.000225575	0.000254537	0.000281611
Truck1	0.02015376	0.017149194	0.015042643	0.013464303	0.014013813	0.01550906	0.017579892
Truck2	0.007430443	0.009414632	0.012298933	0.020768791	0.026315614	0.032699728	0.032699728
Gas							
NonTruck	0.001183507	0.001027088	0.000939779	0.000922237	0.000989211	0.001118951	0.001214061
Truck1	0.000396843	0.000359045	0.000341895	0.000362269	0.000399704	0.000457579	0.000518613
Truck2	2.81461E-05	2.45513E-05	2.25776E-05	2.23643E-05	2.40858E-05	2.73389E-05	2.97057E-05
PM2.5 Running Exl	**0.001785369**	**0.001655474**	**0.001638903**	**0.001895203**	**0.00216397**	**0.002537327**	**0.002677784**
DPM Running Exha	**0.00056163**	**0.000611014**	**0.000699425**	**0.000992468**	**0.001191751**	**0.001425757**	**0.001436593**

	35	40	45	55	60	65	70
TOG Ex							
Dsl							
NonTruck	0.000368487	0.000314553	0.000279319	0.000252698	0.000262391	0.000285949	0.000307075
Truck1	0.10974804	0.093602295	0.081207597	0.067287353	0.065899763	0.068572303	0.07290756
Truck2	0.012968265	0.011206689	0.010312478	0.011097014	0.012715657	0.015068286	0.015091272
Gas							
NonTruck	0.023825792	0.020895309	0.019280232	0.019112345	0.020534468	0.023215093	0.02516128
Truck1	0.015313531	0.013458761	0.012473338	0.01270029	0.013947073	0.016139704	0.017893853
Truck2	0.003666591	0.003234941	0.003004475	0.003020506	0.003268405	0.003720399	0.004045327
TOG Running Exha	**0.025061918**	**0.021937642**	**0.020175124**	**0.019863971**	**0.021292399**	**0.024023567**	**0.025984402**

TOG Running Loss Emissions Factor (grams/veh-hour)

Gas	
NonTruck	1.25967181
Truck1	0.031182558
Truck2	0.096484251
TOG Runni	**1.387338619**

Road Link	Description	Direction	No. Lanes	Link Length (miles)	Link Width (ft)	Link Width (m)	Release Height (ft)	Release Height (m)	Initial Vertical Dimention (m)	Initial Vertical Dispersion (m)	Average Speed (mph)	Average Vehicles per Day
LT_N_DPM	DPM from Leisure Town Rd N/o Sequoia	Both	3	0.84	36	10.97	11.15	3.4	6.8	3.16	40mph off peak, 35mph AM Peak, 35mph PM peak period	7,750
LT_N_XXX	XXX from Leisure Town Rd N/o Sequoia	Both	3	0.84	36	10.97	4.27	1.3	2.86	1.33	40mph off peak, 35mph AM Peak, 35mph PM peak period	7,750
LT_S_DPM	DPM from Leisure Town Rd S/o Sequoia	Both	3	0.67	36	10.97	11.15	3.4	6.80	3.16	40mph off peak, 35mph AM Peak, 35mph PM peak period	5,840
LT_S_XXX	XXX from Leisure Town Rd S/o Sequoia	Both	3	0.67	36	10.97	4.27	1.3	2.96	1.38	40mph off peak, 35mph AM Peak, 35mph PM peak period	5,840
OR_DPM	DPM from Orange Drive	Both	5	0.81	60	18.29	11.15	3.4	6.8	3.16	45mph off peak, 40mph AM Peak, 40mph PM peak period	1,860
OR_XXX	XXX from Orange Drive	Both	5	0.81	60	18.29	4.27	1.3	2.86	1.33	45mph off peak, 40mph AM Peak, 40mph PM peak period	1,860

Emission Factors

	Speed Category	1	2	3	4	5	6	7
	Travel Speed (mph)	35	40	45	55	60	65	70
Emisions per vehicle (g/VMT)	DPM	0.000562	0.000611	0.000699	0.001822	0.0022001	0.0026412	0.0026652
	PM2.5	0.001785	0.0016555	0.001639	0.002645	0.003088	0.0036698	0.0038287
	TOG Exhaust	0.02418	0.0211766	0.019484	0.01905	0.0203934	0.0230205	0.0248287
	TOG Evap	0.039638	0.0346835	0.03083	0.026486	0.0242784	0.0224109	0.0208101
	Fugitive PM2.5	0.025037	0.02444	0.02328	0.01646	0.0161663	0.0158726	0.0158726

		I-80		**LT N/o Sequoia**	**LT S/o Sequoia**	**Orange**	**XXX**	**XXX**	**XXX**
Vehicle Type	Truck 1 (MDT)	0		85	64	20	0	0	0
	Truck 2 (HDT)	0		248	187	60	0	0	0
	Non-Truck	0		7,417	5,589	1,780	0	0	0
Total	2024 ADT		-	7,750	5,840	1,860			
Directional Volume	NB		-						
	SB		-						

DPM

2024 Hourly Traffic Volumes and DPM Emisssions - DPM from Leisure Town Rd N/o Sequoia

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01320645	102	0.000015	8	0.0595863	462	6.05365E-05	16	0.05578105	432	6.1654E-05
1	0.01073048	83	1.18602E-05	9	0.0569017	441	6.28927E-05	17	0.0559619	434	5.68543E-05
2	0.01069889	83	1.18253E-05	10	0.0551625	428	6.09704E-05	18	0.04999519	387	5.07924E-05
3	0.01323315	103	1.46264E-05	11	0.0534297	414	5.90551E-05	19	0.04244414	329	4.69129E-05
4	0.02548845	198	2.8172E-05	12	0.0533648	414	5.89834E-05	20	0.03698851	287	4.08829E-05
5	0.04469819	346	4.94043E-05	13	0.0551348	427	6.09397E-05	21	0.032901	255	3.6365E-05
6	0.05568979	432	6.15531E-05	14	0.0569274	441	6.2921E-05	22	0.02660622	206	2.94075E-05
7	0.05995574	465	6.09118E-05	15	0.0564903	438	6.24379E-05	23	0.01862332	144	2.05841E-05
									TOTAL	7,750	

2024 Hourly Traffic Volumes and DPM Emisssions - DPM from Leisure Town Rd S/o Sequoia

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01320645	77	0.000009	8	0.0595863	348	3.62628E-05	16	0.05578105	326	3.69322E-05
1	0.01073048	63	7.10457E-06	9	0.0569017	332	3.76742E-05	17	0.0559619	327	3.40571E-05
2	0.01069889	62	7.08365E-06	10	0.0551625	322	3.65227E-05	18	0.04999519	292	3.04259E-05
3	0.01323315	77	8.76157E-06	11	0.0534297	312	3.53754E-05	19	0.04244414	248	2.81019E-05
4	0.02548845	149	1.68757E-05	12	0.0533648	312	3.53324E-05	20	0.03698851	216	2.44898E-05
5	0.04469819	261	2.95943E-05	13	0.0551348	322	3.65044E-05	21	0.032901	192	2.17835E-05
6	0.05568979	325	3.68718E-05	14	0.0569274	332	3.76912E-05	22	0.02660622	155	1.76158E-05
7	0.05995574	350	3.64876E-05	15	0.0564903	330	3.74018E-05	23	0.01862332	109	1.23304E-05
									TOTAL	5,840	

2024 Hourly Traffic Volumes and DPM Emisssions - DPM from Orange Drive

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01320645	25	0.000004	8	0.0595863	111	1.52763E-05	16	0.05578105	104	1.637E-05
1	0.01073048	20	3.14906E-06	9	0.0569017	106	1.66989E-05	17	0.0559619	104	1.43471E-05
2	0.01069889	20	3.13979E-06	10	0.0551625	103	1.61885E-05	18	0.04999519	93	1.28174E-05
3	0.01323315	25	3.88351E-06	11	0.0534297	99	1.56799E-05	19	0.04244414	79	1.2456E-05
4	0.02548845	47	7.48005E-06	12	0.0533648	99	1.56609E-05	20	0.03698851	69	1.0855E-05
5	0.04469819	83	1.31175E-05	13	0.0551348	103	1.61803E-05	21	0.032901	61	9.6554E-06
6	0.05568979	104	1.63432E-05	14	0.0569274	106	1.67064E-05	22	0.02660622	49	7.80808E-06
7	0.05995574	112	1.5371E-05	15	0.0564903	105	1.65781E-05	23	0.01862332	35	5.46535E-06
									TOTAL	1,860	

2024 Hourly Traffic Volumes and TOG Exhaust Emisssi XXX from Leisure Town Rd N/o Sequoia

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01320645	102	0.000506	8	0.0595863	462	0.002606254	16	0.05578105	432	0.002136809
1	0.01073048	83	0.0004111	9	0.0569017	441	0.002179739	17	0.0559619	434	0.002447728
2	0.01069889	83	0.0004098	10	0.0551625	428	0.002113116	18	0.04999519	387	0.002186748
3	0.01323315	103	0.0005069	11	0.0534297	414	0.002046735	19	0.04244414	329	0.001625911
4	0.02548845	198	0.0009764	12	0.0533648	414	0.00204425	20	0.03698851	287	0.001416922
5	0.04469819	346	0.0017123	13	0.0551348	427	0.002112054	21	0.032901	255	0.001260341
6	0.05568979	432	0.0021333	14	0.0569274	441	0.002180722	22	0.02660622	206	0.001019207
7	0.05995574	465	0.0026224	15	0.0564903	438	0.002163977	23	0.01862332	144	0.000713405
									TOTAL	7,750	

2024 Hourly Traffic Volumes and TOG Exhaust Emisssi XXX from Leisure Town Rd S/o Sequoia

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01320645	77	0.000303	8	0.0595863	348	0.001561208	16	0.05578105	326	0.001279999
1	0.01073048	63	0.0002462	9	0.0569017	332	0.001305716	17	0.0559619	327	0.001466247
2	0.01069889	62	0.0002455	10	0.0551625	322	0.001265807	18	0.04999519	292	0.001309914
3	0.01323315	77	0.0003037	11	0.0534297	312	0.001226043	19	0.04244414	248	0.000973959
4	0.02548845	149	0.0005849	12	0.0533648	312	0.001224554	20	0.03698851	216	0.00084877
5	0.04469819	261	0.0010257	13	0.0551348	322	0.001265171	21	0.032901	192	0.000754974
6	0.05568979	325	0.0012779	14	0.0569274	332	0.001306304	22	0.02660622	155	0.000610529
7	0.05995574	350	0.0015709	15	0.0564903	330	0.001296274	23	0.01862332	109	0.000427347
									TOTAL	5,840	

2024 Hourly Traffic Volumes and TOG Exhaust Emisssi XXX from Orange Drive

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01320645	25	0.000108	8	0.0595863	111	0.000529446	16	0.05578105	104	0.000456026
1	0.01073048	20	8.772E-05	9	0.0569017	106	0.000465188	17	0.0559619	104	0.000497242
2	0.01069889	20	8.747E-05	10	0.0551625	103	0.00045097	18	0.04999519	93	0.000444226
3	0.01323315	25	0.0001082	11	0.0534297	99	0.000436803	19	0.04244414	79	0.000346993
4	0.02548845	47	0.0002084	12	0.0533648	99	0.000436273	20	0.03698851	69	0.000302392
5	0.04469819	83	0.0003654	13	0.0551348	103	0.000450743	21	0.032901	61	0.000268975
6	0.05568979	104	0.0004553	14	0.0569274	106	0.000465398	22	0.02660622	49	0.000217514
7	0.05995574	112	0.0005327	15	0.0564903	105	0.000461824	23	0.01862332	35	0.000152251
									TOTAL	1,860	

2024 Hourly Traffic Volumes and TOG Evaporative Emisssions - XXX from Leisure Town Rd N/o Sequoia

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01320645	102	0.000829	8	0.0595863	462	0.004272517	16	0.05578105	432	0.003499713
1	0.01073048	83	0.0006732	9	0.0569017	441	0.003570025	17	0.0559619	434	0.004012639
2	0.01069889	83	0.0006713	10	0.0551625	428	0.003460907	18	0.04999519	387	0.003584808
3	0.01323315	103	0.0008303	11	0.0534297	414	0.003352188	19	0.04244414	329	0.002662952
4	0.02548845	198	0.0015991	12	0.0533648	414	0.003348118	20	0.03698851	287	0.002320665
5	0.04469819	346	0.0028044	13	0.0551348	427	0.003459169	21	0.032901	255	0.002064214
6	0.05568979	432	0.003494	14	0.0569274	441	0.003571634	22	0.02660622	206	0.001669279
7	0.05995574	465	0.004299	15	0.0564903	438	0.00354421	23	0.01862332	144	0.00116843
									TOTAL	7,750	

2024 Hourly Traffic Volumes and TOG Evaporative Emisssions - XXX from Leisure Town Rd S/o Sequoia

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01320645	77	0.000496	8	0.0595863	348	0.002559339	16	0.05578105	326	0.002096411
1	0.01073048	63	0.0004033	9	0.0569017	332	0.00213853	17	0.0559619	327	0.002403666
2	0.01069889	62	0.0004021	10	0.0551625	322	0.002073166	18	0.04999519	292	0.002147385
3	0.01323315	77	0.0004973	11	0.0534297	312	0.00200804	19	0.04244414	248	0.001595172
4	0.02548845	149	0.0009579	12	0.0533648	312	0.002005602	20	0.03698851	216	0.001390134
5	0.04469819	261	0.0016799	13	0.0551348	322	0.002072125	21	0.032901	192	0.001236513
6	0.05568979	325	0.002093	14	0.0569274	332	0.002139494	22	0.02660622	155	0.000999938
7	0.05995574	350	0.0025752	15	0.0564903	330	0.002123066	23	0.01862332	109	0.000699918
									TOTAL	5,840	

2024 Hourly Traffic Volumes and TOG Evaporative Emisssions - XXX from Orange Drive

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01320645	25	0.000171	8	0.0595863	111	0.000867139	16	0.05578105	104	0.000721567
1	0.01073048	20	0.0001388	9	0.0569017	106	0.000736064	17	0.0559619	104	0.000814395
2	0.01069889	20	0.0001384	10	0.0551625	103	0.000713566	18	0.04999519	93	0.000727563
3	0.01323315	25	0.0001712	11	0.0534297	99	0.00069115	19	0.04244414	79	0.000549045
4	0.02548845	47	0.0003297	12	0.0533648	99	0.000690311	20	0.03698851	69	0.000478472
5	0.04469819	83	0.0005782	13	0.0551348	103	0.000713208	21	0.032901	61	0.000425597
6	0.05568979	104	0.0007204	14	0.0569274	106	0.000736396	22	0.02660622	49	0.00034417
7	0.05995574	112	0.0008725	15	0.0564903	105	0.000730741	23	0.01862332	35	0.000240906
									TOTAL	1,860	

Green Tree Project, Vacaville - Ops Traffic Impacts on Construction MEI
AERMOD Risk Modeling Parameters and Maximum Concentrations
1st Floor Receptors

Emissions Years	2024 and beyond
Receptor Information	
Number of Receptors	65
Receptor Height (in m) =	1.5 (1st Floor)
Receptor Distances =	Nearby Residential Locations

Meteorological Conditions

CARB Nut Tree Met Data	2009 - 2014
Land Use Classification	urban
Wind Speed =	variable
Wind Direction =	variable

Orange Drive - Maximum Offsite Residential Concentration - Floor 1

Analysis Years	TAC Concentrations (µg/m^3)		
	DPM	**Exhaust TOG**	**Evaporative TOG**
2024	0.00004	0.0011	0.00176
2025	0.00004	0.0011	0.00176
2026	0.00004	0.0011	0.00176
…	0.00004	0.0011	0.00176

Leisure Town Rd. - Maximum Offsite Residential Concentration - Floor 1

Analysis Years	TAC Concentrations (µg/m^3)		
	DPM	**Exhaust TOG**	**Evaporative TOG**
2024	0.00157	0.07654	0.12539
2025	0.00157	0.07654	0.12539
2026	0.00157	0.07654	0.12539
…	0.00157	0.07654	0.12539

Green Tree Construction Project (All Phases), Vacaville - Cumulative Impacts (Construction and Traffic) - T4 Mitigation
MEI DPM Cancer Risk Calculations From Both Construction and Traffic Increase from the Project
Impacts at Off-Site Single Family Homes - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

		Infant/Child - Exposure Information				Infant/Child	Adult - Exposure Information			Adult	
	Exposure				Age	Cancer	Modeled		Age	Cancer	
Exposure	Duration		DPM Conc (ug/m3)		Sensitivity	Risk	DPM Conc (ug/m3)		Sensitivity	Risk	
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	
0	0.25	-0.25 - 0*	2023	0.0239	10	0.33					HI
1	1	0 - 1	2023	0.0239	10	3.93	2023	0.0239	1	0.07	0.005
2	1	1 - 2	2024	0.0059	10	0.98	2024	0.0059	1	0.02	0.001
3	1	2 - 3	2025	0.0010	3	0.02	2025	0.0010	1	0.00	0.000
4	1	3 - 4	2026	0.0084	3	0.22	2026	0.0084	1	0.02	0.002
5	1	4 - 5	2027	0.0033	3	0.09	2027	0.0033	1	0.01	0.001
6	1	5 - 6	2028	0.0018	3	0.05	2028	0.0018	1	0.01	0.000
7	1	6 - 7	2029	0.0112	3	0.29	2029	0.0112	1	0.03	0.002
8	1	7 - 8	2030	0.0048	3	0.12	2030	0.0048	1	0.01	0.001
9	1	8 - 9	2031	0.0009	3	0.02	2031	0.0009	1	0.00	0.000
10	1	9 - 10	2032	0.0016	3	0.04	2032	0.0016	1	0.00	
11	1	10 - 11	2033	0.0016	3	0.04	2033	0.0016	1	0.00	
12	1	11 - 12	2034	0.0016	3	0.04	2034	0.0016	1	0.00	
13	1	12 - 13	2035	0.0016	3	0.04	2035	0.0016	1	0.00	
14	1	13 - 14	2036	0.0016	3	0.04	2036	0.0016	1	0.00	
15	1	14 - 15	2037	0.0016	3	0.04	2037	0.0016	1	0.00	
16	1	15 - 16	2038	0.0016	3	0.04	2038	0.0016	1	0.00	
17	1	16-17	2039	0.0016	1	0.00	2039	0.0016	1	0.00	
18	1	17-18	2040	0.0016	1	0.00	2040	0.0016	1	0.00	
19	1	18-19	2041	0.0016	1	0.00	2041	0.0016	1	0.00	
20	1	19-20	2042	0.0016	1	0.00	2042	0.0016	1	0.00	
21	1	20-21	2043	0.0016	1	0.00	2043	0.0016	1	0.00	
22	1	21-22	2044	0.0016	1	0.00	2044	0.0016	1	0.00	
23	1	22-23	2045	0.0016	1	0.00	2045	0.0016	1	0.00	
24	1	23-24	2046	0.0016	1	0.00	2046	0.0016	1	0.00	
25	1	24-25	2047	0.0016	1	0.00	2047	0.0016	1	0.00	
26	1	25-26	2048	0.0016	1	0.00	2048	0.0016	1	0.00	
27	1	26-27	2049	0.0016	1	0.00	2049	0.0016	1	0.00	
28	1	27-28	2050	0.0016	1	0.00	2050	0.0016	1	0.00	
29	1	28-29	2051	0.0016	1	0.00	2051	0.0016	1	0.00	
30	1	29-30	2052	0.0016	1	0.00	2052	0.0016	1	0.00	
Total Increased Cancer Risk						**6.39**				**0.27**	

* Third trimester of pregnancy

Green Tree Project, Vacaville - Leisure Town Rd. Impacts on Construction MEI
Maximum TAC Cancer Risk Calculations
1.5 meter receptor height

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)				
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Age Sensitivity Factor**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**TOTAL**	**Maximum Hazard Index**
0	0.25	-0.25 - 0*	2023	10				0.000	0.000	0.0000	0.00	
1	1	0 - 1	2023	10	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00	0.0000
2	1	1 - 2	2024	10	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00	0.0000
3	1	2 - 3	2025	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00	0.0000
4	1	3 - 4	2026	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00	0.0000
5	1	4 - 5	2027	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00	
6	1	5 - 6	2028	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00	
7	1	6 - 7	2029	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00	
8	1	7 - 8	2030	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00	
9	1	8 - 9	2031	3	0.0000	0.0000	0.0000	0.000	0.000	0.0000	0.00	
10	1	9 - 10	2032	3	0.0016	0.0765	0.1254	0.041	0.011	0.0011	0.05	
11	1	10 - 11	2033	3	0.0016	0.0765	0.1254	0.041	0.011	0.0011	0.05	
12	1	11 - 12	2034	3	0.0016	0.0765	0.1254	0.041	0.011	0.0011	0.05	
13	1	12 - 13	2035	3	0.0016	0.0765	0.1254	0.041	0.011	0.0011	0.05	
14	1	13 - 14	2036	3	0.0016	0.0765	0.1254	0.041	0.011	0.0011	0.05	
15	1	14 - 15	2037	3	0.0016	0.0765	0.1254	0.041	0.011	0.0011	0.05	
16	1	15 - 16	2038	3	0.0016	0.0765	0.1254	0.041	0.011	0.0011	0.05	
17	1	16-17	2039	1	0.0016	0.0765	0.1254	0.005	0.001	0.0001	0.006	
18	1	17-18	2040	1	0.0016	0.0765	0.1254	0.005	0.001	0.0001	0.006	
19	1	18-19	2041	1	0.0016	0.0765	0.1254	0.005	0.001	0.0001	0.006	
20	1	19-20	2042	1	0.0016	0.0765	0.1254	0.005	0.001	0.0001	0.006	
21	1	20-21	2043	1	0.0016	0.0765	0.1254	0.005	0.001	0.0001	0.006	
22	1	21-22	2044	1	0.0016	0.0765	0.1254	0.005	0.001	0.0001	0.006	
23	1	22-23	2045	1	0.0016	0.0765	0.1254	0.005	0.001	0.0001	0.006	
24	1	23-24	2046	1	0.0016	0.0765	0.1254	0.005	0.001	0.0001	0.006	
25	1	24-25	2047	1	0.0016	0.0765	0.1254	0.005	0.001	0.0001	0.006	
26	1	25-26	2048	1	0.0016	0.0765	0.1254	0.005	0.001	0.0001	0.006	
27	1	26-27	2049	1	0.0016	0.0765	0.1254	0.005	0.001	0.0001	0.006	
28	1	27-28	2050	1	0.0016	0.0765	0.1254	0.005	0.001	0.0001	0.006	
29	1	28-29	2051	1	0.0016	0.0765	0.1254	0.005	0.001	0.0001	0.006	
30	1	29-30	2052	1	0.0016	0.0765	0.1254	0.005	0.001	0.0001	0.006	
Total Increased Cancer Risk								0.35	0.097	0.009	**0.5**	

