
Technical Memorandum



To: F Scott Jewell, ACCESS Services

From: Anitra Rice, HDR

Date: October 15, 2024 (Revised October 15, 2026)

Subject: **Antelope Valley Paratransit Operations and Maintenance Facility Project – Air Quality and Greenhouse Gas Emissions Technical Memorandum**

Introduction

The Air Quality and Greenhouse Gas Emissions Technical Memorandum was prepared for ACCESS Services (ACCESS) to document the existing air quality, potential impacts to air quality and GHG emissions during construction and operation, and identify avoidance, minimization, or mitigation measures to reduce impacts to air quality pursuant to local, state, and federal regulations including, but not limited to the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA).

Project Location and Description

Project Location

The project site is located in the Antelope Valley portion of Los Angeles County, California and within the City of Lancaster (Figure 1). The project site is a contiguous 6.81-acre flat and undeveloped site generally bounded by Avenue K-15 to the north, Morton Way to the east, Avenue L to the south, and the Union Pacific Railroad (UPRR) right-of-way (ROW) where the Southern California Regional Rail Authority (SCRRA) operates Metrolink service on the Antelope Valley Line (AVL), and Sierra Highway to the west (Figure 2).

The Assessor Parcel Numbers (APN) assigned to the project site include the following:

- APN: 3126-009-974
- APN: 3126-009-975
- APN: 3126-009-976

Project Description

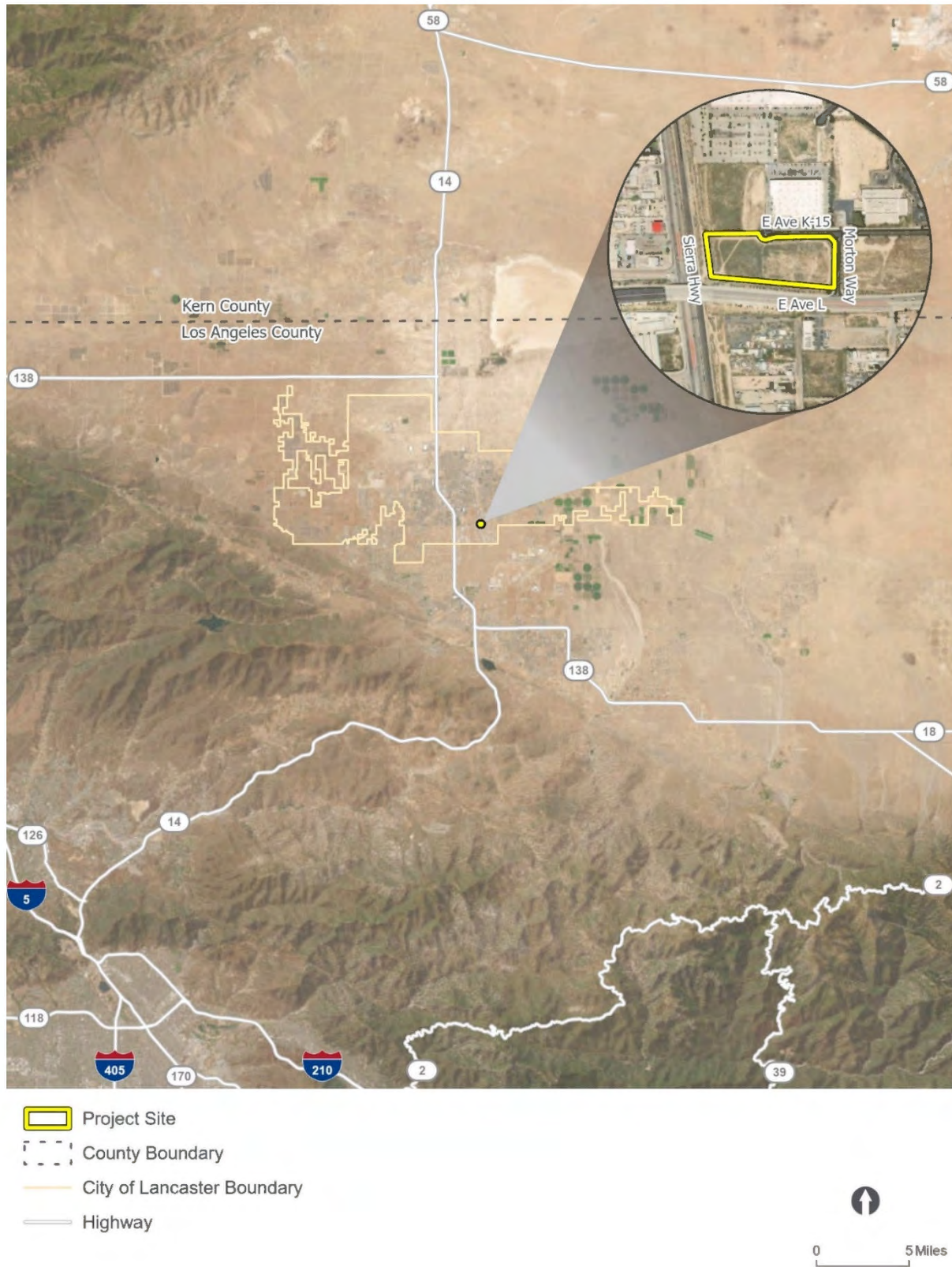
ACCESS is proposing to construct the project on an undeveloped site owned by the City of Lancaster. The project site is zoned as Specific Plan and within the boundaries of the City of Lancaster's Lancaster Business Park Phase III Specific Plan (SP No. 90-01) which aims to develop the specific plan area as a high-quality business center, an important element of the long-range economic development strategy for the City of Lancaster (City of Lancaster 1991).

The project would be constructed in two phases and includes the following major project components, as depicted on Figure 3. An architectural site plan for the project is provided as Figure 4.

- **Administration and Vehicle Maintenance Building** – One mixed occupancy, single-story 26,565 square-foot (sf) building, ranging in height from 17 feet to 26 feet and four inches.
 - Administration Building - 9,810 sf (Phase 1), not to be expanded for Phase 2
 - Vehicle Maintenance Building - 10,510 sf (Phase 1), to be expanded by 6,245 sf for a total of 16,755 sf (Phase 2)
- **Parking Areas**
 - Staff and Visitor Parking – 165 spaces (Phase 1), to be expanded by 67 additional spaces for a total of 232 spaces (Phase 2)
 - Fleet Vehicle Parking – 88 spaces (60 cutaway, 28 van) (Phase 1), to be reconfigured as part of Phase 2 to remove cutaway spaces for a total of 153 spaces (0 cutaway, 153 van) (Phase 2)
 - Non-revenue Parking – 10 spaces (Phase 1), not to be expanded in Phase 2
- **Fuel Island** – One unleaded gasoline fuel island with one fuel dispenser and a 12,000-gallon aboveground storage tank (AST) to facilitate on-site fueling is proposed (Phase 1). One dispenser would accommodate 83 fleet vehicles. Fuel would be delivered to the project site once every two weeks.
- **Wash Bay** – One prefabricated, fully enclosed 2,498 sf drive-through wash bay is proposed adjacent to the fleet parking area to provide an on-site area to clean fleet vehicles. Washing would be conducted manually, and associated infrastructure would consist of supporting equipment, storage tanks, pumps, filters, water softeners, a reclaimed water system, etc. (Phase 1).
- **Detention Basins** – Two detention basins at the northwest and southeast corners of the project site are proposed (Phase 1). Both detention basins would be converted to underground systems during Phase 2 to accommodate planned Phase 2 project components.
- **Photovoltaic (PV) Shade Structures** - Column-supported shade structures with PV arrays covering all fleet parking are planned for Phase 2 of the project; however, they may be constructed during Phase 1, based on funding availability. PV array shading is anticipated to provide 75 percent or more of the building energy consumption.
- **Backup Generator** – One 500 kilovolt-amps diesel generator with underground conduits and automatic transfer switches (Phase 1).
- **Lighting** – Internal external light-emitting diode lighting is proposed for the project. A Lighting Plan will be prepared during final design.