* Third trimester of pregnancy

Green Tree Project , Vacaville - Orange Dr. Impacts on Construction MEI
Maximum TAC Cancer Risk Calculations
1.5 meter receptor height

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)				
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Age Sensitivity Factor**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**TOTAL**	**Maximum Hazard Index**
0	0.25	-0.25 - 0*	2023	10				0.000	0.000	0.0000	0.00	
1	1	0 - 1	2023	10	0.00000	0.0000	0.0000	0.000	0.000	0.0000	0.00	0.0000
2	1	1 - 2	2024	10	0.00000	0.0000	0.0000	0.000	0.000	0.0000	0.00	0.0000
3	1	2 - 3	2025	3	0.00000	0.0000	0.0000	0.000	0.000	0.0000	0.00	0.0000
4	1	3 - 4	2026	3	0.00000	0.0000	0.0000	0.000	0.000	0.0000	0.00	0.0000
5	1	4 - 5	2027	3	0.00000	0.0000	0.0000	0.000	0.000	0.0000	0.00	
6	1	5 - 6	2028	3	0.00000	0.0000	0.0000	0.000	0.000	0.0000	0.00	
7	1	6 - 7	2029	3	0.00000	0.0000	0.0000	0.000	0.000	0.0000	0.00	
8	1	7 - 8	2030	3	0.00000	0.0000	0.0000	0.000	0.000	0.0000	0.00	
9	1	8 - 9	2031	3	0.00000	0.0000	0.0000	0.000	0.000	0.0000	0.00	
10	1	9 - 10	2032	3	0.00004	0.0011	0.0018	0.001	0.000	0.0000	0.00	
11	1	10 - 11	2033	3	0.00004	0.0011	0.0018	0.001	0.000	0.0000	0.00	
12	1	11 - 12	2034	3	0.00004	0.0011	0.0018	0.001	0.000	0.0000	0.00	
13	1	12 - 13	2035	3	0.00004	0.0011	0.0018	0.001	0.000	0.0000	0.00	
14	1	13 - 14	2036	3	0.00004	0.0011	0.0018	0.001	0.000	0.0000	0.00	
15	1	14 - 15	2037	3	0.00004	0.0011	0.0018	0.001	0.000	0.0000	0.00	
16	1	15 - 16	2038	3	0.00004	0.0011	0.0018	0.001	0.000	0.0000	0.00	
17	1	16-17	2039	1	0.00004	0.0011	0.0018	0.000	0.000	0.0000	0.000	
18	1	17-18	2040	1	0.00004	0.0011	0.0018	0.000	0.000	0.0000	0.000	
19	1	18-19	2041	1	0.00004	0.0011	0.0018	0.000	0.000	0.0000	0.000	
20	1	19-20	2042	1	0.00004	0.0011	0.0018	0.000	0.000	0.0000	0.000	
21	1	20-21	2043	1	0.00004	0.0011	0.0018	0.000	0.000	0.0000	0.000	
22	1	21-22	2044	1	0.00004	0.0011	0.0018	0.000	0.000	0.0000	0.000	
23	1	22-23	2045	1	0.00004	0.0011	0.0018	0.000	0.000	0.0000	0.000	
24	1	23-24	2046	1	0.00004	0.0011	0.0018	0.000	0.000	0.0000	0.000	
25	1	24-25	2047	1	0.00004	0.0011	0.0018	0.000	0.000	0.0000	0.000	
26	1	25-26	2048	1	0.00004	0.0011	0.0018	0.000	0.000	0.0000	0.000	
27	1	26-27	2049	1	0.00004	0.0011	0.0018	0.000	0.000	0.0000	0.000	
28	1	27-28	2050	1	0.00004	0.0011	0.0018	0.000	0.000	0.0000	0.000	
29	1	28-29	2051	1	0.00004	0.0011	0.0018	0.000	0.000	0.0000	0.000	
30	1	29-30	2052	1	0.00004	0.0011	0.0018	0.000	0.000	0.0000	0.000	
Total Increased Cancer Risk								0.01	0.001	0.000	**0.01**	

* Third trimester of pregnancy

Jay Witt

From: Stephanie Holliday <SHolliday@ysaqmd.org>
Sent: Thursday, May 6, 2021 4:26 PM
To: Jay Witt
Cc: PRA
Subject: PRA Documents Requested Green Tree Development Area
Attachments: P-36-18 Cancer Risk Mapping 2.22.2017.pdf; P-36-18 Cancer Risk Mapping 3.13.2017.pdf; P-36-18 Emission Evaluation 2.22.2017.pdf; P-36-18 Emission Evaluation 3.13.2017.pdf; P-39-18 Cancer Risk Mapping 2.2017.pdf; P-39-18 Cancer Risk Mapping 3.13.2017.pdf; P-39-18 Emission Evaluation 2.22.2017.pdf; P-39-18 Emission Evaluation 3.13.2017.pdf; P-69-99 Emission Evaluation 8.1999.pdf; P-95-06 Emission Evaluation 12.2005.pdf

Good Afternoon Mr. Witt,

Thank you for your payment. As requested, attached are the documents for your Public Records Act that was received on April 16, 2021 for "Nearby stationary sources, their TAC emission estimates, and print outs of any cancer/health risk isopleths" for the area within 1,000 feet of the Green Tree development project area in Vacaville, CA.

The following documents are attached:

1 Caliber Body Works, Inc. Emission Evaluation P-36-18 3/2017
2 Caliber Body Works, Inc. Emission Evaluation P-36-18 2/2017
3 Caliber Body Works, Inc. Cancer Risk Mapping P-36-18 3/2017
4 Caliber Body Works, Inc. Cancer Risk Mapping P-36-18 2/2017
5 Caliber Body Works, Inc. Emission Evaluation P-39-18 3/2017
6 Caliber Body Works, Inc. Emission Evaluation P-39-18 2/2017
7 Caliber Body Works, Inc. Cancer Risk Mapping P-39-18 3/2017
8 Caliber Body Works, Inc. Cancer Risk Mapping P-39-18 2/2017
9 City of Vacaville Emission Evaluation P-69-99
10 Quik Stop Markets Emission Evaluation P-95-06 12/2005

As these are the documents requested and confirmed to send, the Yolo-Solano Air Quality Management District now considers this request closed. Please let me know if you have any questions regarding this request. If you would like to request additional District records or information in the future, please submit a new PRA form by mail, fax: (530-757-3670), or email (PRA@ysaqmd.org).

Thank you and have a great day!

Best Regards,

Stephanie Holliday | Public Information Officer
Yolo-Solano Air Quality Management District
1947 Galileo Ct., Ste. 103 | Davis, CA 95618
Direct (530)757-3657 | Main (530) 757-3650 | Fax (530) 757-3670
sholliday@ysaqmd.org | www.ysaqmd.org
Facebook | Twitter

From: Jay Witt [mailto:jwitt@illingworthrodkin.com]
Sent: Wednesday, May 05, 2021 8:46 AM
To: Lacey Obrien
Cc: PRA
Subject: RE: Invoice 8316 from Yolo-Solano Air Quality Management District

Lacey – I am checking on the Information request invoiced below. My receipt for the payment is attached.

Thanks in advance!

Jay Witt, PE
Illingworth & Rodkin, Inc
Acoustics & Air Quality
Office: (707) 794-0400 ext 114
Direct: (208) 810-1595

From: Lacey Obrien <LObrien@ysaqmd.org>
Sent: Friday, April 23, 2021 10:12 AM
To: Jay Witt <jwitt@illingworthrodkin.com>
Cc: PRA <pra@ysaqmd.org>
Subject: Invoice 8316 from Yolo-Solano Air Quality Management District

Dear Customer,

Your invoice-8316 for 14.00 is attached. Please remit payment at your earliest convenience.

Thank you,
Yolo-Solano Air Quality Management District

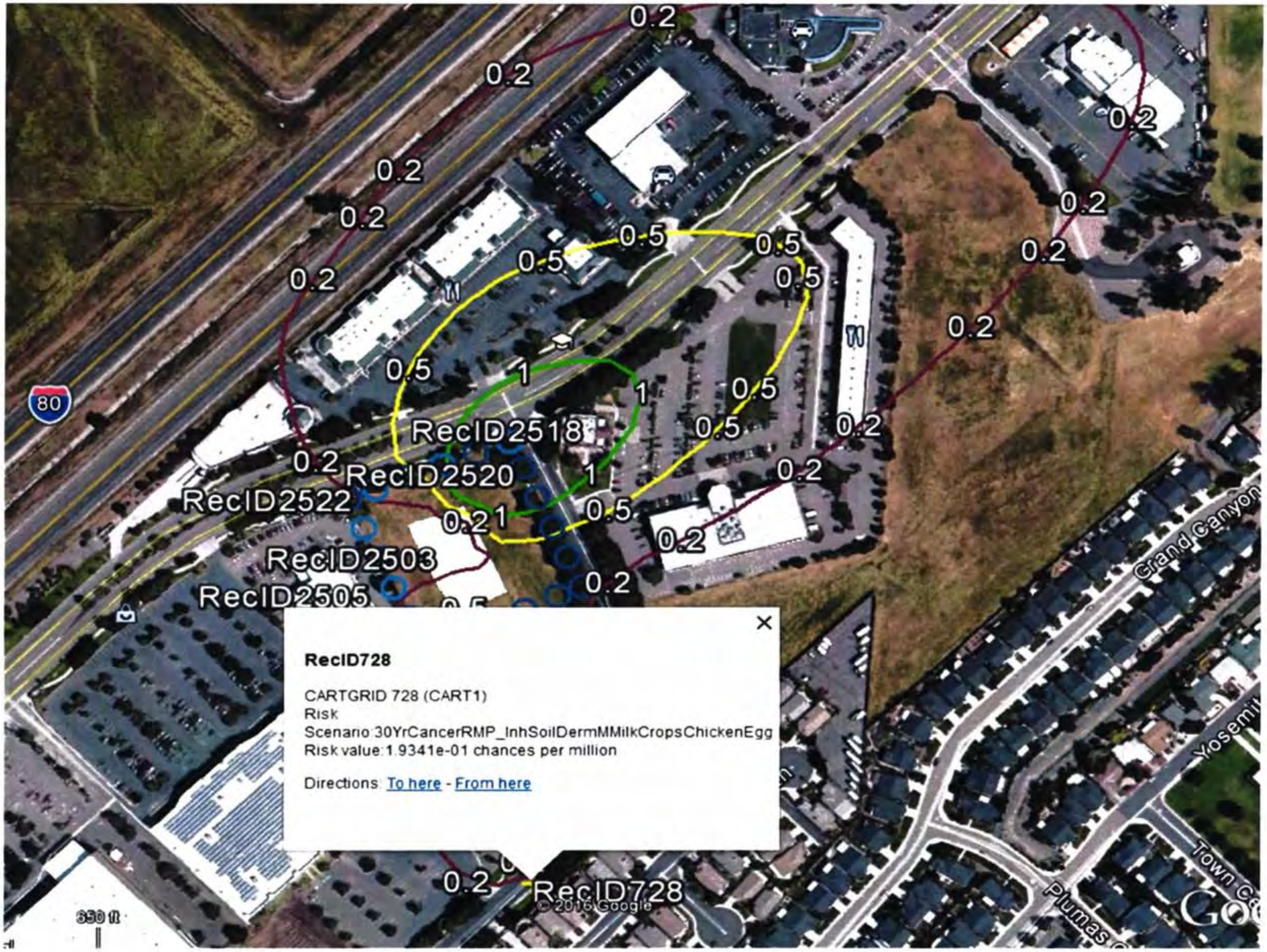
530-757-3650
www.ysaqmd.org

Residential Cancer Risk

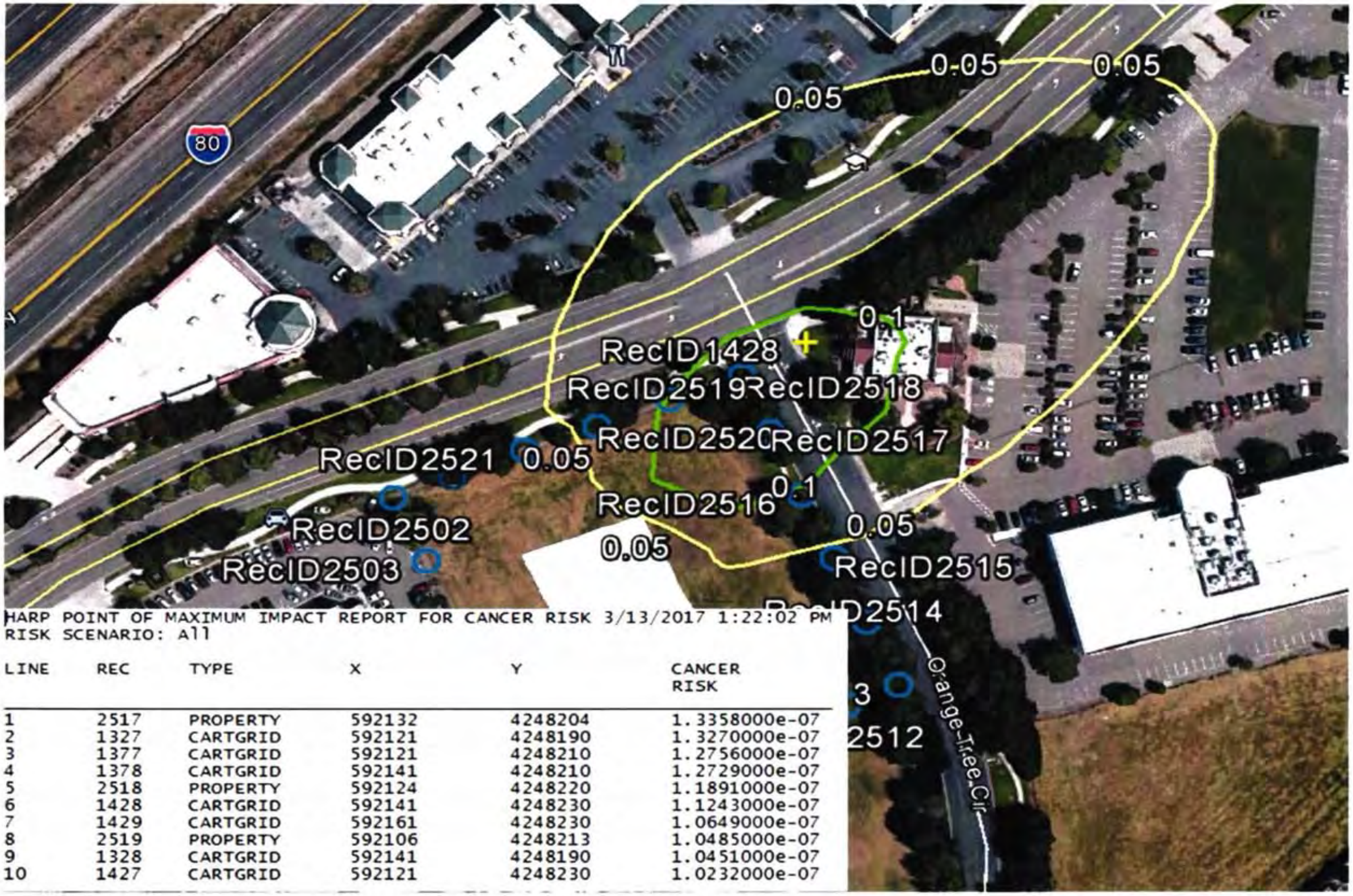
HARP POINT OF MAXIMUM IMPACT REPORT FOR CANCER RISK 3/13/2017 1:32:32 PM
RISK SCENARIO: All

LINE	REC	TYPE	X	Y	CANCER RISK
1	2517	PROPERTY	592132	4248204	1.7898000e-06
2	1327	CARTGRID	592121	4248190	1.7779000e-06
3	1377	CARTGRID	592121	4248210	1.7091000e-06
4	1378	CARTGRID	592141	4248210	1.7055000e-06
5	2518	PROPERTY	592124	4248220	1.5931000e-06
6	1428	CARTGRID	592141	4248230	1.5064000e-06
7	1429	CARTGRID	592161	4248230	1.4269000e-06
8	2519	PROPERTY	592106	4248213	1.4048000e-06
9	1328	CARTGRID	592141	4248190	1.4002000e-06
10	1427	CARTGRID	592121	4248230	1.3710000e-06

Residential Cancer Risk



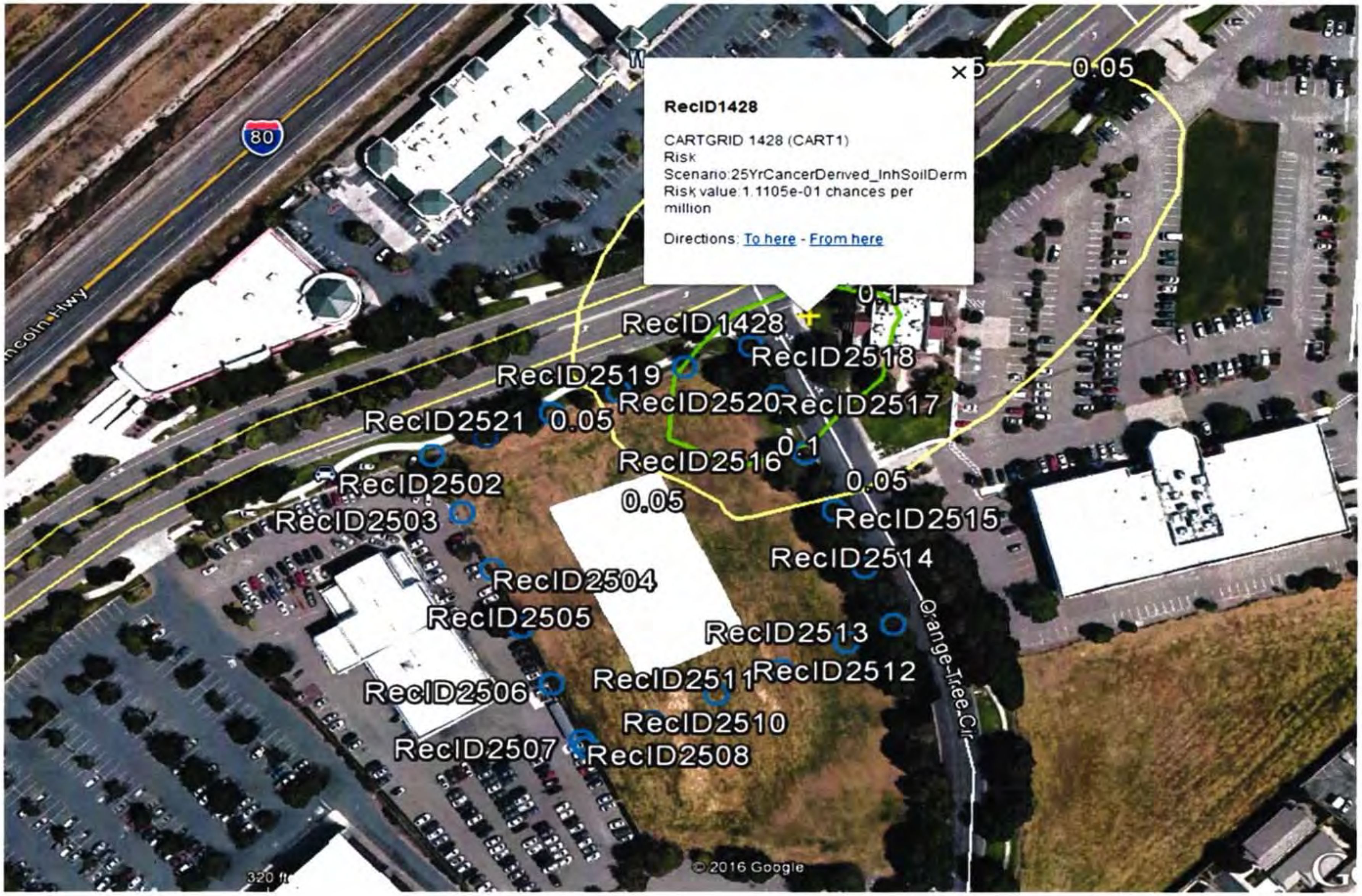
Offsite Worker Cancer Risk



HARP POINT OF MAXIMUM IMPACT REPORT FOR CANCER RISK 3/13/2017 1:22:02 PM
RISK SCENARIO: All

LINE	REC	TYPE	X	Y	CANCER RISK
1	2517	PROPERTY	592132	4248204	1.3358000e-07
2	1327	CARTGRID	592121	4248190	1.3270000e-07
3	1377	CARTGRID	592121	4248210	1.2756000e-07
4	1378	CARTGRID	592141	4248210	1.2729000e-07
5	2518	PROPERTY	592124	4248220	1.1891000e-07
6	1428	CARTGRID	592141	4248230	1.1243000e-07
7	1429	CARTGRID	592161	4248230	1.0649000e-07
8	2519	PROPERTY	592106	4248213	1.0485000e-07
9	1328	CARTGRID	592141	4248190	1.0451000e-07
10	1427	CARTGRID	592121	4248230	1.0232000e-07