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- **Fencing** - An 8-foot steel wire mesh fence would be constructed around the perimeter of the project site with security gates at each of the proposed entrance/exit points

Figure 1. Project Vicinity



Source: HDR 2026

Figure 2. Project Site

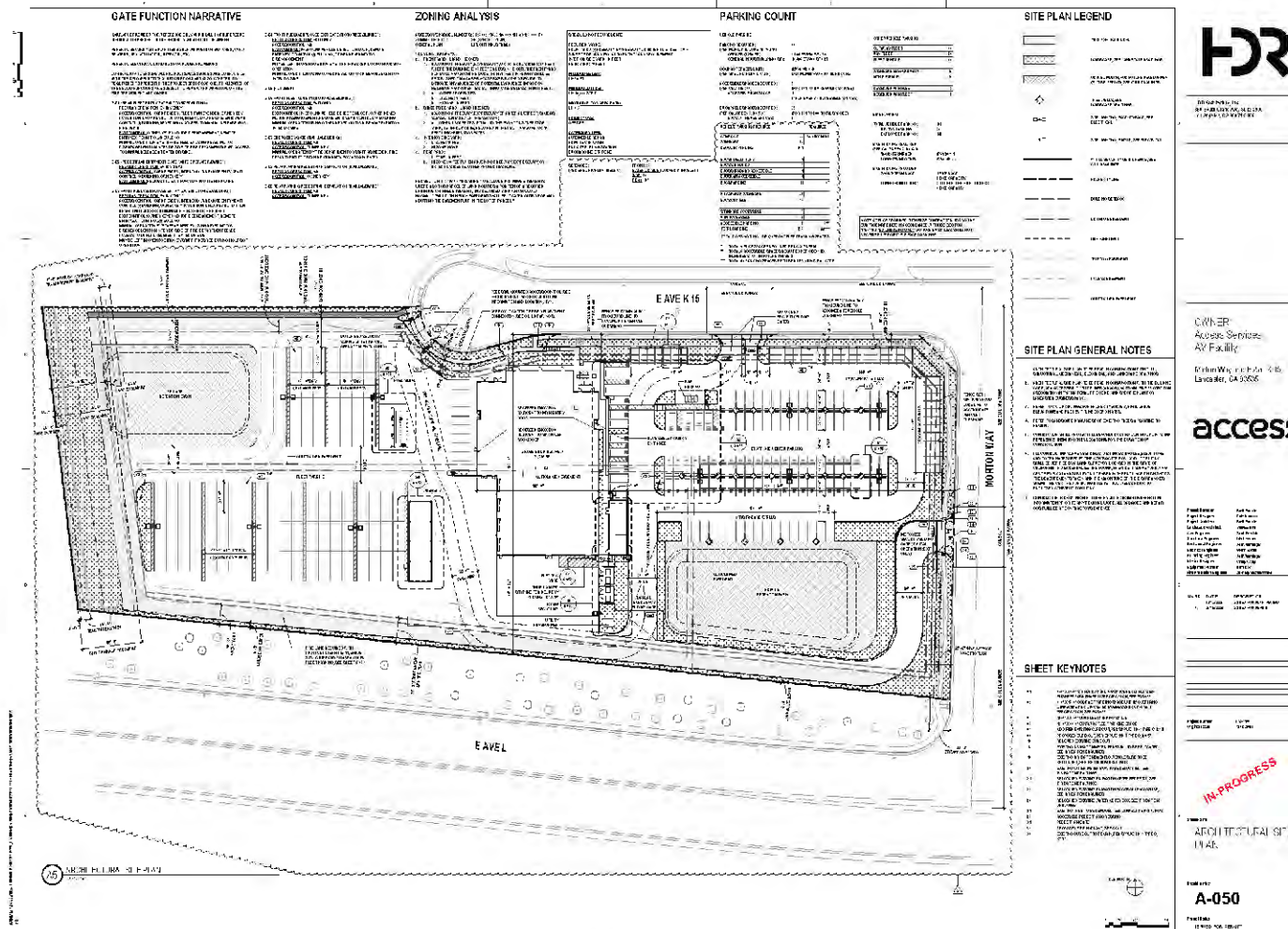


Source: HDR 2026

Source: HDR 2026



Figure 4. Architectural Site Plan



Source: HDR 2026

Construction Activities

Construction of Phase 1 of the project is expected to occur over 16 months, from March 2025 through July 2026. Phase 2 construction is based on funding availability and planned to be operational by 2036. Construction is anticipated to occur 5 days a week, 8 hours a day. No weekend or nighttime construction is anticipated for the project. Construction activities for both phases of construction are further described below.

- **Phase 1** – Construction activities for Phase 1 of project would include grading, foundation and building construction, and paving. During Phase 1, stormwater detention basins are proposed in the two areas where future Phase 2 improvements would be located.
- **Phase 2** – Construction activities for Phase 2 of the project would include expansion of the vehicle maintenance building and paving in the areas used as detention basins during Phase 1 and conversion of the detention basins to underground systems. The same entrances from Phase 1 would remain and the emergency exit for staff and visitor vehicles, located on Morton Way, would be moved to the south.

For the purposes of this air quality evaluation, construction of Phase 1 and Phase 2 are assumed to occur as part of one overall phase to be completed consecutively with no overlap. Equipment used during construction would include diesel-powered excavators, backhoes, concrete mixers, dump trucks, and a small crane. The same equipment is anticipated to be used for both Phase 1 and Phase 2 and is available in Appendix B.

CalEEMod was used to calculate the estimated maximum daily construction workers per phase. An estimated 46 construction workers and two vendor trips per day would be required during construction. Soil would be balanced on site to the maximum extent feasible. A minimal amount of export, if any, may be required to remove excavated topsoil from the project site. The project would require importation of approximately 7,718 cubic yards of asphalt.

Construction vehicle access to the project site would be located at two existing driveways on Avenue K-15, one located at the end of the cul-de-sac and another between the end of the cul-de-sac and Morton Way. Construction staging would be located within the project site, out of public ROW.

Operational Activities

ACCESS currently operates an existing paratransit facility located approximately 0.91-mile away from the project site and is proposing to relocate existing operations to the new facility on the project site upon completion of Phase 1 construction. The lifecycle of the proposed facility is 50 years. Once operational, fleet vehicles would enter the project site from a gated entrance at the cul-de-sac on Avenue K-15 and would exit the project site from a gated exit onto Morton Way. Staff and visitor vehicles would enter and exit from a separate entrance along Avenue K-15. The fleet vehicle exit onto Morton Way would also be used as an emergency exit for staff and visitor parking. Temporary delivery parking would be located at the south end of the vehicle maintenance facility.

Routine maintenance for fleet vehicles would occur at the project site. The following shop and service equipment may be used throughout operation:

- Vehicle Lifts
- Cranes and Hoists
- Vacuum Systems
- Vehicle Exhaust Systems
- Vehicle Wash Systems
- Compressed Air and Lubrication Distribution Equipment
- Support Shop Equipment
- Storage Equipment
- Fall Protection Equipment

The fall protection systems proposed for the project would be used during all instances of routine maintenance on the roof of the vehicle and operation of the facility. Portable fall protection systems and overhead fall arrest systems may also be implemented.

Daily Trip Generation

Implementation of the project would result in 509 daily trips upon operation of Phase 1 (310 employee trips and 199 service vehicle trips). An additional 466 daily trips are anticipated for Phase 2, for a total of 975 daily trips (594 employee trips and 381 service vehicle trips). An estimated maximum of up to 1,563 daily trips (952 employee trips and 611 service vehicle trips) are anticipated for the facility at full buildout.

Regulatory Setting

Regulations

Federal

CLEAN AIR ACT AND NATIONAL AMBIENT AIR QUALITY STANDARDS

The Clean Air Act (CAA) is the primary federal law governing air quality. The CAA is regulated by the USEPA, which sets standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS have been established for six criteria air pollutants that have been linked to potential health concerns: O₃, PM₁₀, PM_{2.5}, CO, NO₂, and SO₂. Additionally, national standards exist for Pb. The NAAQS are set at levels that protect public health with a margin of safety and are subject to periodic review and revision. The federal regulatory schemes also cover TACs.

The CAA requires USEPA to designate areas as attainment, nonattainment, or maintenance (an area that was previously nonattainment and is currently attainment) for each criteria pollutant

based on whether the NAAQS have been achieved. The federal standards are summarized in Table 1.

The CAA requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). USEPA is responsible for implementing the programs established under the CAA, programs such as establishing and reviewing the federal ambient air quality standards and judging the adequacy of SIPs. If a state contains areas that violate the national standards, the CAA requires the State to revise its SIP to incorporate additional control measures to reduce air pollution. USEPA has authorized States such as California with air programs that meet or exceed federal standards to implement many of the federal programs while retaining an oversight role.

Table 1. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	National Standards ¹		California Standards ²
		Primary ³	Secondary ⁴	
O ₃	1 hour	-	Same as Primary Standard	0.09 ppm
	8 hour	0.07 ppm		0.07 ppm
PM ₁₀	24 hour	150 µg/m ³	Same as Primary Standard	50 µg/m ³
	Annual	-		20 µg/m ³
PM _{2.5}	24 hour	35 µg/m ³	Same as Primary Standard	-
	Annual Arithmetic Mean	12 µg/m ³	15 µg/m ³	12 µg/m ³
CO	1 hour	35 ppm	-	20 ppm
	8 hour	9 ppm	-	9 ppm
	8 hour (Lake Tahoe)	-	-	6 ppm
NO ₂	1 hour	100 ppb	-	0.18 ppm
	Annual Arithmetic Mean	0.053 ppm	Same as Primary Standard	0.03 ppm
SO ₂	1 hour	75 ppb	-	0.25 ppm
	3 hour	-	0.5 ppm	-
	24 hour	0.14 ppm	-	0.04 ppm
	Annual Arithmetic Mean	0.03 ppm	-	-
Pb	30-day Average	-	-	1.5 µg/m ³
	Calendar Quarter	1.5 µg/m ³	Same as Primary Standard	-
	Rolling 3-month Average	0.15 µg/m ³		-