Offsite Worker Cancer Risk



Offsite Worker Cancer Risk

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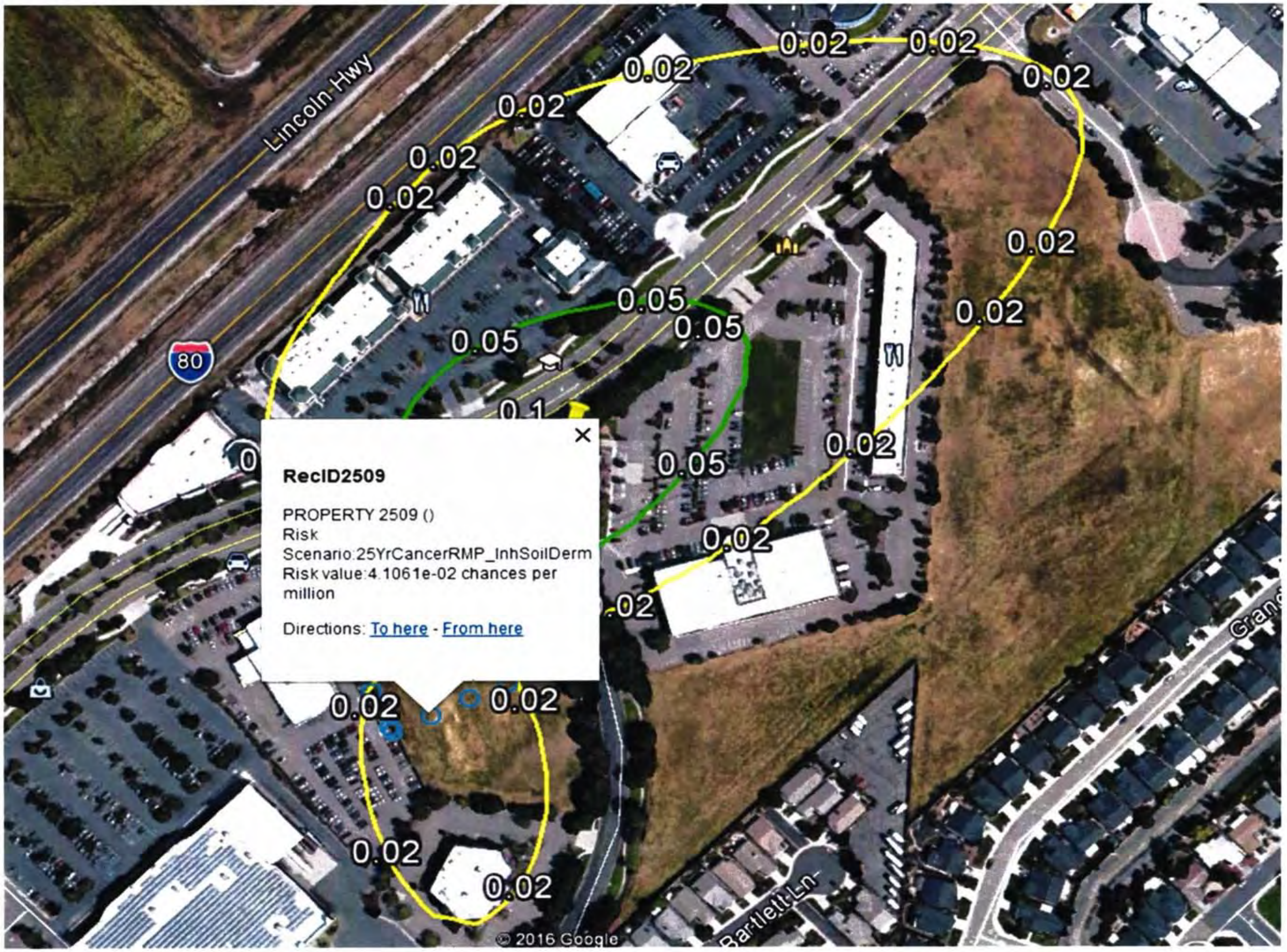
10	1427	CARTGRID	592121	4248230	1.0232000e-07

PREVIOUS

F:\ENGINEER\Permits\ATCs\Evals\17s\C1712.xlsx 3/13/2017

Offsite Worker Cancer Risk



YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT

1947 Galileo Court, Suite 103; Davis, CA 95618

Emission Evaluation
Coating Operation: Automotive

ATC #	C-17-13
SIC Code #	7532
UTM E	592.1 km
UTM N	4248.1 km

ENGINEER: Jennifer Border

FACILITY NAME: Caliber Body Works, Inc. dba Caliber Collision Center

LOCATION: The equipment will be located at 90 Orange Tree Circle in Vacaville. The equipment will not be located within 1,000 feet of a K-12 school and is not subject to the requirements of H&S 42301.6

PROPOSAL: The applicant is proposing to install an automotive coating operation.

PROCESS: Automotive Coating Operation and Prep Area

FLOW DIAGRAM: None

EQUIPMENT: 10'-10"H x 24'-0"W x 24'-5"L' paint spray booth with HVLP gun(s) and 1.0 MMBTU/hr natural gas fired burner

CONTROL EQUIPMENT: Exhaust fan (14,000 CFM) with dry filter system

APPLICATION DATA:

Booth Data:	Units	Formula Symbol	Reference
Exhaust Fan Rating =	14,000 CFM	CFM	Applicant
Burner Rating =	1.0 MMBTU/hr	BR	Applicant

Coatings:	Units	Formula Symbol	Reference
Daily Total Coatings =	2.0 gallons	DC	Applicant

Primer Sealer:	Units	Formula Symbol	Reference
1st Quarter Usage =	130.0 gallons	G1	Applicant
2nd Quarter Usage =	130.0 gallons	G2	Applicant
3rd Quarter Usage =	130.0 gallons	G3	Applicant
4th Quarter Usage =	130.0 gallons	G4	Applicant
Yearly Usage =	520.0 gallons	GY	Applicant

Solvent:	Units	Formula Symbol	Reference
Daily Usage =	1.0 gallons	SD	Applicant
1st Quarter Usage =	65.0 gallons	S1	Applicant
2nd Quarter Usage =	65.0 gallons	S2	Applicant
3rd Quarter Usage =	65.0 gallons	S3	Applicant
4th Quarter Usage =	65.0 gallons	S4	Applicant
Yearly Usage =	260.0 gallons	SY	Applicant

Heater Usage:			
Daily Usage =	5.0 hours	HD	Applicant
Days per week =	7 days/week	DW	Applicant

Natural Gas Fuel:	Units	Formula Symbol	Reference
Daily Usage =	0.005 MMSCF	ND	Applicant
1st Quarter Usage =	0.450 MMSCF	N1	Applicant
2nd Quarter Usage =	0.455 MMSCF	N2	Applicant
3rd Quarter Usage =	0.460 MMSCF	N3	Applicant
4th Quarter Usage =	0.460 MMSCF	N4	Applicant
Yearly Usage =	1.825 MMSCF	NY	Applicant

ASSUMPTIONS:

Misc. Coating Data:	Units	Formula Symbol	Reference
HVLP Transfer Efficiency =	75.0 %	TE	STAPPA-ALAPCO Vol. 2, 14-7 (05/91)
Filter Efficiency =	66.0 %	FE	STAPPA-ALAPCO Vol. 2, 14-7 (05/91)

Misc. Combustion Data:	Units	Formula Symbol	Reference
Natural Gas Higher Heating Value =	1,000 BTU/SCF	HH	AP-42, Appendix A (09/85)
Natural Gas F-Factor =	8,710 SCF/MMBTU	FF	District
Standard Molar Volume =	385 SCF/lb-mole	MV	District
SO_2 Molecular Weight =	64 lb/lb-mole	MWso2	STAPPA/ALAPCO, Pg. 12-30 (05/91)

EMISSION FACTORS:

Coating Emission Factors:	Units	Formula Symbol	Reference
Primer Sealer =	2.1 lb/gallon	EFg	District Rule 2.26, Section 302
Other Coating Types =	2.1 lb/gallon	EFm	District Rule 2.26, Section 302

Coating PM Factor:	Units	Formula Symbol	Reference
TSP/PM10 - All Coatings =	5.5 lb/gallon	EFpm	STAPPA-ALAPCO Vol. 2, 14-4 (05/91) *

* Worst case particulate matter emission factor taken as enamel coating and assumes all PM emissions are PM10.

Solvent VOC Factors:	Units	Formula Symbol	Reference
Substrate Prep. and Cleanup Solvent =	0.208 lb/gallon	EFs	District Rule 2.31, Section 301
Gun Washer Emission Rate =	- lb/hour	GW	District *

* The District will not quantify the VOC emissions resulting from the use of a gun washer with compliant VOC containing solvents.

Natural Gas Combustion Factors:	Units	Formula Symbol	Reference
VOC =	5.5 lb/MMSCF	EFvoc	AP-42 Table 1.4-2 (07/98)
CO =	84 lb/MMSCF	EFco	AP-42 Table 1.4-2 (07/98)
NOx =	100 lb/MMSCF	EFnox	AP-42 Table 1.4-2 (07/98)
SOx =	0.6 lb/MMSCF	EFsox	AP-42 Table 1.4-2 (07/98)
TSP/PM10 =	7.6 lb/MMSCF	EFcp	AP-42 Table 1.4-2 (07/98)

EMISSION CALCULATIONS:

1. Determine the Non-Combustion Emissions:

VOC Emissions	
Max. Daily Emissions = DC * MAX[EF_i] + SD * EFs + TD * EFt =	7.2 lb/day
1st Quarterly Emissions = Σ[$Coating_i$ * EF_i] + S1 * EFs + T1 * EFt =	285 lb/quarter
2nd Quarterly Emissions = Σ[$Coating_i$ * EF_i] + S2 * EFs + T2 * EFt =	285 lb/quarter
3rd Quarterly Emissions = Σ[$Coating_i$ * EF_i] + S3 * EFs + T3 * EFt =	285 lb/quarter
4th Quarterly Emissions = Σ[$Coating_i$ * EF_i] + S4 * EFs + T4 * EFt =	285 lb/quarter
Max. Yearly Emissions = Σ[$Coating_i$ * EF_i] + SY * EFs + TY * EFt =	1139 lb/year **(Process Limit)**
Max. Yearly Emissions = [VOC lb/year] * (1 ton/2,000 lb) =	0.57 tons/year

TSP/PM10 Emissions	
Max. Daily Emissions = DC * EFpm * (100% - TE) * (100% - FE) =	0.9 lb/day
1st Quarterly Emissions = Σ[$Coating_i$] * EFpm * (100% - TE) * (100% - FE) =	61 lb/quarter
2nd Quarterly Emissions = Σ[$Coating_i$] * EFpm * (100% - TE) * (100% - FE) =	61 lb/quarter
3rd Quarterly Emissions = Σ[$Coating_i$] * EFpm * (100% - TE) * (100% - FE) =	61 lb/quarter
4th Quarterly Emissions = Σ[$Coating_i$] * EFpm * (100% - TE) * (100% - FE) =	61 lb/quarter
Max. Yearly Emissions = Σ[$Coating_i$] * EFpm * (100% - TE) * (100% - FE) * (1 ton/2,000 lb) =	0.12 tons/year

2. Determine the Combustion Emissions:

VOC Emissions	
Max. Daily Emissions = ND * EFvoc =	0.0 lb/day
1st Quarter Emissions = N1 * EFvoc =	2 lb/quarter
2nd Quarter Emissions = N2 * EFvoc =	3 lb/quarter
3rd Quarter Emissions = N3 * EFvoc =	3 lb/quarter
4th Quarter Emissions = N4 * EFvoc =	3 lb/quarter
Max. Yearly Emissions = NY * EFvoc * (1 ton/2,000 lb) =	0.01 tons/year

CO Emissions	
Max. Daily Emissions = ND * EFco =	0.4 lb/day
1st Quarter Emissions = N1 * EFco =	38 lb/quarter
2nd Quarter Emissions = N2 * EFco =	38 lb/quarter
3rd Quarter Emissions = N3 * EFco =	39 lb/quarter
4th Quarter Emissions = N4 * EFco =	39 lb/quarter
Max. Yearly Emissions = NY * EFco * (1 ton/2,000 lb) =	0.08 tons/year

NOx Emissions	
Max. Hourly Emissions = ND * EFnox * (1 day/24 hour) =	0.02 lb/hour
Max. Daily Emissions = ND * EFnox =	0.5 lb/day

1st Quarter Emissions = N1 * EFnox =	45 lb/quarter
2nd Quarter Emissions = N2 * EFnox =	46 lb/quarter
3rd Quarter Emissions = N3 * EFnox =	46 lb/quarter
4th Quarter Emissions = N4 * EFnox =	46 lb/quarter
Max. Yearly Emissions = NY * EFnox * (1 ton/2,000 lb) =	0.09 tons/year
SOx Emissions	
Max. Hourly Emissions = ND * EFsox * (1 day/24 hour) =	0.000 lb/hour
Max. Daily Emissions = ND * EFsox =	0.0 lb/day
1st Quarter Emissions = N1 * EFsox =	0 lb/quarter
2nd Quarter Emissions = N2 * EFsox =	0 lb/quarter
3rd Quarter Emissions = N3 * EFsox =	0 lb/quarter
4th Quarter Emissions = N4 * EFsox =	0 lb/quarter
Max. Yearly Emissions = NY * EFsox * (1 ton/2,000 lb) =	0.00 tons/year
TSP/PM10 Emissions	
Max. Hourly Emissions = ND * EFcp * (1 day/24 hour) =	0.002 lb/hour
Max. Daily Emissions = ND * EFcp =	0.0 lb/day
1st Quarter Emissions = N1 * EFcp =	3 lb/quarter
2nd Quarter Emissions = N2 * EFcp =	3 lb/quarter
3rd Quarter Emissions = N3 * EFcp =	3 lb/quarter
4th Quarter Emissions = N4 * EFcp =	3 lb/quarter
Max. Yearly Emissions = NY * EFcp * (1 ton/2,000 lb) =	0.01 tons/year

3. Determine the Total VOC Emissions:

Total Max. Daily Emissions = Non-Combustion + Combustion =	7.2 lb/day
Total 1st Quarter Emissions = Non-Combustion + Combustion =	287 lb/quarter
Total 2nd Quarter Emissions = Non-Combustion + Combustion =	287 lb/quarter
Total 3rd Quarter Emissions = Non-Combustion + Combustion =	287 lb/quarter
Total 4th Quarter Emissions = Non-Combustion + Combustion =	287 lb/quarter
Total Max. Yearly Emissions = Non-Combustion + Combustion =	0.57 tons/year

4. Determine the Total TSP/PM10 Emissions:

Total Max. Daily Emissions = Non-Combustion + Combustion =	1.0 lb/day
Total 1st Quarter Emissions = Non-Combustion + Combustion =	64 lb/quarter
Total 2nd Quarter Emissions = Non-Combustion + Combustion =	64 lb/quarter
Total 3rd Quarter Emissions = Non-Combustion + Combustion =	64 lb/quarter
Total 4th Quarter Emissions = Non-Combustion + Combustion =	64 lb/quarter
Total Max. Yearly Emissions = Non-Combustion + Combustion =	0.13 tons/year

5. Determine the Filter System's Particulate Matter Concentration:

PM Conc. = [PM lb/day] * (1 day/24 hr) * (1 hr/60 min) * (7,000 gr/1 lb) * (1/CFM) = 0.000 gr/DSCF

6. Determine SO2 Concentration:

SOx % = [SOx lb/day] * (1 day/24 hr) * MV * (1/MWso2) * (1/BR) * (1/FF) * 100% = 0.00001 %

RULE & REGULATION COMPLIANCE EVALUATION:

District Rule 2.3-Ringlemann Chart

Visible emissions from the operation are expected to comply with the 20% opacity rule limit.

District Rule 2.5-Nuisance

The operation is expected to comply with the rule requirement of no discharge which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or the public. A condition will not be placed on the ATC, but will be added to the PTO upon implementation.

District Rule 2.11-Particulate Matter

	Emission Rate	Allowable Rate	Compliance
Dry Filter Exhaust PM Conc. =	0.0003 gr/DSCF	0.1 gr/DSCF	Yes

District Rule 2.12-Specific Contaminants

	Emission Rate	Allowable Rate	Compliance
Burner Exhaust SOx Conc. =	0.00001 % (as SO2)	0.2 % (as SO2)	Yes

District Rule 2.16-Fuel Burning or Power Generation

	Emission Rate	Allowable Rate	Compliance
Burner Exhaust NOx Conc. =	0.02 lb/hour	140 lb/hour	Yes
Burner Exhaust SOx Conc. =	0.0001 lb/hour	200 lb/hour	Yes
Burner Exhaust PM Conc. =	0.002 lb/hour	40 lb/hour	Yes

District Rule 2.26-Motor Vehicle and Mobile Equipment Coating Operations

The rule applies to the operation. The permit will be issued with appropriate conditions to ensure compliance with the rule, including:

- A table limiting the VOC contents of the listed coating categories (Sections 301 and 302);
- A condition requiring that a product fitting into multiple categories be classified by the most restrictive VOC limit (Section 303);
- Coating application methods (Section 304);
- Storage and disposal of VOC containing materials (Section 306);
- A condition prohibiting the application of any coatings containing hexavalent chromium or cadmium (Section 310);
- A condition prohibiting the possession of any coating not in compliance with the rule (Section 401); and
- General record keeping requirements (Section 501).

District Rule 2.31-Surface Preparation and Cleanup

Per Section 110.2, the operation is considered exempt from the rule when using solvents containing no more than 25 g/l of VOC. The permit will be issued with the following conditions:

- A Rule 3.4 condition limiting the maximum solvent VOC content to 25 g/L (see Comments below); and
- The "burden of proof" record keeping requirements of Section 503.

District Rule 3.4-New Source Review

PROPOSED EMISSION SUMMARY FOR NEW OR MODIFIED PERMIT

	Daily	*Yearly*	
VOC	7.2 lb	0.57 tons	Use for annual billing
CO	0.4 lb	0.08 tons	Use for annual billing
NOx	0.5 lb	0.09 tons	Use for annual billing
SOx	0.0 lb	0.00 tons	Use for annual billing
PM10	1.0 lb	0.13 tons	Use for annual billing

Quarterly

	1st	2nd	3rd	4th
VOC (lb)	287	287	287	287
CO (lb)	38	38	39	39
NOx (lb)	45	46	46	46
SOx (lb)	0	0	0	0
PM10 (lb)	64	64	64	64

Previous quarterly potential to emit for modified permit*

	1st	2nd	3rd	4th
VOC (lb)	0	0	0	0
CO (lb)	0	0	0	0
NOx (lb)	0	0	0	0
SOx (lb)	0	0	0	0
PM10 (lb)	0	0	0	0

* This is an application for a new booth, therefore the previous potential to emit is zero.

Historic potential emissions for modified permit*

	1st	2nd	3rd	4th
VOC (lb)	0	0	0	0
CO (lb)	0	0	0	0
NOx (lb)	0	0	0	0
SOx (lb)	0	0	0	0
PM10 (lb)	0	0	0	0

* This is an application for a new booth, therefore the historic potential to emit is zero.

BACT

Pollutant	Trigger (lb/day)	Proposed (lb/day)	Quarterly Increase	BACT
VOC	10	7	Yes	No
CO	250	0	Yes	No
NOx	10	1	Yes	No
SOx	80	0	Yes	No
PM10	80	1	Yes	No

OFFSETS

Quarterly permitted emissions for other permits at the stationary source *

	1st	2nd	3rd	4th
VOC (lb)	1,014	1,014	1,014	1,014
CO (lb)	38	38	39	39
NOx (lb)	45	46	46	46

SOx (lb)	0	0	0	0
PM10 (lb)	186	186	186	186

* Emissions from ATC C-17-12

Quarterly permitted emissions for the stationary source including proposed emissions

	1st	2nd	3rd	4th
VOC (lb)	1,302	1,302	1,302	1,302
CO (lb)	76	76	77	77
NOx (lb)	90	91	92	92
SOx (lb)	1	1	1	1
PM10 (lb)	250	250	250	250

Offset triggers

	1st	2nd	3rd	4th
VOC (lb)	7,500	7,500	7,500	7,500
CO (lb)	49,500	49,500	49,500	49,500
NOx (lb)	7,500	7,500	7,500	7,500
SOx (lb)	13,650	13,650	13,650	13,650
PM10 (lb)	13,650	13,650	13,650	13,650

Quantity of offsets required

	1st	2nd	3rd	4th
VOC (lb)	0	0	0	0
CO (lb)	0	0	0	0
NOx (lb)	0	0	0	0
SOx (lb)	0	0	0	0
PM10 (lb)	0	0	0	0

MAJOR MODIFICATION

Facility Total Potential to Emit	***Major Source Thresholds***
2.60 TPY VOC	25 TPY VOC
0.15 TPY CO	100 TPY CO
0.18 TPY NOx	25 TPY NOx
0.00 TPY SOx	100 TPY SOx
0.50 TPY PM10	100 TPY PM10

Last five year emission aggregate	***Major Modification Thresholds***
2.60 TPY VOC	25 TPY VOC
0.15 TPY CO	100 TPY CO
0.18 TPY NOx	25 TPY NOx
0.00 TPY SOx	40 TPY SOx
0.50 TPY PM10	25 TPY PM10

Result: The proposed modification is not a major modification

PUBLIC NOTICE

"Increase in historic potential to emit"	***Exemption level for notification***
287 lb VOC/quarter	7,500 lb VOC/quarter
39 lb CO/quarter	49,500 lb CO/quarter
46 lb NOx/quarter	7,500 lb NOx/quarter
0 lb SOx/quarter	13,650 lb SOx/quarter
64 lb PM10/quarter	13,650 lb PM10/quarter

Result: Public notice is not required

District Rule 3.20-Ozone Transport Mitigation

As documented above, the facility total potential to emit is less than 10 tons per year for VOC and NOx, and the Stationary Source Potential to Emit (SSPE) can not exceed 10 tons per year. Therefore, per section 110.1 this application is exempt from this rule.

40 CFR Part 63, Subpart HHHHHH - National Emission Standards for Hazardous Air Pollutants (NESHAP): Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources

The rule does not apply to the operation since the source has petitioned for an exemption from the requirements of the NESHAP. To ensure that the source remains exempt from the requirements of the NESHAP, the permit will prohibit the application of any spray coatings containing targeted hazardous air pollutants (HAPs) (i.e., chromium, lead, manganese, nickel, and cadmium) and the use of any cured coating strippers containing methylene chloride (MeCl) (see Comments below).

District Risk Management Plan and Risk Assessment Guidelines

1. TAC Emissions from Coatings and Solvents:

District permits for coating operations limit each facility's VOC emissions, however they do not limit a facility's use of any specific brand or formulation of coating. This allows facilities to change vendors or suppliers of coatings as needed in response to market conditions and demands.