Table 1. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	National Standards ¹		California Standards ²
		Primary ³	Secondary ⁴	
Visibility Reducing Particles	8 hour	No National Standards		– ⁵
Sulfates	24 hour	No National Standards		25 µg/m ³
Hydrogen Sulfide	1 hour	No National Standards		0.03 ppm
Vinyl Chloride	24 hour	No National Standards		0.01 ppm

Source: CARB 2016

Notes:

1. National standards (other than O₃, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O₃ 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 PM_{2.5}, the 24-hour standard is attained when 98% of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the USEPA for further clarification and current national policies.
 2. California standards for O₃, CO (except 8-hour Lake Tahoe), SO₂ (1 and 24 hour), NO₂, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
 3. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
 4. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
 5. In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.
- O₃ = ozone; PM₁₀ = particles of 10 micrometers and smaller; PM_{2.5} = particles of 2.5 micrometers and smaller; CO = carbon monoxide; NO₂ = nitrogen dioxide; SO₂ = sulfur dioxide; Pb = lead; ppm = parts per million; µg/m³ = micrograms per cubic meter; ppb = parts per billion

TRANSPORTATION CONFORMITY RULE

Public transportation projects proposed for federal funding must meet the requirements of the CAA. As previously stated, the purpose of the CAA is to protect and enhance air quality to promote public health and welfare of the nation (USDOT 2017). Regional planning officials are required to prepare both a transportation plan to benefit public mobility and an air quality plan to benefit public health. The CAA requires that federal agencies do not adopt, accept, approve or fund activities that are not consistent with air quality goals. Transportation conformity is required in areas designated nonattainment and maintenance by the USEPA for the transportation-related criteria pollutants: ozone, particulate matter, nitrogen dioxide, and carbon monoxide.

The project is exempt from a conformity determination under Table 2 of 40 CFR 93.126 because the project would include the construction of a new bus storage/maintenance facility.

EMISSION STANDARDS FOR NON-ROAD DIESEL ENGINES

The USEPA has adopted multiple tiers of emission standards for non-road (or off-road) diesel engines. The non-road standards cover mobile non-road diesel engines of all sizes used in a wide

range of construction, agricultural and industrial equipment. The first federal standards, Tier 1, were adopted in 1994. Tier 2 standards were adopted in 2001, Tier 3 in 2006, and final Tier 4 standards in 2014. The federal emission standards for non-road diesel engines are established in advancing tiers that progressively become more stringent (i.e., the higher the tier, the lower the emissions). Currently, the most stringent is Tier 4. The Tier 4 emissions standards have more stringent NO_x, particulate matter, and hydrocarbon limits than the lower tiers. The CO emission limits for Tier 4 standards remain unchanged from the Tier 2 and Tier 3 standards.

ON-ROAD DIESEL FUEL RULE

On December 20, 2022, USEPA adopted the *Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards* (USEPA 2023e) that set stronger emissions standards to lower emissions of NO_x, CO, and PM_{2.5} from heavy-duty vehicles and engines starting in model year 2027. Under this rule, NO_x emissions from heavy-duty vehicles would be reduced by 44% in 2040 and by 48% in 2045. PM_{2.5} emissions from heavy-duty vehicles are estimated to decrease by 7% in 2040 and by 8% in 2045. Emissions of CO from heavy-duty vehicles are estimated to decrease by 16% in 2040 and by 18% in 2045 (USEPA 2023e).

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

National Emission Standards for Hazardous Air Pollutants are stationary source standards for hazardous air pollutants (40 CFR 63). Hazardous air pollutants are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects (USEPA 2022f).

ENDANGERMENT FINDING FOR GREENHOUSE GASES

On April 2, 2007, in *Massachusetts v. Environmental Protection Agency*, 549 U.S. 497, the U.S. Supreme Court found that GHGs are air pollutants covered by the CAA. The Supreme Court held that USEPA must determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. To regulate GHGs from passenger vehicles, the USEPA issued an endangerment finding on December 7, 2009. The finding identifies emissions of six key GHGs — CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆ — that threaten the public health and welfare of current and future generations (USEPA 2023c).

MANDATORY REPORTING OF GREENHOUSE GASES RULE

On September 22, 2009, the USEPA issued a final rule for the mandatory reporting of GHG data and other relevant information from large sources in the United States (Code of Federal Regulations Title 40, Part 98). This comprehensive, nationwide emissions data is intended to provide a better understanding of the sources of GHGs and guide development of policies and programs to reduce emissions. The mandatory reporting rule applies to direct GHG emitting sources; suppliers of fossil fuel, industrial gas, and other products that would result in GHG emissions if released, combusted, or oxidized; and facilities that inject carbon dioxide underground for geologic sequestration or other reasons. In general, facilities that emit 25,000 metric tons of carbon dioxide equivalent (MTCO₂e) or more per year of GHGs are required to submit annual reports to the USEPA.

CORPORATE AVERAGE FUEL ECONOMY STANDARDS

The Corporate Average Fuel Economy (CAFE) standards were first introduced by Congress in 1975 to help reduce the country's dependence on foreign oil. CAFE standards are regulated by Department of Transportation's National Highway Traffic and Safety Administration (NHTSA). NHTSA sets and enforces the CAFE standards, while the USEPA calculates average fuel economy levels for manufacturers, and also sets related GHG standards. The regulations have become more stringent over time. The regulations at first applied only to passenger cars in 1978, then included light duty trucks up to 6,000 pounds in 1980, and finally increased to all vehicles up to 8,500 pounds the next year. Regulations varied during the 1980s for both cars and trucks before reaching a steady target for cars in 1990 through 2010, with trucks moderately increasing during the period from 20 to 21 miles per gallon (mpg) through 2005, then reaching 23.5 mpg by 2010.

On April 1, 2010, the USEPA and the NHTSA announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States. This rule required passenger cars, light-duty trucks, and medium-duty passenger vehicles to meet fuel economy standards. In 2011, the USEPA and NHTSA issued a final rule for the first national standards to improve fuel efficiency of medium- and heavy-duty trucks and buses.

In 2020, the USEPA and NHTSA, issued the Safer Affordable Fuel Efficient (SAFE) Vehicles Rule which set new CAFE targets and tailpipe CO₂ emissions standards for passenger cars and lights trucks that increase 1.5% in stringency each year from model years 2021 through 2026. In 2021, President Biden signed an executive order (EO) directing the government to revise fuel economy standards, with the goal of further reducing emissions. NHTSA finalized the CAFE Standards for model years 2024-2026 (NHTSA 2023) in 2022. The final rule establishes standards that would require an industry-wide fleet average of approximately 49 mpg for passenger cars and light trucks in model year 2026 (NHTSA 2023). NHTSA projects the standards will cut greenhouse gases from the atmosphere, reduce air pollution, and reduce the country's dependence on oil (NHTSA 2023).

On July 28, 2023, NHTSA announced a proposal for new CAFE standards for passenger cars and light trucks built in model years 2027-2032, and new fuel efficiency standards for heavy-duty pickup trucks and vans built in model years 2030-2035. If finalized, the proposal would require an industry fleet-wide average of approximately 58 miles per gallon for passenger cars and light trucks in MY 2032, by increasing fuel economy by 2% year over year for passenger cars and by 4% year over year for light trucks. For heavy-duty pickup trucks and vans, the proposal would increase fuel efficiency by 10% year over year (NHTSA 2023).

EXECUTIVE ORDER 13990

EO 13990: Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis was signed by President Biden on January 20, 2021. EO 13990 directs federal agencies to immediately review, and take action to address, federal regulations promulgated and other actions taken during the last 4 years that conflict with national objectives to improve public health and the environment; ensure access to clean air and water; limit exposure to dangerous chemicals and pesticides; hold polluters accountable, including those who disproportionately

harm communities of color and low-income communities; reduce greenhouse gas emissions; bolster resilience to the impacts of climate change; restore and expand our national treasures and monuments; and prioritize both environmental justice and employment (White House 2021a).

CEQ INTERIM GUIDANCE ON GHG EMISSIONS AND CLIMATE CHANGE

Consistent with EO 13990, described above, the Council of Environmental Quality (CEQ) issued interim National Environmental Policy Act (NEPA) Guidance on Consideration of GHG Emissions and Climate Change on January 9, 2023, and sought public comment through April 10, 2023 (Office of NEPA Policy and Compliance 2023). CEQ issued this guidance to assist agencies in analyzing greenhouse gas and climate change effects of their proposed actions under NEPA. The guidance “identifies and explains the following steps agencies should take when analyzing a proposed action’s climate change effects under NEPA: (1) Quantify the reasonably foreseeable GHG emissions (including direct and indirect emissions) of a proposed action, the no action alternative, and any reasonable alternatives ... (2) Disclose and provide context for the GHG emissions and climate impacts associated with a proposed action and alternatives, including by, as relevant, monetizing climate damages using estimates of the Social Cost of GHG (SC-GHG), placing emissions in the context of relevant climate action goals and commitments, and providing common equivalents ... (3) Analyze reasonable alternatives, including those that would reduce GHG emissions relative to baseline conditions, and identify available mitigation measures to avoid, minimize, or compensate for climate effects (Office of NEPA Policy and Compliance 2023).” CEQ intends to either revise the guidance in response to public comments or finalize the interim guidance.