The constituents in coatings vary widely, however typically include resins (bind the pigments and additives together and form a film upon drying), pigments (finely ground powders dispersed in the paint to provide color), solvents (volatile carriers used to control viscosity), and additives (improve the properties of the finished film). Common solvents include water, alcohols, glycols, and aromatic hydrocarbons. From a health risk perspective, the constituents of interest are the pigments (e.g., cadmium, chromium, hexavalent chromium, lead, manganese, nickel) and the solvents (e.g., toluene, xylene, ethylbenzene).

As documented in the California Air Resources Board Airborne Toxic Control Measure (ATCM) for automotive coatings, the use of even a small volume coatings containing hexavalent chromium or cadmium can result in significant risk. In accordance with an exemption from the requirements of 40 CFR Part 63 - Subpart HHHHHH, the use of coatings containing hexavalent chromium or cadmium will be prohibited and the permit will prohibit: the use of coatings containing lead, manganese, and nickel (in their respective concentrations); and the use of cured coating strippers containing methylene chloride.

TAC constituents for the paint and solvent to be used at the facility were taken from the Safety Data Sheet for each and evaluated per YSAQMD's RMPRAG. This process assigned a Prioritization Score for the process.

TAC Emissions

Pollutants	CAS	Concentration* (percent)	Coating	Density (lb/gall)	Emissions (lb/year)	Emissions (lb/hr)**
2-butoxyethanol	111-76-2	10%	397937	9.2	0	1.84
Ethylbenzene	100-41-4	1.0%	391094	14.75	51***	0.20***

* The highest value of the range provided in an SDS was used.

** Application stated that 2 gallons of each product could be used per day. This assumes that the maximum single product use is used within a single hour.

*** Primer consists of 4 parts colorbuild, 1 part activator, and 1 part hardener. Gallons of Colorbuild is 4 / 6 of gallons of primer from above.

2. TAC Emissions from Natural Gas Combustion:

In addition to the TAC emissions from painting, the facility includes TAC emissions from natural gas combustion in the heater, and those emissions are also included in the screening risk assessment (prioritization).

Pollutant	Emission Factor * (lb/MMSCF)	Emissions (lb/year)	Emissions (lb/hr)	W/ Emissions from C-17-12 lb/yr	W/ Emissions from C-17-12 lb/hr
Arsenic	2.0E-04	0.000	1.0E-06	7.30E-04	2.0E-06
Benz[a]anthracene	1.8E-06	0.000	9.0E-09	3.68E-04	1.0E-06
Benzene	2.1E-03	0.004	1.1E-05	4.20E-03	1.2E-05
Benzo[a]pyrene	1.2E-06	0.000	6.0E-09	3.67E-04	1.0E-06
Benzo[b]fluoroanthene	1.8E-06	0.000	9.0E-09	3.68E-04	1.0E-06
Benzo[k]fluoroanthene	1.8E-06	0.000	9.0E-09	3.68E-04	1.0E-06
Beryllium	1.2E-05	0.000	6.0E-08	3.87E-04	1.1E-06
Cadmium	1.1E-03	0.002	5.5E-06	2.37E-03	6.5E-06
Copper	8.5E-04	0.002	4.3E-06	1.92E-03	5.3E-06
Dibenz[a,h]anthracene	1.2E-06	0.000	6.0E-09	3.67E-04	1.0E-06
Dichlorobenzene	1.2E-03	0.002	6.0E-06	2.56E-03	7.0E-06
Formaldehyde	7.5E-02	0.137	3.8E-04	1.37E-01	3.8E-04
Hexane	1.8E+00	3.285	9.0E-03	3.29E+00	9.0E-03
Lead	5.0E-04	0.001	2.5E-06	1.28E-03	3.5E-06
Manganese	3.8E-04	0.001	1.9E-06	1.06E-03	2.9E-06
Mercury	2.6E-04	0.000	1.3E-06	8.40E-04	2.3E-06
Naphthalene	6.1E-04	0.001	3.1E-06	1.48E-03	4.1E-06
Nickel	2.1E-03	0.004	1.1E-05	4.20E-03	1.2E-05
Selenium	2.4E-05	0.000	1.2E-07	4.09E-04	1.1E-06
Toluene	3.4E-03	0.006	1.7E-05	6.57E-03	1.8E-05

* AP-42, Section 1.4 (7/98)

Prioritization: The District performed a prioritization evaluation using the CAPCOA worksheet (copy attached).

Prioritization Score: 2.09

Prioritization Results: The proposal is considered to be medium priority because the prioritization score is greater than 1 but less than 10. Therefore a Health Risk Assessment is required.

3. Summary of Health Risk Analysis:

Receptor Type	Receptor No.	Acute Hazard Index (unitless)	Chronic Hazard Index (unitless)	Individual Cancer Risk (per million)
Worksite	1428	0.06	0.011	0.11
Residential	728	0.04	0.003	0.19

The RMPRAG requires that any new or modified emission unit is to satisfy Toxic-Best Available Control Technology (T-BACT) if its calculated hazard index (acute or chronic) is greater than 1, or if its individual cancer risk is calculated to be between 1 and 10 in a million. The hazard index as well as the individual cancer risk was calculated to be less than 1; therefore, T-BACT is not required.

(See the evaluation file for C-17-12 for the HRA contours.)

COMMENTS:

The process does not trigger BACT, T-BACT, offset, or public notice requirements.

In order to ensure compliance with the requirements of this evaluation, the District will place the following conditions on the permit enforceable under either Conditional Approval (District Rule 3.1, Section 402) or New Source Review (District Rule 3.4):

Booth Requirement
- All painting shall be conducted in booth with filters in place, fan operating, and doors closed.

Fuel Meter Requirement
- A non-resettable, totalizing gaseous fuel flow meter shall be installed and utilized to measure the quantity (in cubic feet) of natural gas combusted in the burner(s).

The Permit Holder shall not apply a coating to any motor vehicle, mobile equipment, or associated parts and components, containing cadmium (Cd) or hexavalent chromium (Cr(VI)).

Prohibition of Coatings Containing Target HAPs
- The Permit Holder shall not apply a coating to any motor vehicle, mobile equipment, or associated parts and components, containing the following compounds in the stated amounts:
a. Cadmium (Cd), chromium (Cr), lead (Pb), or nickel (Ni) in amounts greater than or equal to 0.1% by mass; or
b. Manganese (Mn) in amounts greater than or equal to 1.0 % by mass.

Prohibition of Cured Coating Strippers containing MeCl
- The Permit Holder shall not use any cured coating strippers containing methylene chloride (MeCl) to remove dried coatings.

Limited Use of High-VOC content Solvents
- The Permit Holder shall not use solvents with a VOC content greater than 25 g/l (0.21 lb/gallon) for surface preparation and cleanup, or for the cleanup of coating application equipment.

Record Keeping Requirements
- To allow for operational flexibility, the District has evaluated the process' VOC emissions using the proposed coating and solvent usages, but will not limit their quantities on the permit. Instead, the District will list the calculated VOC emissions as the process limit and will enforce them through the District Rules 2.26 and 2.31 recordkeeping requirements, and will require an extra step of calculating and recording VOC emissions on either a daily or monthly frequency.

- The Permit Holder shall monitor and record the cumulative calendar quarter and annual natural gas fuel usage (in cubic feet) from the totalizing meter.

RECOMMENDATIONS:

Issue the Authority to Construct.

Engineer: J. Beasley **Date:** 3/14/17

Reviewed by: [signature] **Date:** 3/14/2017

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT

1947 Galileo CT. , Suite 103, Davis, CA 95616

Diesel Fired Emergency Internal Combustion Engine
Emission Evaluation

ATC # C-99-100
SIC Code # 9511

ENGINEER: John E. Luse

COMPANY NAME: Vacaville, City of

ENGINE LOCATION: The engine is located at 6001 Leisure Town Road, Vacaville. The engine is not located within 1000 feet of a K-12 school and is not subject to the requirements of H&S 42301.6.

PROPOSAL: The applicant is proposing to install a new diesel fired Internal Combustion Engine.

PROCESS: Internal Combustion Engine used to power a generator for pumping wastewater.

FLOW DIAGRAM: None required.

EQUIPMENT: 250 bhp Deere Power Systems Group, Model No. 6081AF001, Serial No. RG6081A006140140.

CONTROL EQUIPMENT: Turbocharger and aftercooler.

APPLICATION DATA:

		Units	Formula Symbol	Reference
Max. Daily Operation =	24	hours/day	Td	Applicant
Max. 1st Quarter Operation =	200	hours/quarter	T1	Applicant
Max. 2nd Quarter Operation =	200	hours/quarter	T2	Applicant
Max. 3rd Quarter Operation =	200	hours/quarter	T3	Applicant
Max. 4th Quarter Operation =	200	hours/quarter	T4	Applicant
Max. Yearly Operation =	200	hours/year	Ty	Applicant
Maximum BHP Rating =	250	BHP	HP	Applicant
Exhaust Volume =	1,480	ACFM	EV	Applicant
Exhaust Temperature =	1,015	Degrees Rankine (F+460)	ET	Applicant
Exhaust Pressure =	32	Inches Hg	EP	Applicant
Hourly Fuel Consumption =	10.7	Gallons	FT	Applicant

ASSUMPTIONS:

		Units	Formula Symbol	Reference
Sulfur Content of Fuel =	0.05	%	SC	STAPPA-ALAPCO, pg 1-5
Standard Temperature =	520	Degrees Rankine (F+460)	ST	STAPPA-ALAPCO, pg 1-7
Standard Pressure =	30	Inches Hg	SP	STAPPA-ALAPCO, pg 1-7
Moisture Content =	10	%	PM	STAPPA-ALAPCO, pg 1-7
BTU Content =	19,300	BTU/lb	BC	AP-42 Section 3.4
Density =	7.1	lb/gallon	DE	AP-42 Section 3.4

EMISSION FACTORS*:

		Units	Formula Symbol	Reference
VOC	0.39	g/bhp-hr	EFvoc	Manufacturer

CO	0.87 g/bhp-hr	EFco	Manufacturer
NOx	7.03 g/bhp-hr	EFnox	Manufacturer
SOx	0.18 g/bhp-hr	EFsox	Manufacturer
PM10/TSP**	0.07 g/bhp-hr	EFpm	Manufacturer

* If manufacturers data is available it should be used
** All particulate is assumed to be less that 1 micrometer aerodynamic diameter (AP-42 Section 3.3)

CALCULATIONS :

1. Determine Diesel Fuel Limits For Permit

Daily Diesel Limit = Td * FT =	257 gallons
1st Quarter Diesel Limit = T1 * FT =	2,140 gallons
2nd Quarter Diesel Limit = T2 * FT =	2,140 gallons
3rd Quarter Diesel Limit = T3 * FT =	2,140 gallons
4th Quarter Diesel Limit = T4 * FT =	2,140 gallons
Yearly Diesel Limit = Ty * FT =	2,140 gallons

2. Determine Dry Standard Cubic Feet of Exhaust:

DSCF Exhaust = (EV)*(ST/ET)*(EP/SP)*(1-PM/100) = 734.4 dscf

3. Determine MMBTU/year combusted in engine for toxics:

MMBTU/year = Ty * FT * DE * BC/1,000,000 = 293.2 BTU/year

EMISSION CALCULATIONS :

1. Determine VOC Emissions:

Max Daily VOC Emissions = (Td*HP*EFvoc)/453.6 =	5.2 lb/day
1st Quarter VOC Emissions = (T1*HP*EFvoc)/453.6 =	43.0 lb/quarter
2nd Quarter VOC Emissions = (T2*HP*EFvoc)/453.6 =	43.0 lb/quarter
3rd Quarter VOC Emissions = (T3*HP*EFvoc)/453.6 =	43.0 lb/quarter
4th Quarter VOC Emissions = (T4*HP*EFvoc)/453.6 =	43.0 lb/quarter
Max Yearly VOC Emissions = (Ty*HP*EFvoc)/(453.6*2000) =	0.02 tons/year

2. Determine CO Emissions:

Max. Daily CO Emissions = (Td*HP*EFco)/453.6 =	11.5 lb/day
1st Quarter CO Emissions = (T1*HP*EFco)/453.6 =	95.9 lb/quarter
2nd Quarter CO Emissions = (T2*HP*EFco)/453.6 =	95.9 lb/quarter
3rd Quarter CO Emissions = (T3*HP*EFco)/453.6 =	95.9 lb/quarter
4th Quarter CO Emissions = (T4*HP*EFco)/453.6 =	95.9 lb/quarter
Max. Yearly CO Emissions = (Ty*HP*EFco)/(453.6*2000) =	0.05 tons/year

3. Determine NOx Emissions:

Max. Daily NOx Emissions = (Td*HP*EFnox)/453.6 =	93.0 lb/day
1st Quarter NOx Emissions = (T1*HP*EFnox)/453.6 =	774.9 lb/quarter
2nd Quarter NOx Emissions = (T2*HP*EFnox)/453.6 =	774.9 lb/quarter
3rd Quarter NOx Emissions = (T3*HP*EFnox)/453.6 =	774.9 lb/quarter
4th Quarter NOx Emissions = (T4*HP*EFnox)/453.6 =	774.9 lb/quarter
Max. Yearly NOx Emissions = (Ty*HP*EFnox)/(453.6*2000) =	0.39 tons/year

4. Determine SOx Emissions:

Max. Hourly SOx Emissions	= (HP*EFsox)/453.6 =	0.1 lb/day
Max. Daily SOx Emissions	= (Td*HP*EFsox)/453.6 =	2.4 lb/day
1st Quarter SOx Emissions	= (T1*HP*EFsox)/453.6 =	20.2 lb/quarter
2nd Quarter SOx Emissions	= (T2*HP*EFsox)/453.6 =	20.2 lb/quarter
3rd Quarter SOx Emissions	= (T3*HP*EFsox)/453.6 =	20.2 lb/quarter
4th Quarter SOx Emissions	= (T4*HP*EFsox)/453.6 =	20.2 lb/quarter
Max. Yearly SOx Emissions	= (Ty*HP*EFsox)/(453.6*2000) =	0.01 tons/year

5. Determine PM10/TSP Emissions:

Max. Daily PM10/TSP Emissions	= (HP*EFpm)/453.6 =	0.0 lb/hour
Max. Daily PM10/TSP Emissions	= (Td*HP*EFpm)/453.6 =	0.9 lb/day
1st Quarter PM10/TSP Emissions	= (T1*HP*EFpm)/453.6 =	7.7 lb/quarter
2nd Quarter PM10/TSP Emissions	= (T2*HP*EFpm)/453.6 =	7.7 lb/quarter
3rd Quarter PM10/TSP Emissions	= (T3*HP*EFpm)/453.6 =	7.7 lb/quarter
4th Quarter PM10/TSP Emissions	= (T4*HP*EFpm)/453.6 =	7.7 lb/quarter
Max. Yearly PM10/TSP Emissions	= (Ty*HP*EFpm)/(453.6*2000) =	0.00 tons/year

6. Determine Particulate Matter Emission Concentration:

PM gr/dscf = (PM lb/hr)*(7000 grains/lb)*(hr/60 min)*(1/dscfm) = 0.01 gr/dscf

7. Determine SOx Emission Concentration:

SOx % = (SOx lb/hr)*(mole/379 scf)*(64 lb/mole)*(hr/60 min)*(1/dscfm) = 0.00 %

RULE & REGULATION COMPLIANCE EVALUATION:

Standards of District Rule 2.11 - Particulate Matter

Emission Rate (gr/dscf)	Allowable Rate (gr/dscf)	Compliance
0.01	0.3	Yes

Standards of District Rule 2.12 Section A - Sulfur Compounds

Emission Rate (% SOx as SO2)	Allowable Rate (% SOx as SO2)	Compliance
0.00	0.02	Yes

Standards of District Rule 2.32 - Stationary Internal Combustion Engines

The engine will be limited to less than 200 hours/year of operation and is exempt from the rule (except for Section 503) pursuant to Section 110.2.

Standards of District Rule 3.4-New Source Review

PROPOSED EMISSION SUMMARY FOR NEW OR MODIFIED PERMIT

	Daily	*Yearly*	
VOC	5.2 lb	0.02 Tons	Use for annual billing
CO	11.5 lb	0.05 Tons	Use for annual billing
NOx	93.0 lb	0.39 Tons	Use for annual billing
SOx	2.4 lb	0.01 Tons	Use for annual billing
PM10/TSP	0.9 lb	0.00 Tons	Use for annual billing

Quarterly

	1st	2nd	3rd	4th
VOC (lb)	43	43	43	43
CO (lb)	96	96	96	96
NOx (lb)	775	775	775	775
SOx (lb)	20	20	20	20
PM10/TSP (lb)	8	8	8	8

Previous quarterly potential to emit for modified permit

	1st	2nd	3rd	4th
VOC (lb)	0	0	0	0
CO (lb)	0	0	0	0
NOx (lb)	0	0	0	0
SOx (lb)	0	0	0	0
PM10 (lb)	0	0	0	0

Historic potential emissions for modified permit

	1st	2nd	3rd	4th
VOC (lb)	0	0	0	0
CO (lb)	0	0	0	0
NOx (lb)	0	0	0	0
SOx (lb)	0	0	0	0
PM10 (lb)	0	0	0	0

BACT

Pollutant	Trigger (lb/day)	Proposed (lb/day)	Quarterly Increase	BACT Trigger
VOC	10	5	Yes	No
CO	250	12	Yes	No
NOx	10	93	Yes	Yes
SOx	80	2	Yes	No
PM10	80	1	Yes	No

OFFSETS

Quarterly permitted emissions for other permits at the stationary source

	1st	2nd	3rd	4th
VOC (lb)	0	0	0	0
CO (lb)	0	0	0	0
NOx (lb)	0	0	0	0
SOx (lb)	0	0	0	0
PM10 (lb)	0	0	0	0

Quarterly permitted emissions for the stationary source including proposed emissions

	1st	2nd	3rd	4th
VOC (lb)	43	43	43	43
CO (lb)	96	96	96	96
NOx (lb)	775	775	775	775
SOx (lb)	20	20	20	20
PM10 (lb)	8	8	8	8

Offset triggers

	1st	2nd	3rd	4th
VOC (lb)	7,500	7,500	7,500	7,500
CO (lb)	49,500	49,500	49,500	49,500
NOx (lb)	7,500	7,500	7,500	7,500
SOx (lb)	13,650	13,650	13,650	13,650
PM10 (lb)	13,650	13,650	13,650	13,650

Quantity of offsets required

	1st	2nd	3rd	4th
VOC (lb)	0	0	0	0
CO (lb)	0	0	0	0
NOx (lb)	0	0	0	0
SOx (lb)	0	0	0	0
PM10 (lb)	0	0	0	0

MAJOR MODIFICATION

Facility Total Potential to Emit	*Major Source Thresholds*
0.0 TPY VOC	25 TPY VOC
0.0 TPY CO	100 TPY CO
0.4 TPY NOx	25 TPY NOx
0.0 TPY SOx	100 TPY SOx
0.0 TPY PM10	100 TPY PM10

Last five year emission aggregate	*Major Modification Thresholds*
0.0 TPY VOC	25 TPY VOC
0.0 TPY CO	100 TPY CO
0.4 TPY NOx	25 TPY NOx
0.0 TPY SOx	40 TPY SOx
0.0 TPY PM10	25 TPY PM10

Result: The proposed modification is not a major modification

PUBLIC NOTICE

"Increase in historic potential to emit"	*Exemption level for notification*
43 lb VOC/quarter	7,500 lb VOC/quarter
96 lb CO/quarter	49,500 lb CO/quarter
775 lb NOx/quarter	7,500 lb NOx/quarter
20 lb SOx/quarter	13,650 lb SOx/quarter
8 lb PM10/quarter	13,650 lb PM10/quarter

Result: Public notice is not required

District Risk Management Plan and Risk Assessment Guidelines

	Emission Factor* (lb/MMBtu)	Emissions (lb/year)	Screening Level (lb/year)	Less Than Screening
Benzene	9.33E-04	0.27	6.70	yes
Toluene	4.09E-04	0.12	38600.00	yes

Xylenes	2.85E-04	0.08	57900.00	yes
Propylene	2.58E-03	0.76	52.00	yes
1,3-Butadiene	3.91E-05	0.01	1.10	yes
Formaldehyde	1.18E-03	0.35	33.00	yes
Acetaldehyde	7.67E-04	0.22	72.00	yes
Acrolein	9.25E-05	0.03	3.90	yes
Benz[a]anthracene	1.68E-06	0.00	0.04	yes
Benzo[b]fluoroanthene	9.91E-08	0.00	0.04	yes
Benzo[a]pyrene	1.55E-07	0.00	0.04	yes
Dibenz[a,h]anthracene	5.83E-07	0.00	0.04	yes
Indeno[1,2,3 -cd]pyrene	3.57E-07	0.00	0.04	yes
Naphthalene	8.48E-05	0.02	270.00	yes

* Based on AP-42 Section 3.3

Further Toxics Review Not Required

COMMENTS: The application triggers BACT for Nox. BACT is satisfied by meeting an emission limit of 7.2 g/bhp-hr as specified in the draft "BACT for Emergency Diesel Internal Combustion Engines" memorandum written by the District Supervising Air Quality Engineer Steven Speckert. The application does not trigger Offsets.

RECOMMENDATIONS: Issue the Authority to Construct.

Engineer: John E. Luse **Date:** 08/04/1999

Reviewed by: **Date:** 8/8/99

diesel.xls, me 5/12/98

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT

1947 Galileo Court, Suite 103, Davis, CA 95616

Retail Gasoline Dispensing Facility
Emission Evaluation

ATC # C-05-217
SIC Code # 5541

ENGINEER: Gary Ma

FACILITY NAME: Quik Stop Markets, Inc.

LOCATION: The equipment is located at 1091 Leisure Town Road in Vacaville, CA. The equipment is not located within 1,000 feet of a K-12 school and is not subject to the requirements of H&S 42301.6.

PROPOSAL: The applicant is proposing to construct a new gasoline storage and dispensing facility.

PROCESS: Retail gasoline storage and dispensing facility

FLOW DIAGRAM: Not Required

EQUIPMENT:

Storage Tanks:	(1) 20,000 Gallon Belowground, Gasoline Tank	
	(1) 16,000 Gallon Belowground Tank, Split: 8,000 Gallons Gasoline/8,000 Gallons Diesel	
Dispensers:	6 Dispensers	Unihose dispensers are installed
Nozzles:	12 Assist Nozzles	
Pressure/Vacuum valves:	2 P/V Valves	

CONTROL EQUIPMENT:

Phase I:	VR-102-E	Phase I EVR is installed
Phase II:	VR-202-A	Phase II EVR is installed
Vapor Recovery System:	Assist	
ORVR Compatibility:	System is ORVR compatible	
In-Station Diagnostics:	Yes	ISD is installed

GASOLINE THROUGHPUT:

	Units	Formula Symbol	Reference
Daily Throughput =	13,000 gallons	Td	Applicant
1st Quarter Throughput =	950,000 gallons	T1	Applicant
2nd Quarter Throughput =	1,000,000 gallons	T2	Applicant
3rd Quarter Throughput =	1,000,000 gallons	T3	Applicant
4th Quarter Throughput =	950,000 gallons	T4	Applicant
Yearly Throughput =	3,500,000 gallons	Ty	Applicant

EMISSION FACTORS:	Phase I & II with PV Valves
(Tank Filling)	0.08
(Breathing Loss)	0.02
(Vehicle Fueling)	1.24
(Spillage)	0.42
Total (lbs VOC/mgals gasoline) =	1 76

REFERENCES: Emission factors are taken from proposed emission factors from the Gasoline Risk Assessment Committee of CAPCOA. Emission factors assume use of reformulated gasoline. Documentation is located in Engineering Evaluation binder.

EMISSION CALCULATIONS :

1. Determine VOC Emissions:

Max Daily VOC Emissions = Td/1000*EFvoc =	22.9	lb/day
1st Quarter VOC Emissions = T1/1000*EFvoc =	1,672	lb/quarter
2nd Quarter VOC Emissions = T2/1000*EFvoc =	1,760	lb/quarter
3rd Quarter VOC Emissions = T3/1000*EFvoc =	1,760	lb/quarter
4th Quarter VOC Emissions = T4/1000*EFvoc =	1,672	lb/quarter
Max Yearly VOC Emissions = (Ty/1000*EFvoc)*(1 ton/2000 lb) =	3.08	tons/year

RULE & REGULATION COMPLIANCE EVALUATION:

Standards of CARB Executive Order

Phase I: VR-102-E The system shall be installed and maintained according to manufacturer's specifications All phase I deliveries shall have at least one vapor recovery line connected between the tank and truck.

Phase II: VR-202-A The system shall be installed and maintained according to the manufacturer's specifications All nozzles used at new or existing facilities shall conform to the standards of executive order G-70-199.

District Rule 2.21-Vapor Control for Organic Liquid Storage and Transfer

This rule is applicable to this source because the gasoline tank is more than 250 gallons capacity. Since the source has no gasoline tanks greater than 40,000 gallons capacity, they are exempt from section 300-305. The source does not have any tanks equipped with mechanical shoe seals and is, therefore, exempt from section 306. The source does not have any resilient toroid or liquid mounted seals and is therefore exempt from section 307. This facility does not operate a bulk terminal, bulk plant, or transport vessel, therefore, sections 308, 309, and 310 are not applicable. The source is in compliance with section 311 by using a CARB certified vapor recovery system. There are no bulk storage tanks at this facility, therefore section 312 and 314 are not applicable. Appropriate conditions will be placed on the permit to ensure compliance with section 313.

District Rule 2.22-Gasoline Dispensing Facilities

This rule is applicable because the gasoline tank is more than 250 gallons capacity. Phase I and II are required since the yearly throughput is more than 24,000 gallons. The phase I and phase II system must be equipped with a CARB certified vapor recovery system (see above for executive order). The vapor recovery system shall be maintained and operated according to the manufacturer's specifications All vapor return lines must be connected between the transport vessel and storage tank while gasoline is transferred. A notice of correction shall be issued for minor defects and the owner/operator shall repair/replace the component within 7 days and provide evidence to that effect to the District. The owner/operator may be required to conduct and pass an applicable test if deemed necessary. All balance system nozzle boots shall be replaced at least once per year. If a breakaway is separated, the owner/operator shall either re-attach the parts and perform testing or replace the parts. The station's yearly permitted throughput is not more than 4,000,000 gallons per year, therefore, the station is required to perform annual source testing. The owner operator shall conduct self inspections daily and yearly with district-provided forms

District Rule 3.4-New Source Review

PROPOSED EMISSION SUMMARY FOR NEW OR MODIFIED PERMIT

	Daily	***Yearly***	
VOC	22 9 lb	3.08 Tons	Use for annual billing

Quarterly

	1st	**2nd**	**3rd**	**4th**
VOC (lb)	1,672	1,760	1,760	1,672

Previous quarterly potential to emit for modified permit*

	1st	**2nd**	**3rd**	**4th**
VOC (lb)	0	0	0	0

*This is an application for a new GDF, therefore the previous potential to emit is zero.

Historic potential emissions for modified permit*

	1st	2nd	3rd	4th
VOC (lb)	0	0	0	0

*This is an application for a new GDF, therefore the historic potential to emit is zero.

BACT

Pollutant	Trigger (lb/day)	Proposed (lb/day)	Quarterly Increase	BACT
VOC	10	23	Yes	Yes

OFFSETS

Quarterly permitted emissions for other permits at the stationary source

	1st	2nd	3rd	4th
VOC (lb)	0	0	0	0

Quarterly permitted emissions for the stationary source including proposed emissions

	1st	2nd	3rd	4th
VOC (lb)	1,672	1,760	1,760	1,672

Offset triggers

	1st	2nd	3rd	4th
VOC (lb)	7,500	7,500	7,500	7,500

Quantity of offsets required

	1st	2nd	3rd	4th
VOC (lb)	0	0	0	0

MAJOR MODIFICATION

Facility Total Potential to Emit	*Major Source Thresholds*
3.1 Tons VOC	25 Tons VOC
0.0 Tons CO	100 Tons CO
0.0 Tons NOx	25 Tons NOx
0.0 Tons SOx	100 Tons SOx
0.0 Tons PM10	100 Tons PM10

Last five year emission aggregate	*Major Modification Thresholds*
3.1 Tons VOC	25 Tons VOC
0.0 Tons CO	100 Tons CO
0.0 Tons NOx	25 Tons NOx
0.0 Tons SOx	40 Tons SOx
0.0 Tons PM10	25 Tons PM10

Result: The proposed modification is not a major modification

PUBLIC NOTICE

"Increase in historic potential to emit"	*Exemption level for notification*
1,760 lb VOC/quarter	7,500 lb VOC/quarter

Result: Public notice is not required

District Rule 3.20-Ozone Transport Mitigation

As documented above, the facility total potential to emit is less than 10 tons per year for VOC and NOx, and the Stationary Source Potential to Emit (SSPE) can not exceed 10 tons per year. Therefore, per section 110.1 this application is exempt from this rule.

District Risk Management Plan and Risk Assessment Guidelines (RMPRAG)

Type of Control	Distance to Nearest Receptor*			Annual Gasoline Throughput	Calculated risk
Phase I and II with vent valves	Residence:	405	Feet	3,500,000	9.8
	Business:	278	Feet	3,500,000	6.9
Area Surrounding Facility (Rural or Urban):		Rural			

* Use distance from center of station/facility to edge of nearest receptor. If receptor distance is unknown, leave blank.

Toxics Review Results:

The above RMPRAG analysis indicates a calculated toxics risk of 9.8 in a million when considering the distance to the nearest residence and business (provided by the applicant). The proposal triggers T-BACT T-BACT for a gasoline storage and dispensing facility is Phase I and Phase II vapor recovery equipment. The applicant has already proposed the use of Phase I and Phase II vapor recovery equipment. Therefore, T-BACT has been satisfied.

COMMENTS:

The applicant has proposed the construction of a new gasoline storage and dispensing facility. Per CARB requirements, new facilities must install Phase I EVR and Phase II EVR vapor recovery equipment. The applicant has proposed to satisfied this requirement. In addition, since the permitted gasoline throughput is over 1.8 million gallons, annually, the facility is required to install In-Station Diagnostics (ISD). The applicant has proposed to satisfied this requirement.

BACT is triggered for VOC. BACT for a gasoline storage and dispensing facility is Phase I and Phase II vapor recovery equipment. The applicant has already proposed the use of Phase I and Phase II vapor recovery equipment. Therefore, BACT has been satisfied. T-BACT is triggered. See above RMPRAG analysis and toxics review results. Public notice and offsets are not required.

The ATC will require that the permit holder conduct and pass the manufacturer's start-up test procedures within 30 days of the equipment's initial start-up. Test results shall be reported on manufacturer-provided forms. The District shall be notified of the date and time of the manufacturer's start-up test at least 3 days prior to the test event.

RECOMMENDATIONS: Issue the Authority To Construct.

Engineer: GM Gary M. **Date:** 12/28/2005

Reviewed by: Susan K McLaughlin **Date:** 1/4/06

APPENDIX B

APPLICANT PROPOSED MEASURES
MITIGATED GHG EMISSIONS MEMO

ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality
429 E. Cotati Ave
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M E M O

Date: July 13, 2021
Revised October 25, 2021

To: **Richard Loewke -** Director of Development
Loewke Planning Associates, Inc.
1907 Vintage Circle
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From:

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RE: Greentree Development Project – Vacaville, CA

SUBJECT: Mitigated GHG Emissions - Revised
Job#20-187

Illingworth and Rodkin (I&R), Inc. was asked to estimate the greenhouse gas (GHG) emissions form the Greentree Development Project in Vacaville, California given several proposed mitigation measures using CalEEMod. The proposed mitigation measures were provided via email from Mike Loewke on July 9, 2021 and revised based on comments received on September 7, 2021.

The CalEEMod operational analysis, documented in I&R's Air Quality Technical Report (*Greentree Development Project – Air Quality & Greenhouse Gas Modeling Assessment*, June 22, 2021) was used to develop the initial CalEEMod GHG mitigated analysis using the following proposed mitigation measures:

- Increased Residential Density (LUT-1): The project would exceed average densities. The proposed residential density for the project is estimated at 13.66 dwelling units per acre (du/ac), thereby placing a greater number of residents near other land uses such that vehicle miles traveled to access complimentary land uses are reduced.

- Pedestrian Network Improvements (SDT-1): Project Site and connecting off-site improvements would promote a shift from vehicles to non-motorized modes of transportation, thereby reducing vehicle trips and vehicle miles traveled.

- Traffic Calming Measures (SDT-2): Street and intersection improvements (e.g., bulb-outs at several major intersections and narrower than standard vehicle travel lanes) to reduce vehicle speeds and improve pedestrian safety will be included throughout the project with the goal of promoting pedestrian movement. As a result, 25% of the total potential reduction for this measure was included as mitigation.

- Transit Subsidy (TRT-4): For businesses with 15 or more employees, transit subsidies of a minimum of 50 percent of the average daily transit cost ($1.49) for a minimum of 50 percent of the employees.

- Parking "Cash-Out" (TRT-4): For businesses with 15 or more employees, employee parking "cash out" for a minimum of 50 percent of the employees.

- Hearths: No woodstoves or natural gas hearths.

- Water Conservation Strategy (WUW-2): A water-efficient landscaping strategy would be developed to reduce outdoor water use by 30 percent.

Based on comments received from Placeworks dated September 7, 2021 and further discussions between Loewke Planning Associates, Inc., EMC Planning Group, Dudek, and Placeworks, Revisions were made to the CalEEMod GHG mitigated analysis. Specifically, the Increased Residential Density (LUT-1) measure was removed, and natural gas use was eliminated from the residential units. The CalEEMod model was used to estimate the GHG emissions given these measures. Applying the revised mitigation strategies resulted in an overall increase in emissions when compared to the original emissions estimate. Table 1 shows the unmitigated and mitigated GHG emissions estimates produced using CalEEMod for the initial assessment and the revised estimate accounting for the additional proposed mitigation.

Table 1. Annual Project GHG Emissions (CO_2e) in Metric Tons

Source Category	Proposed Project Unmitigated	Originally Proposed Project Mitigated	Proposed Project, Mitigated Without LUT-1 and No NG
		2032	
Area	834	14	14
Energy Consumption	2,019	2,019	1,505
Mobile	11,655	10,491	11,090
Solid Waste Generation	426	426	426
Water Usage	142	132	132
Total (MT CO_2e/yr)	15,076	13,082	13,167
Difference (MT CO_2e/yr)	-1,994		-1,909

Note that none of these scenarios quantify GHG emissions reductions associated with the inclusion of on-site solar power.

Greentree Vacaville Operations - No NG and No LUT-1

Solano-Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	52.30	Acre	52.30	2,278,197.00	0
City Park	31.70	Acre	31.70	196,020.80	0
Condo/Townhouse	950.00	Dwelling Unit	35.20	1,140,000.00	2717
Retirement Community	199.00	Dwelling Unit	19.90	238,800.00	569
Strip Mall	300.00	1000sqft	6.90	300,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	6.8	**Precipitation Freq (Days)**	56
Climate Zone	4			**Operational Year**	2032
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Latest reported intensity rate (2018)

Land Use - Estimated using Table 2 in Report, Park acresge = 4.5 and 4,000 sf building

Construction Phase - Not Used. Ops run only

Off-road Equipment - Ops run

Off-road Equipment - Ops run

Off-road Equipment - Ops Run

Off-road Equipment - Ops run

Off-road Equipment - Ops run

Off-road Equipment - OPs Run

Off-road Equipment - Added trenching equipment

Trips and VMT - OPs run... no construction emissions

On-road Fugitive Dust - Adjusted trip off-road travel to 0.1 mi or 10% of on and near site travel

Grading - OPs run

Architectural Coating - Ops Run

Vehicle Trips - From VMT provided by Gwen Owens, City of Vacaville May 24, 2021. See Trips_VMT_V3.xlsx for caculations

Vehicle Emission Factors - From EMFAC2021, Year 2032

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust - Assume only 100% of roads are paved. Silt loading from CARB Major/Collector Roadtype 0.032

Woodstoves - Assume all fireplaces are NG, # from CalEEMod Default

Consumer Products -

Area Coating - Per Land Use Calcs used for construction analysis (Land Use Calcs from Construction.xlsx). Low VOC is 50 g/l and asumed to be 75 g/L for 150 g/L coatings (50% reduction in VOCs).

Energy Use - No NG used. Non-Title 24 Electricity Intensity increased to account for more electricity use.

Water And Wastewater - Assume 100% WWTP

Construction Off-road Equipment Mitigation - Ops analysis, no construction

Mobile Land Use Mitigation - Per Mike Loewke email 7-9-2021

Mobile Commute Mitigation - Per Mike Loewke email 7-9-2021

Area Mitigation -

Water Mitigation - Per Mike Loewke email 7-9-2021. Assume the project would provide a WELO plan to reduce outdoor water use by at least 30% when compared to CalEEMod defaults.

Table Name	Column Name	Default Value	New Value
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tblVehicleEF	LHD1	9.0000e-005	7.8000e-005
tblVehicleEF	LHD1	6.2050e-003	6.2960e-003
tblVehicleEF	LHD1	2.7200e-004	1.3800e-004
tblVehicleEF	LHD1	1.8210e-003	0.09
tblVehicleEF	LHD1	0.08	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	9.8600e-004	0.09
tblVehicleEF	LHD1	0.12	0.08
tblVehicleEF	LHD1	0.25	0.13
tblVehicleEF	LHD1	0.15	0.08
tblVehicleEF	LHD2	2.4360e-003	2.2380e-003
tblVehicleEF	LHD2	5.1380e-003	4.9320e-003
tblVehicleEF	LHD2	2.9110e-003	7.5280e-003

tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.46	0.40
tblVehicleEF	LHD2	0.85	0.92
tblVehicleEF	LHD2	13.65	14.12
tblVehicleEF	LHD2	672.64	702.91
tblVehicleEF	LHD2	21.34	7.16
tblVehicleEF	LHD2	0.07	0.10
tblVehicleEF	LHD2	0.24	0.64
tblVehicleEF	LHD2	0.25	0.15
tblVehicleEF	LHD2	1.0240e-003	1.5510e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.3830e-003	0.02
tblVehicleEF	LHD2	3.6000e-004	4.3000e-005
tblVehicleEF	LHD2	9.7900e-004	1.4830e-003
tblVehicleEF	LHD2	0.04	0.03
tblVehicleEF	LHD2	2.7110e-003	2.6570e-003
tblVehicleEF	LHD2	8.9540e-003	0.02
tblVehicleEF	LHD2	3.3100e-004	3.9000e-005
tblVehicleEF	LHD2	5.0600e-004	0.05
tblVehicleEF	LHD2	0.02	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.0600e-004	0.05
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.06
tblVehicleEF	LHD2	0.04	0.03
tblVehicleEF	LHD2	1.3300e-004	1.3500e-004
tblVehicleEF	LHD2	6.5340e-003	6.7480e-003
tblVehicleEF	LHD2	2.2800e-004	7.1000e-005
tblVehicleEF	LHD2	5.0600e-004	0.05

tblVehicleEF	LHD2	0.02	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.0600e-004	0.05
tblVehicleEF	LHD2	0.11	0.11
tblVehicleEF	LHD2	0.03	0.06
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	MCY	0.49	0.15
tblVehicleEF	MCY	0.16	0.18
tblVehicleEF	MCY	19.62	11.92
tblVehicleEF	MCY	10.45	8.29
tblVehicleEF	MCY	183.65	188.49
tblVehicleEF	MCY	43.23	47.02
tblVehicleEF	MCY	1.17	0.56
tblVehicleEF	MCY	0.32	0.12
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	2.3110e-003	1.8670e-003
tblVehicleEF	MCY	3.1380e-003	3.1250e-003
tblVehicleEF	MCY	5.0400e-003	4.2000e-003
tblVehicleEF	MCY	2.1560e-003	1.7440e-003
tblVehicleEF	MCY	2.9330e-003	2.9250e-003
tblVehicleEF	MCY	0.96	4.82
tblVehicleEF	MCY	0.67	3.58
tblVehicleEF	MCY	0.49	4.82
tblVehicleEF	MCY	2.31	0.98
tblVehicleEF	MCY	0.38	3.95
tblVehicleEF	MCY	2.14	1.29
tblVehicleEF	MCY	2.2260e-003	1.8630e-003
tblVehicleEF	MCY	6.6600e-004	4.6500e-004
tblVehicleEF	MCY	0.96	0.12
tblVehicleEF	MCY	0.67	3.58

tblVehicleEF	MCY	0.49	0.12
tblVehicleEF	MCY	2.89	1.19
tblVehicleEF	MCY	0.38	3.95
tblVehicleEF	MCY	2.33	1.40
tblVehicleEF	MDV	4.2530e-003	1.9190e-003
tblVehicleEF	MDV	7.2330e-003	0.07
tblVehicleEF	MDV	0.54	0.60
tblVehicleEF	MDV	1.51	2.97
tblVehicleEF	MDV	363.65	364.06
tblVehicleEF	MDV	80.29	92.26
tblVehicleEF	MDV	0.06	0.05
tblVehicleEF	MDV	0.11	0.30
tblVehicleEF	MDV	0.04	6.6440e-003
tblVehicleEF	MDV	1.2420e-003	8.6600e-004
tblVehicleEF	MDV	1.9290e-003	1.6000e-003
tblVehicleEF	MDV	0.02	2.3250e-003
tblVehicleEF	MDV	1.1430e-003	7.9800e-004
tblVehicleEF	MDV	1.7740e-003	1.4710e-003
tblVehicleEF	MDV	0.06	0.38
tblVehicleEF	MDV	0.14	0.09
tblVehicleEF	MDV	0.05	0.38
tblVehicleEF	MDV	0.01	7.2150e-003
tblVehicleEF	MDV	0.09	0.28
tblVehicleEF	MDV	0.10	0.33
tblVehicleEF	MDV	3.6350e-003	3.5970e-003
tblVehicleEF	MDV	8.2800e-004	9.1200e-004
tblVehicleEF	MDV	0.06	0.38
tblVehicleEF	MDV	0.14	0.09
tblVehicleEF	MDV	0.05	0.38
tblVehicleEF	MDV	0.02	0.01

tblVehicleEF	MDV	0.09	0.28
tblVehicleEF	MDV	0.11	0.36
tblVehicleEF	MH	8.8630e-003	6.1670e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.49	0.38
tblVehicleEF	MH	3.82	1.84
tblVehicleEF	MH	1,189.75	1,651.59
tblVehicleEF	MH	57.22	19.85
tblVehicleEF	MH	0.91	1.47
tblVehicleEF	MH	0.66	0.35
tblVehicleEF	MH	0.13	0.04
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.01	0.03
tblVehicleEF	MH	8.2700e-004	2.0700e-004
tblVehicleEF	MH	0.06	0.02
tblVehicleEF	MH	3.2190e-003	3.3420e-003
tblVehicleEF	MH	0.01	0.03
tblVehicleEF	MH	7.6100e-004	1.9000e-004
tblVehicleEF	MH	0.52	24.19
tblVehicleEF	MH	0.04	5.34
tblVehicleEF	MH	0.21	24.19
tblVehicleEF	MH	0.04	0.06
tblVehicleEF	MH	0.01	0.13
tblVehicleEF	MH	0.23	0.09
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	6.3900e-004	1.9600e-004
tblVehicleEF	MH	0.52	24.19
tblVehicleEF	MH	0.04	5.34
tblVehicleEF	MH	0.21	24.19
tblVehicleEF	MH	0.05	0.07

tblVehicleEF	MH	0.01	0.13
tblVehicleEF	MH	0.25	0.10
tblVehicleEF	MHD	0.02	0.01
tblVehicleEF	MHD	3.0630e-003	8.0670e-003
tblVehicleEF	MHD	0.03	5.9480e-003
tblVehicleEF	MHD	0.41	0.61
tblVehicleEF	MHD	0.26	0.14
tblVehicleEF	MHD	4.16	0.61
tblVehicleEF	MHD	113.56	141.07
tblVehicleEF	MHD	1,173.77	1,000.74
tblVehicleEF	MHD	67.80	5.93
tblVehicleEF	MHD	0.29	0.73
tblVehicleEF	MHD	0.99	0.49
tblVehicleEF	MHD	8.44	1.13
tblVehicleEF	MHD	4.6000e-005	4.9300e-004
tblVehicleEF	MHD	0.13	0.04
tblVehicleEF	MHD	2.9390e-003	4.2440e-003
tblVehicleEF	MHD	9.2100e-004	6.8000e-005
tblVehicleEF	MHD	4.4000e-005	4.7100e-004
tblVehicleEF	MHD	0.06	0.01
tblVehicleEF	MHD	2.8010e-003	4.0520e-003
tblVehicleEF	MHD	8.4700e-004	6.3000e-005
tblVehicleEF	MHD	7.7500e-004	0.02
tblVehicleEF	MHD	0.04	3.1720e-003
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	4.6400e-004	0.02
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.26	0.03
tblVehicleEF	MHD	1.0980e-003	1.3010e-003