EXECUTIVE ORDER 14008

EO 14008: Tackling the Climate Crisis at Home and Abroad was signed by President Biden on January 27, 2021. EO 14008 establishes a “government-wide approach that reduces climate pollution in every sector of the economy; increases resilience to the impacts of climate change; protects public health; conserves our lands, waters, and biodiversity; delivers environmental justice; and spurs well-paying union jobs and economic growth, especially through innovation, commercialization, and deployment of clean energy technologies and infrastructure” (White House 2021b).

EXECUTIVE ORDER 14057

EO 14057: Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability was signed on December 8, 2021, and requires agencies to (White House 2021c):

- Achieve 100% carbon pollution-free electricity by 2030, including 50% on a 24/7 basis.
- Reach 100% zero-emission vehicle acquisition by 2035, including 100% light-duty acquisitions by 2027.
- Achieve net-zero building emissions by 2045, including a 50% reduction by 2032.
- Reduce Scope 1 and 2 greenhouse gas emissions by 65% from 2008 levels by 2030.
- Establish targets to reduce energy and potable water use intensity by 2030.
- Reduce procurement emissions to net-zero by 2050.

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- Have climate resilient infrastructure and operations.
 - Advance environmental justice and equity-focused operations.
 - Accelerate progress through domestic and international partnerships.

State

CALIFORNIA CLEAN AIR ACT AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. The CAAQS incorporate additional standards for most of the criteria pollutants and set standards for other pollutants recognized by the state. In general, the California standards are more health protective (stringent) than the corresponding NAAQS. California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

The CCAA is administered by the California Air Resources Board (CARB) at the state level and by the air quality management districts and air pollution control districts (air districts) at the regional and local levels. CARB and local air districts bear responsibility for achieving California's air quality standards, which are to be achieved through air district-level air quality management plans that would be incorporated into the SIP. In California, USEPA has delegated authority to prepare SIPs to CARB, which, in turn, has delegated that authority to individual air districts. CARB is responsible for establishing state air quality standards, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and approving SIPs.

The CCAA substantially adds to the authority and responsibilities of air districts. The CCAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The act also emphasizes the control of "indirect and area-wide sources" of air pollutant emissions. The CCAA gives local air pollution control districts explicit authority to regulate indirect sources of air pollution and to establish traffic control measures.

EXECUTIVE ORDERS

Executive Order S-3-05

In June 2005, Governor Schwarzenegger issued Executive Order (EO) S-3-05, which established the following GHG emissions reduction targets: 1) reduce GHG emissions to 2000 levels by 2010, 2) reduce GHG emissions to 1990 levels by 2020, and 3) reduce GHG emissions to 80% below 1990 levels by 2050.

Executive Order B-30-15

On April 20, 2015, Governor Brown signed EO B-30-15 to establish a California GHG reduction target of 40% below 1990 levels by 2030. California's emission reduction target of 40% below 1990 levels by 2030 will make it possible to reach the ultimate goal of reducing emissions 80% below 1990 levels by 2050. This is in line with the scientifically established levels needed in the United States to limit global warming below 2 degrees Celsius, the warming threshold at which there will likely be major climate disruptions such as super droughts and rising sea levels.

Executive Order B-55-18

EO B-55-18, signed on September 10, 2018, established a new statewide goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. The EO requires the CARB to work with relevant State agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.

Executive Order N-19-19

EO N-19-19 was signed by Governor Newsom on September 20, 2019. The EO includes four main directives (State of California 2019):

- The EO requires that the Department of Finance creates a Climate Investment Framework to align the state's \$700 billion investment portfolio toward industries and sectors that contribute to the reduction of carbon emissions and increased resilience to climate change impacts. This includes the responsible investment of the state's pension funds to protect taxpayers, reflect the increasing economic and public risks from climate change, and align with the responsibilities of the state's retirement systems.
- The California State Transportation Agency (CalSTA) is directed to leverage over \$5 billion toward transportation construction, operations, and maintenance to lower fuel consumption and greenhouse gas emissions from transportation. This includes strategies for lowering vehicle miles traveled (VMT), such as supporting housing development near available jobs, and supporting active modes of transportation such as biking and walking that also benefit public health. The order specifically requires that CalSTA also work to mitigate increased transportation costs for low-income communities.
- The EO directs the Department of General Services to work toward minimizing the state government's carbon footprint by promoting zero-emissions vehicles in government fleets; implementing sustainable purchasing policies across state agencies that prioritize sustainability in the purchase of goods, food, and materials; responsibly managing state buildings' energy consumption; and mitigating climate risk to state owned and leased buildings.
- CARB is directed to accelerate the state's efforts toward achieving five million zero-emission vehicle sales by 2030 by incentivizing manufacturers to produce cleaner, affordable vehicles; developing strategies to increase demand for zero-emissions vehicles in both primary and secondary purchase; and considering new and/or stronger regulations necessary to reduce GHG emissions from the transportation sector.

Executive Order N-79-20

EO N-79-20: Zero-Emission by 2035 was signed by Governor Newsom on January 19, 2021. By setting a course to end sales of internal combustion passenger vehicles by 2035, the EO establishes a target for the transportation sector that helps put the state on a path to carbon neutrality by 2045 (CARB 2021a). The EO focuses on new vehicle sales for automakers, and therefore does not require Californians to give up the existing cars and trucks they already own. Furthermore, by setting the target in 2035, the EO provides time for automakers to scale up and market new zero-emission vehicles, as well as further impetus for the providers of charging and

refueling infrastructure, electric utilities, and others to plan for and support the increasing consumer demand for these vehicles (CARB 2021a).

ASSEMBLY BILLS

Assembly Bill 1493

In 2002, the California Legislature enacted Assembly Bill (AB) 1493, also known as the Pavley Bill, that provided the nation's first GHG standards for automobiles. AB 1493 requires CARB to develop and adopt regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light duty truck and other vehicles determined by CARB to be vehicles whose primary use is non-commercial personal transportation in the state." In September 2004, pursuant to this directive, the CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. These regulations created the Pavley standards. In September 2009, the CARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations created the Pavley II standards.

Assembly Bill 32

In September 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006, also known as AB 32. AB 32 required that statewide GHG emissions be reduced to 1990 levels by 2020. California met its 2020 reduction goal in 2018.

Assembly Bill 1279

In September 2022, Governor Newsom signed into law the California Climate Crisis Act, also known as AB 1279. AB 1279 requires the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and to achieve and maintain net negative greenhouse gas emissions thereafter. The bill also requires California to reduce statewide anthropogenic GHG emissions by 85% compared to 1990 levels and directs the CARB to work with relevant state agencies to achieve these goals.

Assembly Bill 2588

California regulates TACs primarily through the Tanner Air Toxics Act of 1983 (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Toxic Air Contaminant Identification and Control Act (AB 1807) created California's program to reduce exposure to air toxics. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks. In August 1998, CARB identified particulate emissions from diesel-fueled engines as TACs. In September 2000, CARB approved a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. As an ongoing process, CARB reviews air contaminants and identifies those that are classified as TACs. CARB also continues to establish new programs and regulations for the control of TACs, including DPM, as appropriate. Among the programs and strategies CARB has developed to reduce diesel emissions for various sources, including off-road sources (construction equipment), and on-road trucks (haul trucks). In 2015,

OEHHA adopted the Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments.

SENATE BILLS

Senate Bill 32

SB 32 was signed into law on September 8, 2016. SB 32 expands upon AB 32 to reduce GHG emissions. SB 32 sets into law the mandated GHG emissions target of 40% below 1990 levels by 2030 written into EO B-30-15.

Senate Bill 375

SB 375, also known as the Sustainable Communities and Climate Protection Act, provides for a new planning process that coordinates land use planning, regional transportation plans (RTPs), and funding priorities, originally in order to help California meet the GHG reduction goals established in AB 32. SB 375 requires RTPs to incorporate a “sustainable communities strategy” (SCS). The goal of the SCS is to reduce regional VMT through land use planning and consequent transportation patterns. SCS measures include transportation demand management, transportation system management, and pricing.

Senate Bill 535 and Assembly Bill 1550

SB 535 requires the California Environmental Protection Agency to identify disadvantaged communities based on geographic, socioeconomic, public health, and environmental hazard criteria. It also requires that the investment plan developed and submitted to the Legislature pursuant to AB 1550 allocate no less than 25% of available proceeds from the carbon auctions held under AB 32 to projects that will benefit these disadvantaged communities. At least 10% of the available funds from these auctions must be directly invested in such communities.

CLIMATE CHANGE SCOPING PLANS

In December 2008, the CARB adopted the *Climate Change Scoping Plan* (2008 Scoping Plan) to achieve the goals outlined in AB 32. According to the 2008 Scoping Plan, California will implement strategies to achieve a reduction of approximately 118 million MTCO₂e, or approximately 22% from the State’s projected 2020 emission level of 545 million MTCO₂e under a business-as-usual scenario 10%, from 2008 emissions (CARB 2008).