tblVehicleEF	MHD	0.01	9.4920e-003
tblVehicleEF	MHD	7.5100e-004	5.9000e-005
tblVehicleEF	MHD	7.7500e-004	0.02
tblVehicleEF	MHD	0.04	3.1720e-003
tblVehicleEF	MHD	0.04	0.04
tblVehicleEF	MHD	4.6400e-004	0.02
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.29	0.03
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	3.7190e-003	0.01
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.25	0.98
tblVehicleEF	OBUS	0.31	0.38
tblVehicleEF	OBUS	3.81	1.70
tblVehicleEF	OBUS	195.26	148.64
tblVehicleEF	OBUS	1,283.27	1,440.57
tblVehicleEF	OBUS	58.61	14.40
tblVehicleEF	OBUS	0.47	0.53
tblVehicleEF	OBUS	0.99	1.09
tblVehicleEF	OBUS	4.52	0.92
tblVehicleEF	OBUS	4.3000e-005	4.5500e-004
tblVehicleEF	OBUS	0.13	0.06
tblVehicleEF	OBUS	3.1210e-003	0.02
tblVehicleEF	OBUS	8.5600e-004	1.3000e-004
tblVehicleEF	OBUS	4.1000e-005	4.3600e-004
tblVehicleEF	OBUS	0.06	0.02
tblVehicleEF	OBUS	2.9700e-003	0.02
tblVehicleEF	OBUS	7.8700e-004	1.1900e-004
tblVehicleEF	OBUS	1.1360e-003	0.10

tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.04	0.07
tblVehicleEF	OBUS	5.2800e-004	0.10
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	0.02	0.11
tblVehicleEF	OBUS	0.24	0.09
tblVehicleEF	OBUS	1.8730e-003	1.4030e-003
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.5300e-004	1.4200e-004
tblVehicleEF	OBUS	1.1360e-003	0.10
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.05	0.09
tblVehicleEF	OBUS	5.2800e-004	0.10
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	0.02	0.11
tblVehicleEF	OBUS	0.26	0.09
tblVehicleEF	SBUS	0.82	0.04
tblVehicleEF	SBUS	5.1070e-003	0.07
tblVehicleEF	SBUS	0.05	1.9890e-003
tblVehicleEF	SBUS	8.77	0.90
tblVehicleEF	SBUS	0.33	0.46
tblVehicleEF	SBUS	6.93	0.24
tblVehicleEF	SBUS	1,018.66	151.68
tblVehicleEF	SBUS	975.22	918.23
tblVehicleEF	SBUS	60.71	1.40
tblVehicleEF	SBUS	3.63	1.09
tblVehicleEF	SBUS	1.28	1.69
tblVehicleEF	SBUS	10.83	0.47
tblVehicleEF	SBUS	1.3650e-003	7.4300e-004
tblVehicleEF	SBUS	0.74	0.04

tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.0020e-003	0.01
tblVehicleEF	SBUS	1.1210e-003	1.7000e-005
tblVehicleEF	SBUS	1.3060e-003	7.1000e-004
tblVehicleEF	SBUS	0.32	0.01
tblVehicleEF	SBUS	2.5420e-003	2.7540e-003
tblVehicleEF	SBUS	5.7190e-003	9.9050e-003
tblVehicleEF	SBUS	1.0300e-003	1.5000e-005
tblVehicleEF	SBUS	3.7740e-003	0.02
tblVehicleEF	SBUS	0.03	3.3020e-003
tblVehicleEF	SBUS	1.04	0.08
tblVehicleEF	SBUS	1.7970e-003	0.02
tblVehicleEF	SBUS	0.05	0.04
tblVehicleEF	SBUS	0.02	0.01
tblVehicleEF	SBUS	0.36	0.01
tblVehicleEF	SBUS	0.01	1.3630e-003
tblVehicleEF	SBUS	9.4360e-003	8.4980e-003
tblVehicleEF	SBUS	7.2700e-004	1.4000e-005
tblVehicleEF	SBUS	3.7740e-003	0.02
tblVehicleEF	SBUS	0.03	3.3020e-003
tblVehicleEF	SBUS	1.51	0.14
tblVehicleEF	SBUS	1.7970e-003	0.02
tblVehicleEF	SBUS	0.06	0.11
tblVehicleEF	SBUS	0.02	0.01
tblVehicleEF	SBUS	0.40	0.01
tblVehicleEF	UBUS	0.52	1.14
tblVehicleEF	UBUS	0.06	0.02
tblVehicleEF	UBUS	3.57	12.57
tblVehicleEF	UBUS	9.56	1.74
tblVehicleEF	UBUS	1,852.49	1,009.43

tblVehicleEF	UBUS	143.35	15.11
tblVehicleEF	UBUS	2.80	0.18
tblVehicleEF	UBUS	12.33	0.14
tblVehicleEF	UBUS	0.50	0.12
tblVehicleEF	UBUS	0.01	0.04
tblVehicleEF	UBUS	0.04	3.1830e-003
tblVehicleEF	UBUS	1.4440e-003	1.1300e-004
tblVehicleEF	UBUS	0.21	0.04
tblVehicleEF	UBUS	3.0000e-003	9.5120e-003
tblVehicleEF	UBUS	0.04	3.0390e-003
tblVehicleEF	UBUS	1.3270e-003	1.0400e-004
tblVehicleEF	UBUS	4.1740e-003	0.03
tblVehicleEF	UBUS	0.06	6.2250e-003
tblVehicleEF	UBUS	2.4160e-003	0.03
tblVehicleEF	UBUS	0.17	0.05
tblVehicleEF	UBUS	0.02	0.03
tblVehicleEF	UBUS	0.86	0.07
tblVehicleEF	UBUS	0.01	6.2570e-003
tblVehicleEF	UBUS	1.6100e-003	1.4900e-004
tblVehicleEF	UBUS	4.1740e-003	0.03
tblVehicleEF	UBUS	0.06	6.2250e-003
tblVehicleEF	UBUS	2.4160e-003	0.03
tblVehicleEF	UBUS	0.71	1.20
tblVehicleEF	UBUS	0.02	0.03
tblVehicleEF	UBUS	0.95	0.08
tblVehicleTrips	CC_TL	5.00	0.00
tblVehicleTrips	CC_TL	5.00	8.83
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	7.00	0.00
tblVehicleTrips	CNW_TL	7.00	8.83

tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	10.00	0.00
tblVehicleTrips	CW_TL	10.00	8.83
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	HO_TL	0.00	1.00
tblVehicleTrips	HO_TL	7.00	11.17
tblVehicleTrips	HO_TL	7.00	9.85
tblVehicleTrips	HO_TTP	0.00	100.00
tblVehicleTrips	HS_TL	0.00	1.00
tblVehicleTrips	HS_TL	5.00	11.17
tblVehicleTrips	HS_TL	5.00	9.85
tblVehicleTrips	HW_TL	0.00	1.00
tblVehicleTrips	HW_TL	10.00	11.17
tblVehicleTrips	HW_TL	10.00	9.85
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	ST_TR	22.75	8.28
tblVehicleTrips	ST_TR	5.67	4.89
tblVehicleTrips	ST_TR	2.03	3.11
tblVehicleTrips	ST_TR	42.04	11.90

tblVehicleTrips	SU_TR	16.74	8.28
tblVehicleTrips	SU_TR	4.84	4.89
tblVehicleTrips	SU_TR	1.95	3.11
tblVehicleTrips	SU_TR	20.43	11.90
tblVehicleTrips	WD_TR	1.89	8.28
tblVehicleTrips	WD_TR	5.81	4.89
tblVehicleTrips	WD_TR	2.40	3.11
tblVehicleTrips	WD_TR	44.32	11.90
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	47.50	0.00
tblWoodstoves	NumberCatalytic	9.95	0.00
tblWoodstoves	NumberNoncatalytic	47.50	0.00
tblWoodstoves	NumberNoncatalytic	9.95	0.00
tblWoodstoves	WoodstoveWoodMass	4,558.40	0.00
tblWoodstoves	WoodstoveWoodMass	4,558.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2027	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2028	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2029	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2031	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2032	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2033	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2034	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2035	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2036	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2037	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2038	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2039	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2040	0.0570	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2041	0.5399	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Maximum	0.5399	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2027	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2028	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2029	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2031	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2032	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2033	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2034	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2035	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2036	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2037	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2038	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2039	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2040	0.0570	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2041	0.5399	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Maximum	**0.5399**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
58	**4-1-2040**	**6-30-2040**	0.0162	0.0162
59	**7-1-2040**	**9-30-2040**	0.0205	0.0205
60	**10-1-2040**	**12-31-2040**	0.0205	0.0205
61	**1-1-2041**	**3-31-2041**	0.0783	0.0783
62	**4-1-2041**	**6-30-2041**	0.1561	0.1561
63	**7-1-2041**	**9-30-2041**	0.1578	0.1578
		Highest	0.1578	0.1578

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	7.9282	0.2614	8.5819	1.4900e-003		0.0605	0.0605		0.0605	0.0605	0.0000	202.9788	202.9788	0.0169	3.4700e-003	204.4345
Energy	3.8300e-003	0.0349	0.0293	2.1000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003	0.0000	1,487.0588	1,487.0588	0.2047	0.0429	1,504.9621
Mobile	4.6524	6.8838	28.8518	0.1248	0.8176	0.1068	0.9245	0.2514	0.1010	0.3524	0.0000	11,647.1362	11,647.1362	0.3307	0.0000	11,655.4045
Waste						0.0000	0.0000		0.0000	0.0000	171.7852	0.0000	171.7852	10.1522	0.0000	425.5905
Water						0.0000	0.0000		0.0000	0.0000	34.3484	81.3273	115.6757	0.1297	0.0771	141.8829
Total	**12.5844**	**7.1800**	**37.4630**	**0.1265**	**0.8176**	**0.1700**	**0.9876**	**0.2514**	**0.1642**	**0.4156**	**206.1335**	**13,418.5010**	**13,624.6346**	**10.8343**	**0.1234**	**13,932.2745**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	7.9091	0.0981	8.5124	4.5000e-004		0.0473	0.0473		0.0473	0.0473	0.0000	13.9429	13.9429	0.0133	0.0000	14.2752
Energy	3.8300e-003	0.0349	0.0293	2.1000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003	0.0000	1,487.0588	1,487.0588	0.2047	0.0429	1,504.9621
Mobile	4.6316	6.6505	27.8815	0.1188	0.7767	0.1018	0.8785	0.2388	0.0962	0.3350	0.0000	11,082.1351	11,082.1351	0.3234	0.0000	11,090.2204
Waste						0.0000	0.0000		0.0000	0.0000	171.7852	0.0000	171.7852	10.1522	0.0000	425.5905
Water						0.0000	0.0000		0.0000	0.0000	34.3484	71.6549	106.0033	0.1283	0.0768	132.0925
Total	**12.5445**	**6.7835**	**36.4232**	**0.1194**	**0.7767**	**0.1517**	**0.9285**	**0.2388**	**0.1462**	**0.3850**	**206.1335**	**12,654.7916**	**12,860.9251**	**10.8220**	**0.1197**	**13,167.1407**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.32**	**5.52**	**2.78**	**5.60**	**5.00**	**10.75**	**5.99**	**5.00**	**10.96**	**7.36**	**0.00**	**5.69**	**5.61**	**0.11**	**3.05**	**5.49**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2026	10/7/2026	5	200	
2	Site Preparation	Site Preparation	10/8/2026	3/24/2027	5	120	
3	Grading	Grading	3/25/2027	5/31/2028	5	310	
4	Building Construction	Building Construction	6/1/2028	4/18/2040	5	3100	
5	Paving	Paving	4/19/2040	2/20/2041	5	220	
6	Architectural Coating	Architectural Coating	2/21/2041	12/25/2041	5	220	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 52.3

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 152,000; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Excavators	0	0.00	158	0.38
Demolition	Rubber Tired Dozers	0	0.00	247	0.40
Site Preparation	Rubber Tired Dozers	0	0.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Grading	Excavators	0	0.00	158	0.38
Grading	Graders	0	0.00	187	0.41
Grading	Rubber Tired Dozers	0	0.00	247	0.40
Grading	Scrapers	0	0.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Cranes	0	0.00	231	0.29
Building Construction	Forklifts	0	0.00	89	0.20
Building Construction	Generator Sets	0	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Welders	0	0.00	46	0.45
Paving	Pavers	0	0.00	130	0.42
Paving	Paving Equipment	0	0.00	132	0.36
Paving	Rollers	0	0.00	80	0.38
Architectural Coating	Air Compressors	0	0.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	0.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	0	0.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	0.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

<u>Mitigated Construction Off-Site</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2027

<u>Unmitigated Construction On-Site</u>

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

Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

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

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

<u>Mitigated Construction Off-Site</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2029

<u>Unmitigated Construction On-Site</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2030

<u>Unmitigated Construction On-Site</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

<u>Unmitigated Construction Off-Site</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

<u>Mitigated Construction On-Site</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

<u>Mitigated Construction Off-Site</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.5 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2035

Unmitigated Construction On-Site

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2036

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

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

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2037

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2038

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0570					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0570**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0570					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0570**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

<u>Mitigated Construction Off-Site</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2041

<u>Unmitigated Construction On-Site</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0115					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**0.0115**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0115					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0115**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2041

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5284					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.5284**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5284					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.5284**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

Provide Traffic Calming Measures

Increase Transit Frequency

Transit Subsidy

Implement Employee Parking CashOut

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.6316	6.6505	27.8815	0.1188	0.7767	0.1018	0.8785	0.2388	0.0962	0.3350	0.0000	11,082.1351	11,082.1351	0.3234	0.0000	11,090.2204
Unmitigated	4.6524	6.8838	28.8518	0.1248	0.8176	0.1068	0.9245	0.2514	0.1010	0.3524	0.0000	11,647.1362	11,647.1362	0.3307	0.0000	11,655.4045

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	262.48	262.48	262.48	95,541	90,764
Condo/Townhouse	4,645.50	4,645.50	4645.50	18,888,046	17,943,643
Parking Lot	0.00	0.00	0.00		
Retirement Community	618.89	618.89	618.89	2,218,968	2,108,020
Strip Mall	3,570.00	3,570.00	3570.00	11,474,408	10,900,688
Total	9,096.87	9,096.87	9,096.87	32,676,963	31,043,115

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	0.00	0.00	0.00	0.00	0.00	0.00	100	0	0
Condo/Townhouse	11.17	11.17	11.17	46.00	13.00	41.00	100	0	0
Parking Lot	10.00	5.00	7.00	0.00	0.00	0.00	0	0	0
Retirement Community	9.85	9.85	9.85	46.00	13.00	41.00	100	0	0
Strip Mall	8.83	8.83	8.83	16.60	64.40	19.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.524739	0.029436	0.209441	0.128328	0.028193	0.007221	0.010435	0.054925	0.001368	0.001015	0.003432	0.000663	0.000803
Condo/Townhouse	0.524739	0.029436	0.209441	0.128328	0.028193	0.007221	0.010435	0.054925	0.001368	0.001015	0.003432	0.000663	0.000803
Parking Lot	0.524739	0.029436	0.209441	0.128328	0.028193	0.007221	0.010435	0.054925	0.001368	0.001015	0.003432	0.000663	0.000803
Retirement Community	0.524739	0.029436	0.209441	0.128328	0.028193	0.007221	0.010435	0.054925	0.001368	0.001015	0.003432	0.000663	0.000803
Strip Mall	0.524739	0.029436	0.209441	0.128328	0.028193	0.007221	0.010435	0.054925	0.001368	0.001015	0.003432	0.000663	0.000803

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,449.1171	1,449.1171	0.2040	0.0422	1,466.7949

Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,449.1171	1,449.1171	0.2040	0.0422	1,466.7949
NaturalGas Mitigated	3.8300e-003	0.0349	0.0293	2.1000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003	0.0000	37.9417	37.9417	7.3000e-004	7.0000e-004	38.1671
NaturalGas Unmitigated	3.8300e-003	0.0349	0.0293	2.1000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003	0.0000	37.9417	37.9417	7.3000e-004	7.0000e-004	38.1671

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Retirement Community	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	711000	3.8300e-003	0.0349	0.0293	2.1000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003	0.0000	37.9417	37.9417	7.3000e-004	7.0000e-004	38.1671
Total		**3.8300e-003**	**0.0349**	**0.0293**	**2.1000e-004**		**2.6500e-003**	**2.6500e-003**		**2.6500e-003**	**2.6500e-003**	**0.0000**	**37.9417**	**37.9417**	**7.3000e-004**	**7.0000e-004**	**38.1671**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Retirement Community	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	711000	3.8300e-003	0.0349	0.0293	2.1000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003	0.0000	37.9417	37.9417	7.3000e-004	7.0000e-004	38.1671
Total		**3.8300e-003**	**0.0349**	**0.0293**	**2.1000e-004**		**2.6500e-003**	**2.6500e-003**		**2.6500e-003**	**2.6500e-003**	**0.0000**	**37.9417**	**37.9417**	**7.3000e-004**	**7.0000e-004**	**38.1671**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.0006e+007	934.9590	0.1316	0.0272	946.3646
Parking Lot	797369	74.5062	0.0105	2.1700e-003	75.4151
Retirement Community	1.49818e+006	139.9898	0.0197	4.0800e-003	141.6975
Strip Mall	3.207e+006	299.6622	0.0422	8.7300e-003	303.3178
Total		**1,449.1171**	**0.2040**	**0.0422**	**1,466.7949**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000

Condo/Townhouse	1.0006e+007	934.9590	0.1316	0.0272	946.3646
Parking Lot	797369	74.5062	0.0105	2.1700e-003	75.4151
Retirement Community	1.49818e+006	139.9898	0.0197	4.0800e-003	141.6975
Strip Mall	3.207e+006	299.6622	0.0422	8.7300e-003	303.3178
Total		**1,449.1171**	**0.2040**	**0.0422**	**1,466.7949**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	7.9091	0.0981	8.5124	4.5000e-004		0.0473	0.0473		0.0473	0.0473	0.0000	13.9429	13.9429	0.0133	0.0000	14.2752
Unmitigated	7.9282	0.2614	8.5819	1.4900e-003		0.0605	0.0605		0.0605	0.0605	0.0000	202.9788	202.9788	0.0169	3.4700e-003	204.4345

6.2 Area by SubCategory

Unmitigated

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

SubCategory	tons/yr										MT/yr					
Architectural Coating	0.9330					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.7213					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0191	0.1632	0.0695	1.0400e-003		0.0132	0.0132		0.0132	0.0132	0.0000	189.0360	189.0360	3.6200e-003	3.4700e-003	190.1593
Landscaping	0.2548	0.0981	8.5124	4.5000e-004		0.0473	0.0473		0.0473	0.0473	0.0000	13.9429	13.9429	0.0133	0.0000	14.2752
Total	**7.9282**	**0.2614**	**8.5819**	**1.4900e-003**		**0.0605**	**0.0605**		**0.0605**	**0.0605**	**0.0000**	**202.9788**	**202.9788**	**0.0169**	**3.4700e-003**	**204.4345**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.9330					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.7213					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.2548	0.0981	8.5124	4.5000e-004		0.0473	0.0473		0.0473	0.0473	0.0000	13.9429	13.9429	0.0133	0.0000	14.2752
Total	**7.9091**	**0.0981**	**8.5124**	**4.5000e-004**		**0.0473**	**0.0473**		**0.0473**	**0.0473**	**0.0000**	**13.9429**	**13.9429**	**0.0133**	**0.0000**	**14.2752**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Category	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	106.0033	0.1283	0.0768	132.0925
Unmitigated	115.6757	0.1297	0.0771	141.8829

7.2 Water by Land Use

Unmitigated

Land Use	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
	Mgal	MT/yr			
City Park	0 / 37.77	12.3523	1.7400e-003	3.6000e-004	12.5030
Condo/Townhouse	61.8963 / 39.0216	65.9557	0.0816	0.0489	82.5692
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	12.9657 / 8.174	13.8160	0.0171	0.0102	17.2961
Strip Mall	22.2218 / 13.6198	23.5517	0.0293	0.0176	29.5147
Total		**115.6757**	**0.1297**	**0.0771**	**141.8829**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 26.439	8.6466	1.2200e-003	2.5000e-004	8.7521
Condo/Townhouse	61.8963 / 27.3151	62.1272	0.0810	0.0488	78.6940
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	12.9657 / 5.7218	13.0140	0.0170	0.0102	16.4843
Strip Mall	22.2218 / 9.53385	22.2155	0.0291	0.0175	28.1621
Total		**106.0032**	**0.1283**	**0.0768**	**132.0925**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	171.7852	10.1522	0.0000	425.5905
Unmitigated	171.7852	10.1522	0.0000	425.5905

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	2.73	0.5542	0.0328	0.0000	1.3729
Condo/Townhouse	437	88.7071	5.2424	0.0000	219.7680
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	91.54	18.5818	1.0982	0.0000	46.0356
Strip Mall	315	63.9422	3.7789	0.0000	158.4140
Total		**171.7852**	**10.1522**	**0.0000**	**425.5905**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	2.73	0.5542	0.0328	0.0000	1.3729
Condo/Townhouse	437	88.7071	5.2424	0.0000	219.7680
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	91.54	18.5818	1.0982	0.0000	46.0356
Strip Mall	315	63.9422	3.7789	0.0000	158.4140
Total		**171.7852**	**10.1522**	**0.0000**	**425.5905**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX C

EXPOSURE OF NEW PROJECT RESIDENTS
TO EXISTING TAC SOURCES MEMO

ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality
429 E. Cotati Ave
Cotati, CA 94931
Tel: 707-794-0400 *Fax: 707-794-0405*
www.illingworthrodkin.com *illro@illingworthrodkin.com*

MEMO

Date: July 16, 2021
Revised September 27, 2021

To: **Richard Loewke -** Director of Development
Loewke Planning Associates, Inc.
1907 Vintage Circle
Brentwood, CA 94513

From:
Jay Witt
Illingworth & Rodkin, Inc.
429 E. Cotati Ave
Cotati, CA 94931

James Reyff
Illingworth & Rodkin, Inc.
429 E. Cotati Ave
Cotati, CA 94931

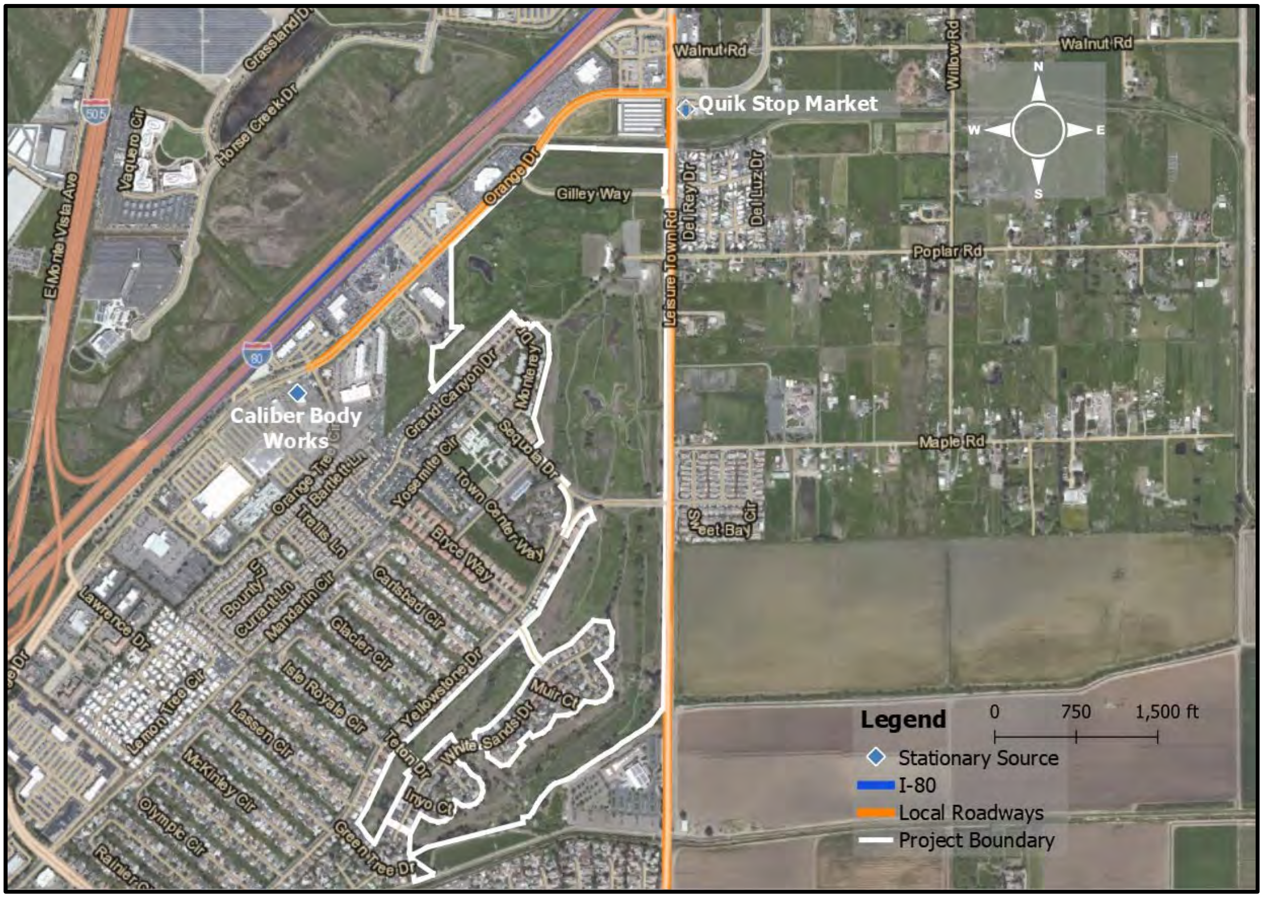
RE: Greentree Development Project – Vacaville, CA

SUBJECT: Exposure of New Project Residents to Existing TAC Sources
Job#20-187

Community health risk assessments typically look at all substantial sources of toxic air contaminants (TACs) that can affect sensitive receptors located within 1,000 feet of the project site (i.e., influence area). These sources include railroads, freeways or highways, busy surface streets, and stationary sources identified by the applicable air district, in this case the Yolo-Solano Air Quality Management District (YSAQMD).

An initial health risk assessment was completed to analyze the potential impact the existing TAC sources identified in the construction air quality analysis (i.e., *Greentree Development Project - Air Quality & Greenhouse Gas Modeling Assessment*) would have on the new proposed sensitive receptors (i.e., infants and children) introduced by the project. This analysis considers the impacts existing TAC sources would have on the new sensitive receptors introduced by the project. It incorporates the increases in traffic (i.e., vehicle emissions) anticipated once the proposed project is constructed. The existing sources of TACs included in this analysis are shown in Figure 1.

Figure 1. Project Site and Nearby TAC and $PM_{2.5}$ Sources



Freeways – I-80

The project site will place new residents near Interstate 80 (I-80). The impacts of TACs from I-80 on the project site were estimated using the CT-EMFAC2017 emission factor model and the U.S. EPA AERMOD dispersion model. Emissions were estimated as described in the CEQA air quality analysis. A review of the traffic census information reported by the California Department of Transportation (Caltrans) for 2019 indicates that I-80 had an average annual daily traffic (AADT) volume of 134,000 vehicles per day (based on 2019 measurements) that are about 8.5 percent trucks, of which 6.3 percent are considered diesel heavy duty trucks and 2.2 percent are medium duty trucks.[1] Traffic volumes were grown from 2019 estimates to 2024 assuming an increase of one percent per year. This would account for any project-related traffic using I-80.

1 Caltrans. 2021. *2019 Annual Average Daily Truck Traffic on the California State Highway System*

Local Roadways – Leisure Town Road and Orange Drive

The project site is near the Major/Collector roadways of Leisure Town Road and Orange Drive. The impacts of TACs from Leisure Town Road and Orange Drive on the project site were estimated using emission factors generated by CT-EMFAC2017 and the AERMOD dispersion model. Traffic volumes for these roadways were provided by the City of Vacaville[2]. Given existing traffic volumes and the additional traffic generated by the project, Leisure Town Road was estimated to have approximately 17,200 vehicles a day north of Sequoia Drive and approximately 13,650 vehicles a day south of Sequoia Drive. Orange Drive was estimated to have approximately 5,900 vehicles a day given existing traffic volumes and the additional traffic generated by the project. The truck percentages on these roadways were assumed to be half of that measured on I-80, or 4.25 percent.

Stationary Sources

Permitted stationary sources of air pollution near the project site were identified through a public information request filed with the YSAQMD on April 16, 20213. The air district provided TAC emissions information and cancer risk information (i.e., risk isopleths) for two nearby stationary sources[4]:

- Caliber Body Works, Inc.
- Quik Stop Market (Gasoline Distribution Facility)

This information was used to estimate the health risks to the project's residential areas.

Emissions Modeling

The latest version of EMFAC2021 and Caltran's CT-EMFAC2017 motor vehicle emission factors emissions models to develop the emissions rates needed. However, because EMFAC2021 only produces emissions rates using county-wide vehicle populations and does not provide specific emissions rates for DPM, CT-EMFAC2017 was also used to aid in the development of emissions rates used in the analysis. CT-EMFAC2017 is the Caltrans version of the CARB's EMFAC2017 emissions model and provides emission factors for mobile source criteria pollutants and TACs, including DPM. The description of this modeling is included in the project air quality and greenhouse gas emission assessment.

Dispersion Modeling

Dispersion modeling of I-80, Leisure Town Road, and Orange Drive were conducted to estimate the TAC concentrations at each of the residential areas as laid out by the current site plan. I-80 was input as a series of volume sources along a line (line volume sources), with line segments used to

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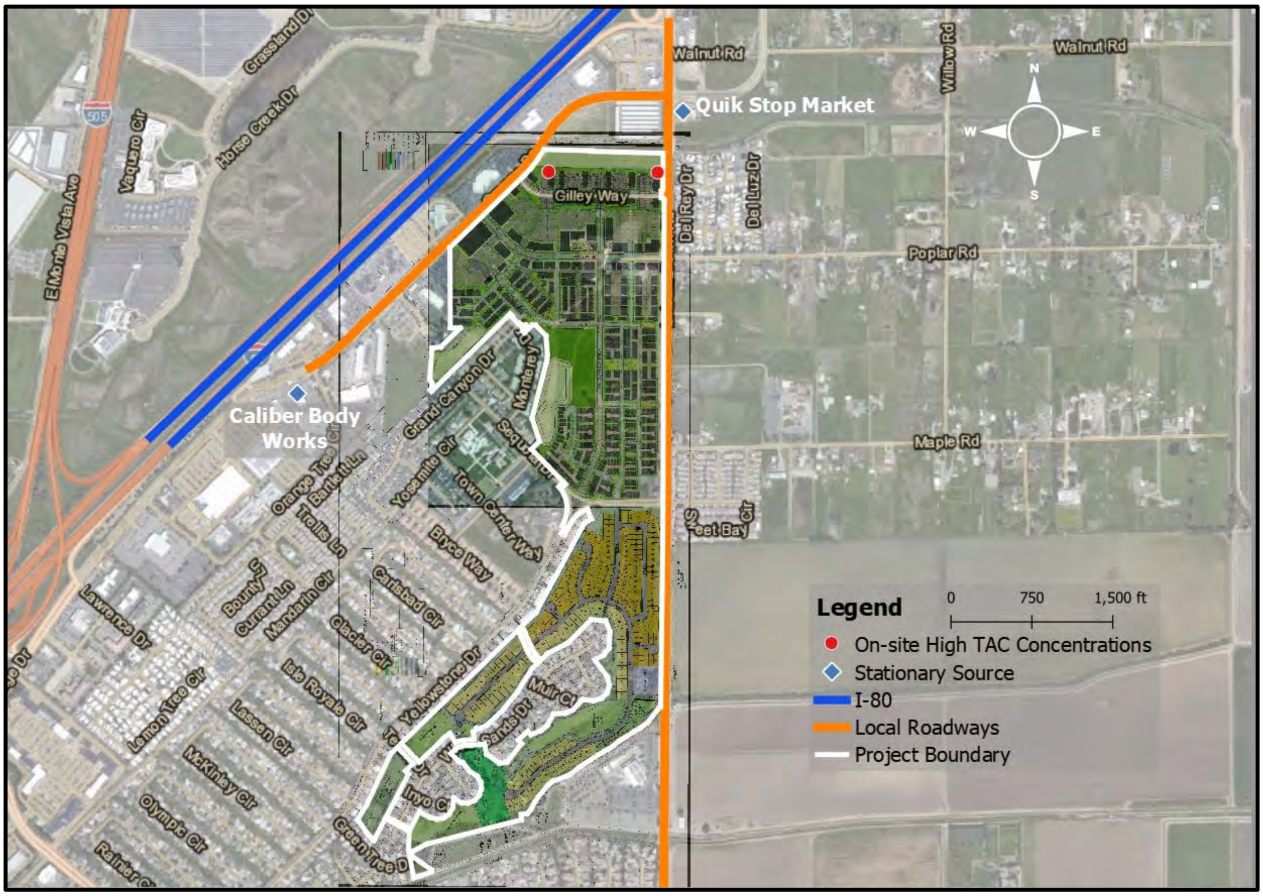
2 Per email from Gwen Owens, City of Vacaville Traffic Engineer. March 29, 2021.
3 Data provided by YSAQMD (Stephanie Holliday) via email on May 6, 2021.
4 The air district provided ten files. Eight of the ten were related to one source (Caliber Body Works). The other two were related to the Quik Stop and an emergency generator farther than 1,000 ft from the site.

represent northbound and southbound travel lanes on I-80. Leisure Town Road and Orange Drive were input as a series of area sources along a line (line area sources), with line segments used to represent all the travel lanes on each of the roadways. Stationary sources identified by YSAQMD were not input into AERMOD, rather their impacts to the new residents were estimated using the cancer risk information provided by the air district.

A five-year data set (2009-2014) of hourly meteorological data from Nut Tree Airport in Vacaville, California was used for the dispersion modeling analysis. The data were prepared by CARB for use with the AERMOD model. Other inputs to the model included road geometry and elevations, hourly traffic emissions, and receptor locations corresponding to the project's residential areas. A receptor height of 4.9 feet (1.5 meters) was used to represent the breathing heights of residents on the first floor of each unit. Figure 2 shows the locations of the maximumly exposed dwelling units closest to I-80/Orange Drive and Leisure Town Road, respectively.

Figure 2. Project Site and Location of High TAC Concentrations from Roadways



<u>*On-Site Combined Community Health Risk*</u>

Table 1 reports the highest single-source community risk impacts from each of the existing TAC sources within 1,000 feet of the project site. The TAC sources are compared against the YSAQMD single-source thresholds of 10 in a million cancer risk and a hazard index equal to or greater than

1. The highest impacts to the new sensitive receptors introduced by the project from I-80, Orange Drive, and Caliber Body Works would occur at the proposed apartment building closest to I-80/Orange Drive (i.e., Apartment Building 1), while the highest impacts to the new sensitive receptors from the Quik stop and Leisure Town Road would occur at the new sensitive receptors located closest to those sources (i.e., the proposed Apartment Building 6).

New sensitive receptors at proposed Apartment Building 1 would have a cancer risk from I-80 that would exceed the YSAQMD single source threshold of 10 in a million. However, the single source thresholds would not be exceeded for new sensitive receptors at proposed Apartment Building 6.

The air district has not quantified cumulative source thresholds and does not require a cumulative source analysis unless the single source thresholds are exceeded. Additionally, the air district's thresholds do not cover TACs from mobile sources.[5] Therefore, the Bay Area Air Quality Management District (BAAQMD) cumulative source thresholds for cancer risk and HI are presented in Table 1.

As shown, the highest cumulative cancer risks from existing nearby TAC sources on proposed new sensitive receptors range from 16.9 to 16.0 in a million, which are below the BAAQMD cumulative cancer risk threshold. Likewise, the cumulative annual HI from existing nearby TAC sources is well below the cumulative threshold of 10.

Table 1. Range of Impacts from Combined Sources to Future Project Site Occupants

Source	Cancer Risk (per million)		Hazard Index
	Building 6	Building 1	Maximum
I-80	5.6	**12.9**	<0.01
Leisure Town Road	1.4	0.2	<0.001
Orange Drive	0.1	0.4	<0.001
Caliber Body Works	<0.01*	0.2	<0.1
Quik Stop Market	9.8	2.3**	<0.1
YSAQMD Single-Source Threshold	***>10***		***>1.0***
BAAQMD Cumulative Threshold	***>100***		***>10.0***

* Estimated using the maximum risk (0.19) and a distance of 3,340 ft to receptors along Leisure Town Rd.
** Estimated using the maximum risk (9.8) and a distance of 1,700 ft to receptors along Orange Dr.

Conclusions

The impacts of existing TAC sources that included the increased traffic generated by the project on the new sensitive receptors introduced by the project were analyzed. Emissions of TACs from the existing sources would not exceed the single source thresholds for HI at the location of new sensitive receptors created by the project. However, cancer risk at the new sensitive receptors located closest to I-80 and Orange Drive would exceed YSAQMD single source thresholds.

[5] The YSAQMD has no permitting or other regulatory authority over mobile sources, therefore, no specific mobile source TAC thresholds currently exist. YSAQMD *Handbook for Assessing and Mitigating Air Quality Impacts*, July 11, 2007. Section 3.2.1.

Cancer risks to new residents would be dominated by TAC emissions from the existing I-80. There is a potential for the YSAQMD single-source thresholds for cancer risk to be exceeded at four of the planned apartment building nearest I-80 and Orange Drive (i.e., proposed Buildings 1, 2, 3, and 11). Figure 3 shows the portions of the project site where the single-source threshold of 10 in a million would potentially be exceeded. New residential units nearest to Leisure Town Road would not exceed the single-source thresholds for cancer risk.

The YSAQMD has not established cumulative source impact thresholds. Therefore, a comparison to the BAAQMD cumulative source thresholds was conducted. Neither the BAAQMD cumulative source threshold for cancer risk nor the cumulative HI threshold would be exceeded at any of the new residential units proposed for the site.

Figure 3. On-Site Locations of > 10 in a Million Cancer Risk

Recommended Control Measures

To effectively reduce concentrations of TACs, specifically diesel particulate matter (DPM), several measures may be employed. These measures are based on recommendations provided in BAAQMD's *Air Quality CEQA Guidelines* and *Planning Healthy Places* documents. It should be noted that YSAQMD has no permitting or other regulatory authority over mobile sources, therefore, no specific mobile source TAC risk thresholds currently exist.

Filtration. Install and maintain air filtration systems of fresh air supply either on 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 achieve a certain effectiveness. For example, a properly installed and operated ventilation system with MERV13 filters is expected to achieve an 80-percent reduction and MERV16 filters are expected to achieve 90-percent reduction.[6] A reduction of 80-percent in DPM from a MERV-13 filter would reduce cancer risk from I-80 at the proposed Building 1 from 12.9 to 3.1 in a million, well below the single-source threshold of 10 in a million. As part of the 2019 California Building Code (CBC), Section 120.1(b)(1)(C): Multi-Family Residential, buildings that are 4-stories and higher are required to use MERV-13.

Design. Site design to locate proposed Building 3 and 11 air intakes as far as possible from I-80. Only a portion of these buildings would have a potential to exceed the YSAQMD single-source cancer threshold.

[6] Bay Area Air Quality Management District (2016). Appendix B: Best Practices to Reduce Exposure to Local Air Pollution, *Planning Healthy Places A Guidebook for Addressing Local Sources of Air Pollutants in Community Planning* (p. 38). http://www.baaqmd.gov/~/media/files/planning-and-research/planning-healthy-places/php_may20_2016-pdf.pdf?la=en

Green Tree Project, Vacaville - Roadway Impacts on New Residents
AERMOD Risk Modeling Parameters and Maximum Residential Concentrations
1st Floor Receptors

Emissions Years	2024 and beyond
Receptor Information	
Number of Receptors	3,641
Receptor Height (in m) =	1.5 (1st Floor)
Receptor Distances =	Nearby Residential Locations
Meteorological Conditions	
CARB Nut Tree Met Data	2009 - 2014
Land Use Classification	urban
Wind Speed =	variable
Wind Direction =	variable

I-880 - MEI Offsite Residential Concentration - Floor 1

Analysis Years	TAC Concentrations (μg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2024	0.0165	0.1476	0.145
2025	0.0165	0.1476	0.145
2026	0.0165	0.1476	0.145
…	0.0165	0.1476	0.145

Orange Drive - Maximum Offsite Residential Concentration - Floor 1

Analysis Years	TAC Concentrations (μg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2024	0.0005	0.0167	0.0266
2025	0.0005	0.0167	0.0266
2026	0.0005	0.0167	0.0266
…	0.0005	0.0167	0.0266

Leisure Town Rd. - Maximum Offsite Residential Concentration - Floor 1

Analysis Years	TAC Concentrations (μg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2024	0.0002	0.0057	0.0093
2025	0.0002	0.0057	0.0093
2026	0.0002	0.0057	0.0093
…	0.0002	0.0057	0.0093

Green Tree Project, Vacaville - Roadway Impacts on New Residents
AERMOD Risk Modeling Parameters and Maximum Concentrations
1st Floor Receptors

Emissions Years	2024 and beyond
Receptor Information	
Number of Receptors	3,641
Receptor Height (in m) =	1.5 (1st Floor)
Receptor Distances =	Nearby Residential Locations

Meteorological Conditions

CARB Nut Tree Met Data	2009 - 2014
Land Use Classification	urban
Wind Speed =	variable
Wind Direction =	variable

I-880 - MEI Offsite Residential Concentration - Floor 1

	TAC Concentrations (µg/m^3)		
Analysis Years	**DPM**	**Exhaust TOG**	**Evaporative TOG**
2024	0.0072	0.0641	0.0623
2025	0.0072	0.0641	0.0623
2026	0.0072	0.0641	0.0623
…	0.0072	0.0641	0.0623

Orange Drive - Maximum Offsite Residential Concentration - Floor 1

	TAC Concentrations (µg/m^3)		
Analysis Years	**DPM**	**Exhaust TOG**	**Evaporative TOG**
2024	0.0001	0.004	0.0063
2025	0.0001	0.004	0.0063
2026	0.0001	0.004	0.0063
…	0.0001	0.004	0.0063

Leisure Town Rd. - Maximum Offsite Residential Concentration - Floor 1

	TAC Concentrations (µg/m^3)		
Analysis Years	**DPM**	**Exhaust TOG**	**Evaporative TOG**
2024	0.0015	0.067	0.1097
2025	0.0015	0.067	0.1097
2026	0.0015	0.067	0.1097
…	0.0015	0.067	0.1097

Green Tree Project, Vacaville - I80 Impacts on New Residents near I80/Orange Dr.
DPM Cancer Risk Calculations
1.5 meter receptor height