The *First Update to the Climate Change Scoping Plan* (2014 Scoping Plan) built upon the 2008 Scoping Plan with new strategies and recommendations. The 2014 Scoping Plan contained the main strategies California will implement to achieve a reduction of 80 million MTCO₂e emissions, or approximately 16%, from the state’s projected 2020 emission level of 507 million MTCO₂e under the business-as-usual scenario defined in the 2014 Scoping Plan (CARB 2014). Several strategies to reduce GHG emissions were included: Low Carbon Fuel Standard, Pavley Rule, Advanced Clean Cars program, Renewable Portfolio Standard, and Sustainable Communities Strategy.

In 2016, the Legislature passed SB 32, which codified a 2030 GHG emissions reduction target of 40% below 1990 levels. With the passage of SB 32, the Legislature passed companion legislation AB 197, which provided additional direction for developing the Scoping Plan. The CARB adopted

California's 2017 Climate Change Scoping Plan (2017 Scoping Plan) in November 2017. The 2017 Scoping Plan represents a second update to the scoping plan to reflect the 2030 target as codified by SB 32. According to the 2017 Scoping Plan, the 2030 target of 260 million MTCO₂e requires the reduction of 129 million MTCO₂e, or approximately 33.2%, from the state's projected 2030 business-as-usual scenario emissions level of 389 million MTCO₂e (CARB 2017).

The *2022 Scoping for Achieving Carbon Neutrality* (2022 Scoping Plan) (CARB 2022a) was adopted by CARB in November 2022. The 2022 Scoping Plan lays out a path for California to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85% below 1990 levels no later than 2045, as directed by AB 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

ADVANCED CLEAN CARS PROGRAM

In January 2012, the CARB approved a new emissions control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero emission vehicles into a single packet of standards called Advanced Clean Cars. The Advanced Clean Cars Program includes the Zero Emission Vehicle Program, which is designed to achieve California's long-term emission reduction goals by requiring manufacturers to offer for sale specific numbers of zero-emission vehicles, which include battery electric, fuel cell, and plug-in hybrid electric vehicles.

ADVANCED CLEAN FLEETS REGULATION

CARB adopted the Advanced Clean Fleets (ACF) regulation in April 2023. ACF is part of CARB's overall strategy to accelerate a large-scale transition to zero-emissions medium- and heavy-duty vehicles (CARB 2023b). This regulation works in conjunction with the Advanced Clean Trucks regulation, described below, which helps ensure that zero-emissions vehicles (ZEV) are available for sale (CARB 2023b). ACF is critical to achieving both health-protective ambient air quality standards and the State's climate goals and is expected to save \$26.5 billion in statewide health benefits and provide a net cost savings of \$48 billion to fleets (CARB 2023b).

ADVANCED CLEAN TRUCKS REGULATION

CARB adopted the Advanced Clean Trucks (ACT) Regulation in August 2021. The ACT Regulation aims to accelerate a large-scale transition of zero-emission medium-and heavy-duty vehicles from Class 2b to Class 8 (CARB 2023c). The regulation has two components including a manufacturer sales requirement, and a reporting requirement (CARB 2023c):

- **Zero-emission truck sales:** Manufacturers who certify Class 2b-8 chassis or complete vehicles with combustion engines would be required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55% of Class 2b – 3 truck sales, 75% of Class 4 – 8 straight truck sales, and 40% of truck tractor sales.

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- **Company and fleet reporting:** Large employers including retailers, manufacturers, brokers, and others are required to report information about shipments and shuttle services. Fleet owners, with 50 or more trucks, are required to report about their existing fleet operations. This information will help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.

MOBILE SOURCE STRATEGY

CARB developed the Mobile Source Strategy to provide an integrated action plan that establishes a unified planning perspective and common vision for transforming the mobile sector. The Mobile-Source Strategy supports multiple planning efforts, including SIPs, the Scoping Plan, and the Short-Lived Climate Pollutant (SLCP) Reduction Strategy. The Mobile-Source Strategy outlines CARB's approach to reducing emissions from mobile sources. The strategy includes actions to modernize and upgrade transportation infrastructure, enhance system-wide efficiency and mobility options, and promote clean economic growth. The Mobile-Source Strategy is updated every 5 years. The latest update is the *2020 Mobile Source Strategy*. The *2020 Mobile Source Strategy* was heard by the Board on October 28, 2021, and will be forwarded to the appropriate policy and fiscal committees of the California Legislature as required by California SB 44 (CARB 2023a).

LOW CARBON FUEL STANDARD

The Low Carbon Fuel Standard (LCFS) mandates a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020. In September 2018, the LCFS regulation was amended to increase the statewide goal to a 20% reduction in the carbon intensity of California's transportation fuels by at least 2030. Note that although the LCFS regulation was amended and extended to ensure compliance with the 2030 Scoping Plan, CARB ultimately adopted a more stringent target (20% reduction in carbon intensity by 2030) than assumed in the 2030 Scoping Plan (18% reduction in carbon intensity by 2030). Therefore, future updates to the Scoping Plan are likely to include the more stringent version of the LCFS that was adopted by CARB. The majority of the emissions benefits due to the LCFS come from the production cycle (upstream emissions) of the fuel rather than the combustion cycle (tailpipe).

Regional/Local

ANTELOPE VALLEY AIR QUALITY MANAGEMENT DISTRICT

The Antelope Valley Air Quality Management District (AVAQMD) is primarily responsible for regulating stationary sources of air pollution in the northern desert portion of Los Angeles County. The District's boundaries start on the south just outside of Acton, north to the Kern County line, east to the San Bernardino County line, and west to the Quail Lake area. AVAQMD's jurisdiction includes the incorporated cities of Lancaster (AVAQMD, 2024). The District covers approximately 1,300 square miles.

CEQA and Federal Conformity Guidelines

The AVAQMD's CEQA and Federal Conformity Guidelines establishes significance thresholds for pollutant emissions generated both during and following construction. A project is considered

significant if it triggers or exceeds the most appropriate evaluation criteria as determined by AVAQMD:

1. Generates total emissions above thresholds shown in Section 6.1.1
2. Generates a violation of any ambient air quality standard when added to the local background
3. Does not conform with the applicable attainment or maintenance plan¹
4. Exposes sensitive receptors to substantial pollutant concentrations

AVAQMD Ozone Attainment Plans

The Western Mojave Desert Nonattainment Area (WMDONA) is designated as severe nonattainment for the 8-hour O₃ (2008 standard and 2015 standard) compared to the NAAQS. WMDONA is also in nonattainment for O₃ compared to the CAAQS. As part of the State Implementation Plan, AVAQMD has published several ozone attainment plans with the latest being the AVAQMD Federal 70 ppb Ozone Attainment Plan to address all federal attainment planning requirements for the 70 ppb federal 8-hour ozone standard (AVAQMD 2024a).

AVAQMD Rules and Regulations

AVAQMD is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws. The project may be subject to the following AVAQMD rules, and others, during construction and operation.

- **Regulation II, Rule 219, Equipment Not Requiring a Permit**, describes equipment that does not require a permit pursuant to District Rules 201 and 203.
- **Rule 302, Other Fees**, establishes fees which may be charged for various activities, documents and services, including a Dust Control Plan.
- **Regulation IV, Rule 401 Visible Emissions** establishes limits for the opacity of emissions within the AVAQMD.
- **Regulation IV, Rule 402 Nuisance** prohibits emissions that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; endanger the comfort, repose, health, or safety of any such persons or the public; or cause injury or damage to business or property.
- **Regulation IV, Rule 403 Fugitive Dust** sets restrictions on visible fugitive dust from any activity or anthropogenic sources capable of generating fugitive dust by requiring actions to prevent, reduce or mitigate fugitive dust emissions. This includes use of track-out grates or gravel beds at each egress point, wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and for outbound transport trucks: using secured tarps or cargo covering, watering, or treating of transported material.

¹ A project is deemed to not exceed this threshold, and hence not be significant, if it is consistent with the existing land use plan.

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- **Regulation IV, Rule 404 Particulate Matter** establishes limits for the discharge of any particulate matter.
 - **Regulation IV, Rule 432 – Gasoline Specifications** prohibits the supply of gasoline for motor vehicles with a degree of unsaturation greater than that indicated by a Bromine Number of 30.
 - **Regulation IV, Rule 442 Usage of Solvents** establishes limits to the amount of VOCs emitted per facility within the AVAQMD.
 - **Regulation IV, Rule 461 – Gasoline Transfer and Dispensing** establishes rules and procedures to reduce VOC emissions from gasoline transfer dispensing.
 - **Regulation XI, Rule 1110.2 Emissions from Stationary, Non-Road and Portable Internal Combustion Engines** establishes limits of NOx, VOCs, and CO from Internal Combustion Engines over 50 bhp.
 - **Regulation XI, Rule 1113 Architectural Coatings** establishes limits to the amount of VOC content for coatings applied within AVAQMD.
 - **Regulation XI, Rule 1120 Asphalt Pavement Heaters** establishes rules for a person to operate an asphalt pavement surface heater or asphalt heater-remixer for the purpose of maintaining, reconditioning, reconstructing or removing asphalt pavement
 - **Regulation XI, Rule 1146.1 Emissions of Oxides of Nitrogen from Small Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters** establishes NOx limits for process heaters that are greater than 2 million Btu per hour and less than 5 million Btu per hour rated heat input capacity used in any industrial, institutional, or commercial operation.
 - **Regulation XI, Rule 1149 Storage Tank Cleaning and Degassing** applies to the cleaning and degassing of a stationary tank, reservoir, or other container storing or last used to store VOCs
 - **Regulation XI, Rule 1173 Fugitive Emissions of Volatile Organic Compounds** establishes rules to control VOC leaks from valves, fittings, pumps, compressors, pressure relief devices, diaphragms, hatches, sight-glasses, and meters.

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS (SCAG) REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY (RTP/SCS)

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties, and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG is the federally designated Metropolitan Planning Organization (MPO) for the majority of the Southern California region.

On September 3, 2020, the SCAG Regional Council adopted the 2020-2045 RTP/SCS, which is an update to the previous 2016-2040 RTP/SCS and contains regional development and growth factors. The RTP/SCS is based on projections that originate with local jurisdictions. SCAG is required to adopt an SCS along with its RTP pursuant to Senate Bill (SB) 375 (Chapter 728, Statutes of 2008), which required the development of regional targets for reducing passenger

vehicle GHG emissions. Under SB 375, CARB was required, in consultation with the state's MPOs, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. The 2020-2045 RTP/SCS includes the latest SB 375 Regional Plan climate targets, which required SCAG to achieve an 8 percent reduction by 2020 and a 19 percent reduction by 2035 in per capita passenger vehicle GHG emissions relative to a 2005 baseline.

Although the RTP/SCS is not focused specifically on air quality emissions, the growth projections established in the 2020-2045 RTP/SCS affect air quality through optimized land use planning and the consequential reduction of emissions from passenger and light-duty vehicles. SCAG's SCS is "built on a foundation of contributions from communities, cities, counties and other local agencies" and "based on local general plans as well as input from local governments." SCAG's 2020-2045 RTP/SCS provides specific strategies for implementation. These strategies include supporting projects that encourage a diverse job opportunities for a variety of skills and education, recreation and cultures and a full range of shopping, entertainment and services all within a relatively short distance; encouraging employment development around current and planned transit stations and neighborhood commercial centers; encouraging the implementation of a "Complete Streets" policy that meets the needs of all users of the streets, roads and highways including bicyclists, children, persons with disabilities, motorists, electric vehicles, movers of commercial goods, pedestrians, users of public transportation, and seniors; and supporting alternative fueled vehicles.

In addition, SCAG is responsible for developing the Federal Transportation Improvement Plan (FTIP) for federal funding agencies (SCAG 2024). The FTIP prioritizes the region's overall strategy for providing mobility and improving both the efficiency and safety of the transportation system, while supporting efforts to attain federal and state air quality standards for the region by reducing transportation related air pollution. Projects in the FTIP have been found to be consistent with SCAG's approved Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The project is listed in the 2023 FTIP including amendments 1-29 as a FTIP ID and RTIP ID LA9919271. It is described in the 2023 FTIP as *"Purchase and development of real estate in the Los Angeles Basin region including expenditures related to the purchase of the real estate property and projected contracts issued related for an operations & maintenance facility."* This description in the 2023 FTIP is consistent with the project description described within this report to build a new maintenance facility to support paratransit services by ACCESS. The most recent 2023 FTIP amendment 23-27 was approved by SCAG on 4/25/24, approved by Caltrans on 5/6/24, and FTA/FHWA on 5/10/24. This project, LA9919271, was included in FTIP amendment 23-17, which was approved by SCAG on 10/27/2023, state approved on 11/6/2023, and federally approved on 11/9/23.

City of Lancaster General Plan

The City's General Plan is the city's long-term outlook for the future. The plan identifies the types of development that will be allowed, the spatial relationships among land uses, and the general pattern of future development. The General Plan functions as a guide to the type of community that is both desired as well as provides a means by which the community will achieve that future (Lancaster, 2009).

The Natural Environment element focuses on actions that will be undertaken by the City to protect natural resources including air quality. Due to the regional nature of air resource management and the broad list of actions required to properly manage air quality, many of the actions described herein require cooperation with other agencies. As a result, the program's effectiveness will depend on the effectiveness, timeliness, and coordination of actions taken by the City of Lancaster, AVAQMD, and by other local and regional agencies. The objectives, policies, and specific actions applicable to the project include the following:

Objective 3.3 Preserve acceptable air quality by striving to attain and maintain national, state and local air quality standards.

Policy 3.3.1 Minimize the amount of vehicular miles traveled.

Specific Actions: 3.3.1 (a) Encourage the promotion of rideshare, transit use, Metrolink and other automobile trip reduction programs for home to work trips.

Policy 3.3.2 Facilitate the development and use of public transportation and travel modes such as bicycle riding and walking.

LANCASTER CLIMATE ACTION PLAN

The City's draft Climate Action Plan (CAP) was prepared in June 2016. The CAP includes an inventory of baseline (2010) and existing (2015) GHG emissions. The CAP identifies the City's progress through its alternative energy and sustainability programs as well as identifies projects that would further reduce the City's GHG emissions. Projections for the years 2020, 2030, 2040, and 2050 were identified for 61 projects across eight sectors including traffic, energy, municipal operations, water, waste, built environment, community, and land use (Lancaster 2016).

Environmental Setting

Climate, Meteorology, and Topography

The project is located in the Mojave Desert Air Basin (MDAB); which includes the eastern half of Kern County, the northern part of Los Angeles County, most of San Bernardino County except for the southwest corner, and the eastern edge of Riverside County. It is separated from the South Coast Air Basin, to its south, by the San Gabriel and San Bernardino Mountains. It is separated from the San Joaquin Valley to the northwest by the Tehachapi Mountains and the southern end of the Sierra Nevada (AVAQMD 2016).

The Antelope Valley is within the western portion of the Mojave Desert and is bounded by the Tehachapi Mountains to the northwest and the San Gabriel Mountains to the southwest. The Mojave Desert is bordered on the southwest by the San Bernardino Mountains, separated from the San Gabriel Mountains by the Cajon Pass (4,200 feet above mean sea level [amsl]) (AVAQMD 2016).

The MDAB is characterized by hot summers, cold winters, large diurnal ranges in temperature, low relative humidity, and irregular rainfall. Prevailing winds in the MDAB are out of the west and

southwest, due to the proximity of the MDAB to the Pacific Ocean and the blocking nature of the Sierra Nevada Mountains to the north (AVAQMD 2016).

During the summer, the MDAB is generally influenced by a Pacific Subtropical High cell that sits off the coast to the west, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist and unstable air masses from the south.

Existing Air Quality

Regional Attainment Status

The CAA requires the USEPA to designate areas within the country as either “attainment” or “nonattainment” for each criteria pollutant based on whether the NAAQS have been achieved. Similarly, the CCAA requires the CARB to designate areas within California as either “attainment” or “nonattainment” for each criteria pollutant based on whether the CAAQS have been achieved. If a pollutant concentration is lower than the standard, the area is classified as “attainment” for that pollutant. If a pollutant exceeds the standard, the area is classified as “nonattainment” for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as “unclassified” or “unclassifiable”. The designation of “unclassifiable/attainment” means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are redesignated as maintenance areas and must have approved maintenance plans to ensure continued attainment of the standards.

Table 2 depicts the current attainment status of the Antelope Valley for each criteria air pollutant with respect to the NAAQS and CAAQS.

Table 2. Antelope Valley Attainment Status

Criteria Air Pollutant	Designation	
	Federal Standards	State Standards
O ₃ (8-hour)	Nonattainment	Nonattainment
O ₃ (1-hour)	Nonattainment	Nonattainment
PM ₁₀	Unclassified/Attainment	Nonattainment
PM _{2.5}	Unclassified/Attainment	Unclassified
CO	Unclassified/Attainment	Attainment
NO ₂	Attainment	Attainment
SO ₂	Attainment	Attainment
Pb	Attainment	Attainment
Sulfates	No Federal Standard	Attainment

Table 2. Antelope Valley Attainment Status

Criteria Air Pollutant	Designation	
	Federal Standards	State Standards
Hydrogen Sulfide	No Federal Standard	Unclassified
Visibility	No Federal Standard	Unclassified

Source: AVAQMD 2024

Notes:

O₃ = ozone; PM₁₀ = particles of 10 micrometers and smaller; PM_{2.5} = particles of 2.5 micrometers and smaller; CO = carbon monoxide; NO₂ = nitrogen dioxide; SO₂ = sulfur dioxide; Pb = lead

As presented in Table 2, the Antelope Valley is designated as a nonattainment area for O₃ under NAAQS and a nonattainment area for O₃ and PM₁₀ under CAAQS.

Local Ambient Air Quality

There are a number of ambient air monitoring stations throughout the Mojave Desert Air Basin. The purpose of the monitoring stations is to measure ambient concentrations of pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The ambient monitoring station closest to the project is the Lancaster-Division station, which is located approximately 0.6 miles to the north of the project site. The Lancaster-Division monitoring station monitors O₃, PM₁₀, PM_{2.5}, and NO₂. Table 3 presents the most recent ambient air quality data at the Lancaster-Division station from 2020 to 2022.