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)				
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Age Sensitivity Factor**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**TOTAL**	**Maximum Hazard Index**
0	0.25	-0.25 - 0*	2024	10	0.0165	0.1476	0.1450	0.224	0.011	0.0007	0.24	
1	1	0 - 1	2024	10	0.0165	0.1476	0.1450	2.710	0.138	0.0080	2.86	0.0033
2	1	1 - 2	2025	10	0.0165	0.1476	0.1450	2.710	0.138	0.0080	2.86	0.0033
3	1	2 - 3	2026	3	0.0165	0.1476	0.1450	0.427	0.022	0.0013	0.45	0
4	1	3 - 4	2027	3	0.0165	0.1476	0.1450	0.427	0.022	0.0013	0.45	0
5	1	4 - 5	2028	3	0.0165	0.1476	0.1450	0.427	0.022	0.0013	0.45	
6	1	5 - 6	2029	3	0.0165	0.1476	0.1450	0.427	0.022	0.0013	0.45	
7	1	6 - 7	2030	3	0.0165	0.1476	0.1450	0.427	0.022	0.0013	0.45	
8	1	7 - 8	2031	3	0.0165	0.1476	0.1450	0.427	0.022	0.0013	0.45	
9	1	8 - 9	2032	3	0.0165	0.1476	0.1450	0.427	0.022	0.0013	0.45	
10	1	9 - 10	2033	3	0.0165	0.1476	0.1450	0.427	0.022	0.0013	0.45	
11	1	10 - 11	2034	3	0.0165	0.1476	0.1450	0.427	0.022	0.0013	0.45	
12	1	11 - 12	2035	3	0.0165	0.1476	0.1450	0.427	0.022	0.0013	0.45	
13	1	12 - 13	2036	3	0.0165	0.1476	0.1450	0.427	0.022	0.0013	0.45	
14	1	13 - 14	2037	3	0.0165	0.1476	0.1450	0.427	0.022	0.0013	0.45	
15	1	14 - 15	2038	3	0.0165	0.1476	0.1450	0.427	0.022	0.0013	0.45	
16	1	15 - 16	2039	3	0.0165	0.1476	0.1450	0.427	0.022	0.0013	0.45	
17	1	16-17	2040	1	0.0165	0.1476	0.1450	0.047	0.002	0.0001	0.050	
18	1	17-18	2041	1	0.0165	0.1476	0.1450	0.047	0.002	0.0001	0.050	
19	1	18-19	2042	1	0.0165	0.1476	0.1450	0.047	0.002	0.0001	0.050	
20	1	19-20	2043	1	0.0165	0.1476	0.1450	0.047	0.002	0.0001	0.050	
21	1	20-21	2044	1	0.0165	0.1476	0.1450	0.047	0.002	0.0001	0.050	
22	1	21-22	2045	1	0.0165	0.1476	0.1450	0.047	0.002	0.0001	0.050	
23	1	22-23	2046	1	0.0165	0.1476	0.1450	0.047	0.002	0.0001	0.050	
24	1	23-24	2047	1	0.0165	0.1476	0.1450	0.047	0.002	0.0001	0.050	
25	1	24-25	2048	1	0.0165	0.1476	0.1450	0.047	0.002	0.0001	0.050	
26	1	25-26	2049	1	0.0165	0.1476	0.1450	0.047	0.002	0.0001	0.050	
27	1	26-27	2050	1	0.0165	0.1476	0.1450	0.047	0.002	0.0001	0.050	
28	1	27-28	2051	1	0.0165	0.1476	0.1450	0.047	0.002	0.0001	0.050	
29	1	28-29	2052	1	0.0165	0.1476	0.1450	0.047	0.002	0.0001	0.050	
30	1	29-30	2053	1	0.0165	0.1476	0.1450	0.047	0.002	0.0001	0.050	
Total Increased Cancer Risk								12.28	0.627	0.036	**12.94**	

* Third trimester of pregnancy

Green Tree Project, Vacaville - I80 Impacts on New Residents near Leisure Town
TAC Cancer Risk Calculations
1.5 meter receptor height

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age --> Parameter	3rd Trimester	0 - 2	2 - 16	16 - 30
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)				
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	TOTAL	Maximum
0	0.25	-0.25 - 0*	2024	10	0.0072	0.0641	0.0623	0.098	0.005	0.0003	0.10	**Hazard Index**
1	1	0 - 1	2024	10	0.0072	0.0641	0.0623	1.183	0.060	0.0034	1.25	0.0014
2	1	1 - 2	2025	10	0.0072	0.0641	0.0623	1.183	0.060	0.0034	1.25	0.0014
3	1	2 - 3	2026	3	0.0072	0.0641	0.0623	0.186	0.009	0.0005	0.20	0
4	1	3 - 4	2027	3	0.0072	0.0641	0.0623	0.186	0.009	0.0005	0.20	0
5	1	4 - 5	2028	3	0.0072	0.0641	0.0623	0.186	0.009	0.0005	0.20	
6	1	5 - 6	2029	3	0.0072	0.0641	0.0623	0.186	0.009	0.0005	0.20	
7	1	6 - 7	2030	3	0.0072	0.0641	0.0623	0.186	0.009	0.0005	0.20	
8	1	7 - 8	2031	3	0.0072	0.0641	0.0623	0.186	0.009	0.0005	0.20	
9	1	8 - 9	2032	3	0.0072	0.0641	0.0623	0.186	0.009	0.0005	0.20	
10	1	9 - 10	2033	3	0.0072	0.0641	0.0623	0.186	0.009	0.0005	0.20	
11	1	10 - 11	2034	3	0.0072	0.0641	0.0623	0.186	0.009	0.0005	0.20	
12	1	11 - 12	2035	3	0.0072	0.0641	0.0623	0.186	0.009	0.0005	0.20	
13	1	12 - 13	2036	3	0.0072	0.0641	0.0623	0.186	0.009	0.0005	0.20	
14	1	13 - 14	2037	3	0.0072	0.0641	0.0623	0.186	0.009	0.0005	0.20	
15	1	14 - 15	2038	3	0.0072	0.0641	0.0623	0.186	0.009	0.0005	0.20	
16	1	15 - 16	2039	3	0.0072	0.0641	0.0623	0.186	0.009	0.0005	0.20	
17	1	16-17	2040	1	0.0072	0.0641	0.0623	0.021	0.001	0.0001	0.022	
18	1	17-18	2041	1	0.0072	0.0641	0.0623	0.021	0.001	0.0001	0.022	
19	1	18-19	2042	1	0.0072	0.0641	0.0623	0.021	0.001	0.0001	0.022	
20	1	19-20	2043	1	0.0072	0.0641	0.0623	0.021	0.001	0.0001	0.022	
21	1	20-21	2044	1	0.0072	0.0641	0.0623	0.021	0.001	0.0001	0.022	
22	1	21-22	2045	1	0.0072	0.0641	0.0623	0.021	0.001	0.0001	0.022	
23	1	22-23	2046	1	0.0072	0.0641	0.0623	0.021	0.001	0.0001	0.022	
24	1	23-24	2047	1	0.0072	0.0641	0.0623	0.021	0.001	0.0001	0.022	
25	1	24-25	2048	1	0.0072	0.0641	0.0623	0.021	0.001	0.0001	0.022	
26	1	25-26	2049	1	0.0072	0.0641	0.0623	0.021	0.001	0.0001	0.022	
27	1	26-27	2050	1	0.0072	0.0641	0.0623	0.021	0.001	0.0001	0.022	
28	1	27-28	2051	1	0.0072	0.0641	0.0623	0.021	0.001	0.0001	0.022	
29	1	28-29	2052	1	0.0072	0.0641	0.0623	0.021	0.001	0.0001	0.022	
30	1	29-30	2053	1	0.0072	0.0641	0.0623	0.021	0.001	0.0001	0.022	
Total Increased Cancer Risk								5.36	0.272	0.016	**5.65**	

* Third trimester of pregnancy

Green Tree Project, Vacaville - Leisure Town Dr. Impacts on New Residents near Leisure Town
TAC Cancer Risk Calculations
1.5 meter receptor height

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - MEI Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)				
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Age Sensitivity Factor**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**TOTAL**	**Maximum Hazard Index**
0	0.25	-0.25 - 0*	2024	10	0.0015	0.0670	0.1097	0.020	0.005	0.0005	0.03	
1	1	0 - 1	2024	10	0.0015	0.0670	0.1097	0.246	0.063	0.0061	0.32	0.0003
2	1	1 - 2	2025	10	0.0015	0.0670	0.1097	0.246	0.063	0.0061	0.32	0.0003
3	1	2 - 3	2026	3	0.0015	0.0670	0.1097	0.039	0.010	0.0010	0.05	0
4	1	3 - 4	2027	3	0.0015	0.0670	0.1097	0.039	0.010	0.0010	0.05	0
5	1	4 - 5	2028	3	0.0015	0.0670	0.1097	0.039	0.010	0.0010	0.05	
6	1	5 - 6	2029	3	0.0015	0.0670	0.1097	0.039	0.010	0.0010	0.05	
7	1	6 - 7	2030	3	0.0015	0.0670	0.1097	0.039	0.010	0.0010	0.05	
8	1	7 - 8	2031	3	0.0015	0.0670	0.1097	0.039	0.010	0.0010	0.05	
9	1	8 - 9	2032	3	0.0015	0.0670	0.1097	0.039	0.010	0.0010	0.05	
10	1	9 - 10	2033	3	0.0015	0.0670	0.1097	0.039	0.010	0.0010	0.05	
11	1	10 - 11	2034	3	0.0015	0.0670	0.1097	0.039	0.010	0.0010	0.05	
12	1	11 - 12	2035	3	0.0015	0.0670	0.1097	0.039	0.010	0.0010	0.05	
13	1	12 - 13	2036	3	0.0015	0.0670	0.1097	0.039	0.010	0.0010	0.05	
14	1	13 - 14	2037	3	0.0015	0.0670	0.1097	0.039	0.010	0.0010	0.05	
15	1	14 - 15	2038	3	0.0015	0.0670	0.1097	0.039	0.010	0.0010	0.05	
16	1	15 - 16	2039	3	0.0015	0.0670	0.1097	0.039	0.010	0.0010	0.05	
17	1	16-17	2040	1	0.0015	0.0670	0.1097	0.004	0.001	0.0001	0.006	
18	1	17-18	2041	1	0.0015	0.0670	0.1097	0.004	0.001	0.0001	0.006	
19	1	18-19	2042	1	0.0015	0.0670	0.1097	0.004	0.001	0.0001	0.006	
20	1	19-20	2043	1	0.0015	0.0670	0.1097	0.004	0.001	0.0001	0.006	
21	1	20-21	2044	1	0.0015	0.0670	0.1097	0.004	0.001	0.0001	0.006	
22	1	21-22	2045	1	0.0015	0.0670	0.1097	0.004	0.001	0.0001	0.006	
23	1	22-23	2046	1	0.0015	0.0670	0.1097	0.004	0.001	0.0001	0.006	
24	1	23-24	2047	1	0.0015	0.0670	0.1097	0.004	0.001	0.0001	0.006	
25	1	24-25	2048	1	0.0015	0.0670	0.1097	0.004	0.001	0.0001	0.006	
26	1	25-26	2049	1	0.0015	0.0670	0.1097	0.004	0.001	0.0001	0.006	
27	1	26-27	2050	1	0.0015	0.0670	0.1097	0.004	0.001	0.0001	0.006	
28	1	27-28	2051	1	0.0015	0.0670	0.1097	0.004	0.001	0.0001	0.006	
29	1	28-29	2052	1	0.0015	0.0670	0.1097	0.004	0.001	0.0001	0.006	
30	1	29-30	2053	1	0.0015	0.0670	0.1097	0.004	0.001	0.0001	0.006	
Total Increased Cancer Risk								1.12	0.285	0.027	**1.43**	

* Third trimester of pregnancy

Green Tree Project, Vacaville - Orange Dr. Impacts on New Residents near Leisure Town
TAC Cancer Risk Calculations
1.5 meter receptor height

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - MEI Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)				
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Age Sensitivity Factor**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**TOTAL**	**Maximum**
0	0.25	-0.25 - 0*	2024	10	0.0001	0.0040	0.0063	0.001	0.000	0.0000	0.00	**Hazard Index**
1	1	0 - 1	2024	10	0.0001	0.0040	0.0063	0.016	0.004	0.0003	0.02	0.0000
2	1	1 - 2	2025	10	0.0001	0.0040	0.0063	0.016	0.004	0.0003	0.02	0.0000
3	1	2 - 3	2026	3	0.0001	0.0040	0.0063	0.003	0.001	0.0001	0.00	0
4	1	3 - 4	2027	3	0.0001	0.0040	0.0063	0.003	0.001	0.0001	0.00	0
5	1	4 - 5	2028	3	0.0001	0.0040	0.0063	0.003	0.001	0.0001	0.00	
6	1	5 - 6	2029	3	0.0001	0.0040	0.0063	0.003	0.001	0.0001	0.00	
7	1	6 - 7	2030	3	0.0001	0.0040	0.0063	0.003	0.001	0.0001	0.00	
8	1	7 - 8	2031	3	0.0001	0.0040	0.0063	0.003	0.001	0.0001	0.00	
9	1	8 - 9	2032	3	0.0001	0.0040	0.0063	0.003	0.001	0.0001	0.00	
10	1	9 - 10	2033	3	0.0001	0.0040	0.0063	0.003	0.001	0.0001	0.00	
11	1	10 - 11	2034	3	0.0001	0.0040	0.0063	0.003	0.001	0.0001	0.00	
12	1	11 - 12	2035	3	0.0001	0.0040	0.0063	0.003	0.001	0.0001	0.00	
13	1	12 - 13	2036	3	0.0001	0.0040	0.0063	0.003	0.001	0.0001	0.00	
14	1	13 - 14	2037	3	0.0001	0.0040	0.0063	0.003	0.001	0.0001	0.00	
15	1	14 - 15	2038	3	0.0001	0.0040	0.0063	0.003	0.001	0.0001	0.00	
16	1	15 - 16	2039	3	0.0001	0.0040	0.0063	0.003	0.001	0.0001	0.00	
17	1	16-17	2040	1	0.0001	0.0040	0.0063	0.000	0.000	0.0000	0.000	
18	1	17-18	2041	1	0.0001	0.0040	0.0063	0.000	0.000	0.0000	0.000	
19	1	18-19	2042	1	0.0001	0.0040	0.0063	0.000	0.000	0.0000	0.000	
20	1	19-20	2043	1	0.0001	0.0040	0.0063	0.000	0.000	0.0000	0.000	
21	1	20-21	2044	1	0.0001	0.0040	0.0063	0.000	0.000	0.0000	0.000	
22	1	21-22	2045	1	0.0001	0.0040	0.0063	0.000	0.000	0.0000	0.000	
23	1	22-23	2046	1	0.0001	0.0040	0.0063	0.000	0.000	0.0000	0.000	
24	1	23-24	2047	1	0.0001	0.0040	0.0063	0.000	0.000	0.0000	0.000	
25	1	24-25	2048	1	0.0001	0.0040	0.0063	0.000	0.000	0.0000	0.000	
26	1	25-26	2049	1	0.0001	0.0040	0.0063	0.000	0.000	0.0000	0.000	
27	1	26-27	2050	1	0.0001	0.0040	0.0063	0.000	0.000	0.0000	0.000	
28	1	27-28	2051	1	0.0001	0.0040	0.0063	0.000	0.000	0.0000	0.000	
29	1	28-29	2052	1	0.0001	0.0040	0.0063	0.000	0.000	0.0000	0.000	
30	1	29-30	2053	1	0.0001	0.0040	0.0063	0.000	0.000	0.0000	0.000	
Total Increased Cancer Risk								0.07	0.017	0.002	**0.09**	

* Third trimester of pregnancy

Green Tree Project, Vacaville - I80 Impacts on New Residents near I80/Orange Dr.
TAC Cancer Risk Calculations
1.5 meter receptor height

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - MEI Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)				
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Age Sensitivity Factor**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**TOTAL**	**Maximum**
0	0.25	-0.25 - 0*	2024	10	0.0002	0.0057	0.0093	0.003	0.000	0.0000	0.00	**Hazard Index**
1	1	0 - 1	2024	10	0.0002	0.0057	0.0093	0.033	0.005	0.0005	0.04	0.0000
2	1	1 - 2	2025	10	0.0002	0.0057	0.0093	0.033	0.005	0.0005	0.04	0.0000
3	1	2 - 3	2026	3	0.0002	0.0057	0.0093	0.005	0.001	0.0001	0.01	0
4	1	3 - 4	2027	3	0.0002	0.0057	0.0093	0.005	0.001	0.0001	0.01	0
5	1	4 - 5	2028	3	0.0002	0.0057	0.0093	0.005	0.001	0.0001	0.01	
6	1	5 - 6	2029	3	0.0002	0.0057	0.0093	0.005	0.001	0.0001	0.01	
7	1	6 - 7	2030	3	0.0002	0.0057	0.0093	0.005	0.001	0.0001	0.01	
8	1	7 - 8	2031	3	0.0002	0.0057	0.0093	0.005	0.001	0.0001	0.01	
9	1	8 - 9	2032	3	0.0002	0.0057	0.0093	0.005	0.001	0.0001	0.01	
10	1	9 - 10	2033	3	0.0002	0.0057	0.0093	0.005	0.001	0.0001	0.01	
11	1	10 - 11	2034	3	0.0002	0.0057	0.0093	0.005	0.001	0.0001	0.01	
12	1	11 - 12	2035	3	0.0002	0.0057	0.0093	0.005	0.001	0.0001	0.01	
13	1	12 - 13	2036	3	0.0002	0.0057	0.0093	0.005	0.001	0.0001	0.01	
14	1	13 - 14	2037	3	0.0002	0.0057	0.0093	0.005	0.001	0.0001	0.01	
15	1	14 - 15	2038	3	0.0002	0.0057	0.0093	0.005	0.001	0.0001	0.01	
16	1	15 - 16	2039	3	0.0002	0.0057	0.0093	0.005	0.001	0.0001	0.01	
17	1	16-17	2040	1	0.0002	0.0057	0.0093	0.001	0.000	0.0000	0.001	
18	1	17-18	2041	1	0.0002	0.0057	0.0093	0.001	0.000	0.0000	0.001	
19	1	18-19	2042	1	0.0002	0.0057	0.0093	0.001	0.000	0.0000	0.001	
20	1	19-20	2043	1	0.0002	0.0057	0.0093	0.001	0.000	0.0000	0.001	
21	1	20-21	2044	1	0.0002	0.0057	0.0093	0.001	0.000	0.0000	0.001	
22	1	21-22	2045	1	0.0002	0.0057	0.0093	0.001	0.000	0.0000	0.001	
23	1	22-23	2046	1	0.0002	0.0057	0.0093	0.001	0.000	0.0000	0.001	
24	1	23-24	2047	1	0.0002	0.0057	0.0093	0.001	0.000	0.0000	0.001	
25	1	24-25	2048	1	0.0002	0.0057	0.0093	0.001	0.000	0.0000	0.001	
26	1	25-26	2049	1	0.0002	0.0057	0.0093	0.001	0.000	0.0000	0.001	
27	1	26-27	2050	1	0.0002	0.0057	0.0093	0.001	0.000	0.0000	0.001	
28	1	27-28	2051	1	0.0002	0.0057	0.0093	0.001	0.000	0.0000	0.001	
29	1	28-29	2052	1	0.0002	0.0057	0.0093	0.001	0.000	0.0000	0.001	
30	1	29-30	2053	1	0.0002	0.0057	0.0093	0.001	0.000	0.0000	0.001	
Total Increased Cancer Risk								0.15	0.024	0.002	**0.18**	

* Third trimester of pregnancy

Green Tree Project, Vacaville - I80 Impacts on New Residents near I80/Orange Dr.
TAC Cancer Risk Calculations
1.5 meter receptor height

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - MEI Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)				
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	TOTAL	Maximum Hazard Index
0	0.25	-0.25 - 0*	2024	10	0.0005	0.0167	0.0266	0.007	0.001	0.0001	0.01	
1	1	0 - 1	2024	10	0.0005	0.0167	0.0266	0.082	0.016	0.0015	0.10	0.0001
2	1	1 - 2	2025	10	0.0005	0.0167	0.0266	0.082	0.016	0.0015	0.10	0.0001
3	1	2 - 3	2026	3	0.0005	0.0167	0.0266	0.013	0.002	0.0002	0.02	0
4	1	3 - 4	2027	3	0.0005	0.0167	0.0266	0.013	0.002	0.0002	0.02	0
5	1	4 - 5	2028	3	0.0005	0.0167	0.0266	0.013	0.002	0.0002	0.02	
6	1	5 - 6	2029	3	0.0005	0.0167	0.0266	0.013	0.002	0.0002	0.02	
7	1	6 - 7	2030	3	0.0005	0.0167	0.0266	0.013	0.002	0.0002	0.02	
8	1	7 - 8	2031	3	0.0005	0.0167	0.0266	0.013	0.002	0.0002	0.02	
9	1	8 - 9	2032	3	0.0005	0.0167	0.0266	0.013	0.002	0.0002	0.02	
10	1	9 - 10	2033	3	0.0005	0.0167	0.0266	0.013	0.002	0.0002	0.02	
11	1	10 - 11	2034	3	0.0005	0.0167	0.0266	0.013	0.002	0.0002	0.02	
12	1	11 - 12	2035	3	0.0005	0.0167	0.0266	0.013	0.002	0.0002	0.02	
13	1	12 - 13	2036	3	0.0005	0.0167	0.0266	0.013	0.002	0.0002	0.02	
14	1	13 - 14	2037	3	0.0005	0.0167	0.0266	0.013	0.002	0.0002	0.02	
15	1	14 - 15	2038	3	0.0005	0.0167	0.0266	0.013	0.002	0.0002	0.02	
16	1	15 - 16	2039	3	0.0005	0.0167	0.0266	0.013	0.002	0.0002	0.02	
17	1	16-17	2040	1	0.0005	0.0167	0.0266	0.001	0.000	0.0000	0.002	
18	1	17-18	2041	1	0.0005	0.0167	0.0266	0.001	0.000	0.0000	0.002	
19	1	18-19	2042	1	0.0005	0.0167	0.0266	0.001	0.000	0.0000	0.002	
20	1	19-20	2043	1	0.0005	0.0167	0.0266	0.001	0.000	0.0000	0.002	
21	1	20-21	2044	1	0.0005	0.0167	0.0266	0.001	0.000	0.0000	0.002	
22	1	21-22	2045	1	0.0005	0.0167	0.0266	0.001	0.000	0.0000	0.002	
23	1	22-23	2046	1	0.0005	0.0167	0.0266	0.001	0.000	0.0000	0.002	
24	1	23-24	2047	1	0.0005	0.0167	0.0266	0.001	0.000	0.0000	0.002	
25	1	24-25	2048	1	0.0005	0.0167	0.0266	0.001	0.000	0.0000	0.002	
26	1	25-26	2049	1	0.0005	0.0167	0.0266	0.001	0.000	0.0000	0.002	
27	1	26-27	2050	1	0.0005	0.0167	0.0266	0.001	0.000	0.0000	0.002	
28	1	27-28	2051	1	0.0005	0.0167	0.0266	0.001	0.000	0.0000	0.002	
29	1	28-29	2052	1	0.0005	0.0167	0.0266	0.001	0.000	0.0000	0.002	
30	1	29-30	2053	1	0.0005	0.0167	0.0266	0.001	0.000	0.0000	0.002	
Total Increased Cancer Risk								0.37	0.071	0.007	**0.45**	

* Third trimester of pregnancy