Table 3. Ambient Air Quality Monitoring Data

Pollutant Standards ¹	Year		
	2020	2021	2022
O₃			
Maximum 1-hour concentration (ppm)	0.099	0.086	0.098
Maximum 8-hour concentration (ppm)	0.084	0.080	0.083
<i>Number of days standard exceeded</i>			
CAAQS 1-hour (>0.09 ppm)	4	0	3
CAAQS 8-hour (>0.07 ppm)	8	4	36
NAAQS 8-hour (>0.07 ppm)	8	3	33
PM₁₀			
National maximum 24-hour concentration (µg/m ³)	192.3	411.2	76.2
State maximum 24-hour concentration (µg/m ³)	-. ²	-. ²	-. ²
National annual average concentration (µg/m ³)	30.6	29.6	26.0
State annual average concentration (µg/m ³)	-. ²	-. ²	-. ²
<i>Number of days standard exceeded</i>			

Table 3. Ambient Air Quality Monitoring Data

Pollutant Standards ¹	Year		
	2020	2021	2022
NAAQS 24-hour (>150 µg/m ³)	1	1	0
CAAQS 24-hour (>50 µg/m ³)	*	²	²
PM_{2.5}			
National maximum 24-hour concentration (µg/m ³)	74.7	35.7	15.1
State maximum 24-hour concentration (µg/m ³)	74.7	35.7	15.1
National annual average concentration (µg/m ³)	9.2	8.1	7.5
State annual average concentration (µg/m ³)	9.3	8.1	*
<i>Number of days standard exceeded</i>			
NAAQS 24-hour (>35 µg/m ³)	*	*	*
NO₂			
Maximum 1-hour concentration (ppb)	52	46	44
Annual average concentration (ppb)	8	8	8
<i>Number of days standard exceeded</i>			
NAAQS 1-hour (>100 ppb)	0	0	0
CAAQS 1-hour (>180 ppb)	0	0	0

Valley Fever

Valley Fever is a fungal lung infection that is caused by a fungus that lives in the soil. This fungus, *Coccidioides*, has been found in the southwestern United States and can be breathed in when soil is disturbed, and the fungus is spread through the air. People can contract Valley Fever when working or living in areas with soil disturbance such as during construction activities for grading or soil movement. Valley Fever causes flu-like symptoms including fatigue, cough, fever, shortness of breath, headache, night sweats, muscle aches, or rash, but can also present no symptoms in some people. Because of these common symptoms, people may delay treatment and let the infection take its course without medical attention. However, for others, some may require a hospital stay for a severe lung infection or if the fungus spreads to other parts of the body (AVAQMD 2024b).

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Hospitals, schools, daycare

centers, playgrounds, and convalescent facilities, and residential areas are examples of sensitive receptors (AVAQMD 2016).

The closest sensitive receptor to the project site is the Assurance Learning Academy High School located approximately 0.38-mile to the north of the project site.

Existing Operational Emissions

As previously mentioned, ACCESS currently operates a paratransit facility, located at 42210 6th Street West in the City of Lancaster, approximately 0.91-mile away from the project site. As part of the project, ACCESS is proposing to relocate existing paratransit operations to the new facility. At the existing facility, there are currently approximately 240 employee trips and 154 service vehicle trips per day. Because the existing facility is assumed to accommodate other purposes, after ACCESS vacates the site to be conservative, no existing building emissions were credited in calculating the project emissions as all building emissions at the project site were assumed to be new. A credit was taken for both exiting employee and service vehicle trips.

Existing Greenhouse Gases

Global Climate Change

CARB compiles GHG inventories for the State of California. The most updated inventory is referred to as the 2023 edition, which reports the State's GHG emissions inventory from calendar year 2021. Based on the 2021 GHG inventory data (i.e., the latest year for which data are available from CARB), California emitted 381.3 MMTCO₂e including emissions resulting from imported electrical power (CARB 2021b). According to CARB, as of 2016, statewide GHG emissions dropped below the 2020 GHG Limit (431 MMTCO₂e) and have remained below the limit since that time, due in part to the state's GHG reduction programs (such as the Renewables Portfolio Standard, Low Carbon Fuel Standard (LCFS), vehicle efficiency standards, and declining caps under the Cap and Trade Program). Table 4 identifies and quantifies Statewide anthropogenic GHG emissions and sinks (e.g., carbon sequestration due to forest growth) in 1990 and 2021 (i.e., the most recent year in which data are available from CARB). As shown in Table 4, the transportation sector is the largest contributor to Statewide GHG emissions at approximately 38 percent in 2021.

Table 4. State of California Greenhouse Gas Emissions

Category	Total 1990 Emissions using IPCC SAR (MMTCO ₂ e)	Percent of Total 1990 Emissions	Total 2021 Emissions using IPCC AR4 (MMTCO ₂ e)	Percent of Total 2021 Emissions
Transportation	150.7	35%	145.6	38%
Electric Power	110.6	26%	62.4	16%
Commercial	14.4	3%	12.2	4%
Residential	29.7	7%	24.8	7%
Industrial	103.0	24%	73.9	19%
Recycling and Waste ^a	–	–	8.4	2%

Table 4. State of California Greenhouse Gas Emissions

Category	Total 1990 Emissions using IPCC SAR (MMTCO ₂ e)	Percent of Total 1990 Emissions	Total 2021 Emissions using IPCC AR4 (MMTCO ₂ e)	Percent of Total 2021 Emissions
High-GWP/Non-Specified ^b	1.3	<1%	21.3	6%
Agriculture/Forestry	23.6	6%	30.9	8%
Forestry Sinks ^c	-6.7		--	--
Net Total (IPCC AR4) ^d	431	100%	381.3	100%

Sources: California Air Resources Board 1990

Notes:

^a Included in other categories for the 1990 emissions inventory.

^b High-GWP gases are not specifically called out in the 1990 emissions inventory.

^c Revised methodology under development (not reported for 2021).

^d CARB revised the State's 1990 level GHG emissions using GWPs from the IPCC AR4.

Existing Site Greenhouse Gas Emissions

As discussed previously, the project site is currently undeveloped, flat, and vacant. Existing GHG emissions generated from the existing daily employee and service vehicle trips are approximately 493 CO₂e at the existing facility located approximately 0.91-mile away from the project site.

Methodology

Air quality and GHG impacts associated with construction and operation of the project were assessed and quantified using industry standard and accepted software tools, techniques, and emission factors. A summary of the methodology for both air quality and GHG are provided below. Assumptions and emission calculations are included in Appendix B.

Air Quality

Construction

Construction would be 16 months and would occur in two phases. As previously discussed, to account for all construction activities required to implement the project, the assessment conservatively assumes both Phase 1 and Phase 2 would be constructed consecutively beginning in March 2025. For the purposes of the air quality analysis, it has been assumed that the contractor would implement dust control measures during construction pursuant to AVAQMD Rule 403. This approach is conservative because if the schedule were to be postponed to a later date, emissions are likely to be lower than presented in this analysis because cleaner engines would be phased into the fleet and fuel economy would improve over time. Construction emissions were estimated using the California Emissions Estimator Model (CalEEMod), version 2022, which incorporates CARB's EMFAC2021 model. CalEEMod defaults were used for employee trip lengths. The average trip lengths for service vehicles were provided by the applicant. Modeling data and results are provided in Appendix B.

Operations

Air pollutant emissions for employee and service vehicle trips are based on the existing estimated trips (394 total trips) and the anticipated trips for Phase 1 (2026), Phase 2 (2036), and the full buildout year (2041). Implementation of the project would result in 509 daily trips upon operation of Phase 1 (310 employee trips and 199 service vehicle trips). An additional 466 daily trips are anticipated for Phase 2, for a total of 975 daily trips (594 employee trips and 381 service vehicle trips). An estimated maximum of up to 1,563 daily trips (952 employee trips and 611 service vehicle trips) are anticipated for the facility at full buildout. The project would also produce criteria air pollutant emissions from the on-site 500 kilowatt (KW) diesel-fueled emergency generator as well as fugitive emissions from the 12,000-gallon gasoline AST. The analysis assumes the emergency generators would operate for up to two hours per day and a total of 50 hours per year for testing and maintenance. The AST is assumed to be refilled every two weeks.

As previously stated, because business operations may continue at the existing facility for other purposes, to be conservative, no existing building emissions were credited in calculating the project emissions as all building emissions at the project site were assumed to be new. Assumptions and modeling inputs are provided in Appendix B.

As with construction, the operational emissions were estimated using the CalEEMod software and the most recent version of CARB's on-road vehicle emissions factor model (EMFAC2021).

TRANSPORTATION CONFORMITY

As previously stated, transportation conformity is required in areas designated nonattainment and maintenance by the USEPA for the transportation-related criteria pollutants: ozone, particulate matter, nitrogen dioxide, and carbon monoxide. The project is located in a nonattainment area for ozone and thus would be required to meet the *de minimis* levels for both VOC/ROG and NO_x. The emission inventories using the operational methodologies prescribed above were used to prepare the transportation conformity analysis. The mobile emissions associated with the project's employee and service vehicle trips were calculated and compared to the *de minimus* levels for conformity.

Greenhouse Gases

Construction

Construction-related GHG emissions were estimated using CalEEMod outputs of CO₂, CH₄, and CO₂e. The output values used in this analysis were adjusted to be project-specific based on equipment types and the construction schedule. These values were then applied to the same construction subphasing assumptions used in the criteria pollutant analysis (see Section 5.1 Air Quality) to generate GHG emissions values for each construction year. Since construction emissions are a one-time occurrence for the project, construction GHG emissions are amortized over a 30-year project lifetime and added to the operational emissions on an annual basis. This would be conservative because the lifecycle of the proposed facility is 50 years.

Operations

Operational impacts were assessed for Phase 1 (2026), Phase 2 (2036), and full buildout in 2041 (assuming construction begins at the earliest possible time of 2025). CalEEMod was used to estimate operational GHG emissions from electricity, solid waste, water and wastewater, and landscaping equipment for the new facility. CalEEMod was also used to estimate emissions from employee trips to and from the facility. CalEEMod generated the vehicle miles traveled (VMT) from project land uses and number of employee trips. Mobile emissions for service vehicle trips were calculated using emission factors from the EMFAC2021 model and average trip lengths provided by the client.

With regard to energy demand, the consumption of fossil fuels to generate electricity and to provide heating and hot water generates GHG emissions. Energy demand rates were estimated based on specific square footage of the new building uses, as well as predicted water supply needs for these uses. Electricity would be supplied to the project site by SCE. CalEEMod provides default intensity factors for CO₂, CH₄, and N₂O for SCE and calculates an overall CO₂e intensity factor. The project does not require use of natural gas therefore the estimated natural gas consumption was converted from natural gas to electricity and included in the CalEEMod model run. Because operations may continue at the existing facility for other purposes, to be conservative, no existing building emissions were credited in calculating the project emissions as all building emissions at the project site were assumed to be new. Assumptions and modeling inputs are provided in Appendix B.

Thresholds of Significance/Effect Criteria

CEQA

Air Quality

The project would have a significant air quality impact if it would:

- | | |
|-----------------------|--|
| Threshold AQ-1 | Conflict with or obstruct implementation of the applicable air quality plan. |
| Threshold AQ-2 | 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. |
| Threshold AQ-3 | Expose sensitive receptors to substantial pollutant concentrations. |
| Threshold AQ-4 | Result in other emissions (such as those leading to odors adversely affecting a substantial number of people). |

In addition, the AVAQMD's *CEQA and Federal Conformity Guidelines* identifies several methods to determine the project-level impacts, cumulative significance of land use projects, conformity impacts, and impacts on sensitive receptors. Based on the AVAQMD's pollutant emissions thresholds, the project would have a potentially significant impact if it exceeds significance thresholds for construction or operational emissions (both direct and indirect emissions). These thresholds are outlined in Table 5, AVAQMD Significance Thresholds.

Table 5. AVAQMD Significance Thresholds

Pollutant	Emissions (pounds/day)	Emissions (tons/year)
Nitrogen Oxides (NO _x)	137	25
Volatile Organic Compounds (VOC)	137	25
Carbon Monoxide (CO)	548	100
Sulfur Oxides (SO _x)	137	25
Respirable Particulate Matter (PM ₁₀)	82	15
Fine Particulate Matter (PM _{2.5})	65	12

Source: AVAQMD 2016

Additionally, the AVAQMD identifies a significance threshold for sensitive receptors, specifically if any project, “Exposes sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million and/or a Hazard Index (HI) (non-cancerous) greater than or equal to 1.”

Greenhouse Gases

A significant impact associated with GHGs would occur if the project were to:

- Threshold GHG-1** Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Threshold GHG-2** Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

The AVAQMD adopted a quantitative threshold for determining significance of GHG emissions for projects. A project is considered to have a significant impact and cumulatively considerable impact if it exceeds the following thresholds (Table 6):

Table 6. AVAQMD GHG Significance Thresholds

Pollutant	Emissions (pounds/day)	Emissions (tons/year)
Greenhouse Gases (CO ₂ e)	548,000	100,000

Source: AVAQMD 2016

Transportation Conformity Rule

As previously stated, the project may receive federal funding from the Federal Transit Administration and is located in an ozone nonattainment area. As such, the project is subject to air quality transportation conformity.

However, because the project would involve the construction of a new bus storage/maintenance facility, the project is exempt from a conformity determination under Table 2 of 40 CFR 93.126.

Social Cost of GHG Emissions

On January 9, 2023, the CEQ issued an interim NEPA Guidance on Consideration of Greenhouse Gas Emissions and Climate Change consistent with EO 13990. This guidance requires quantification of GHG emissions and calculation of the social cost of GHGs to monetize the climate change effects of a project's GHG emissions. The goal of computing the social costs of GHGs is to translate GHG emissions into a more accessible metric of dollars for decision makers and the public to understand and be able to compare to other projects. A range of values is provided to represent different discount rates of 5%, 3% and 2.5% per the CEQ guidance.

An estimate of the social costs of carbon was prepared for different points in time using the Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990 (USEPA 2021).

Project Impacts

Air Quality

Threshold AQ-1 Conflict with or obstruct implementation of the applicable air quality plan.

Consistency with Air Quality Plans and Policies

A potentially significant impact to air quality would occur if the project would conflict with or obstruct implementation of the applicable Air Quality Plan. According to AVAQMD's *CEQA and Federal Conformity Guidelines*, a project is consistent with applicable air quality plans if it complies with all applicable AVAQMD rules and regulations, complies with all proposed control measures that are adopted from applicable plans, and is consistent with the growth forecasts in the applicable plan(s). Conformity with growth forecasts can be established by demonstrating that the project is consistent with the land use plan that was used to generate the growth forecast. For the purposes of this evaluation, the project was reviewed for consistency with the AVAQMD Federal 70 ppb Ozone Attainment Plan adopted January 2023 as well as the City of Lancaster's General Plan and growth forecasts.

The project site is zoned as Specific Plan (SP). The land use designations for the project site are depicted on the Land Use Master Plan for the Lancaster Business Park Phase III Specific Plan (City of Lancaster 1991) and include: Business (B) and Business/Rail Option (B/RO). The Business land use category is intended to accommodate light-manufacturing, corporate manufacturing, multi-tenant business, wholesale services (without retail trade), business services, professional services, research and development, vocational or trade schools and restaurants. Office development within the Business category is anticipated to include corporate, professional, administrative and general offices. The project would not require a general plan or zone change. In addition, based on information provided by the applicant, the project is anticipated to generate approximately 712 jobs at full buildout. According to the RTP/SCS, the City of Lancaster would have approximately 59,600 jobs in 2040. The new employees at the project site are well within

SCAG's employment growth assumptions for the City of Lancaster. The project would not add any residential land uses so it would not directly increase the local population. Therefore, the project would be consistent with the Air Quality Plan and the City's General Plan.

Threshold AQ-2 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 air quality standards

Cumulatively Considered Non-Attainment Pollutants

CONSTRUCTION

Construction of the project would generate emissions of VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5} that could result in short-term impacts on ambient air quality. Construction emissions are estimated using the methods described in Section 5, Methodology, and are presented as an estimate of daily construction emissions (pounds per day) in Table 7. As previously discussed, none of the construction subphases or phases would overlap. During construction, compliance with AVAQMD Rule 403 is required to minimize and control fugitive dust emissions resulting from the various stages of construction. Since the project is a non-residential project greater than 5 acres, preparation and implementation of a Dust Control Plan (DCP) that details all fugitive dust control measures (including suppressants, if required) that would be utilized at the project site is required pursuant to AVAQMD Rule 403. The analysis assumes the project site would be watered twice daily during site preparation and grading activities per AVAQMD Rule 403.

Sources of construction emissions include heavy-duty construction equipment (such as excavators, and cranes), worker, vendor, and haul truck vehicle emissions, and fugitive dust from material movement. Asphalt and concrete would be hauled to the project site. As shown in Table 7, construction emissions would be below the CEQA significance thresholds for all criteria air pollutant emissions.

Table 7. Unmitigated Construction Daily Maximum Criteria Air Pollutant Emissions (lbs per day)

Source	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Grading (2025)	1.90	16.59	19.98	0.03	3.91	2.10
Building Construction (2025)	1.40	10.86	17.76	0.02	1.09	0.55
Building Construction (2026)	1.29	10.27	15.98	0.02	1.04	0.50
Paving (2026)	1.30	7.92	12.98	0.02	0.91	0.44
Architectural Coating (2026)	6.09	0.90	1.97	1.00	0.00	0.05
Maximum Daily Emissions	6.09	16.59	19.98	0.03	3.91	2.10
AVAQMD Threshold	137	137	548	137	82	65
Exceed Threshold	No	No	No	No	No	No

Source: Appendix B

OPERATIONAL

Operations of the project would generate criteria air pollutant emissions from project-related vehicle trips traveling to and from the project site, energy sources such as electricity usage, and area sources such as operation of landscaping equipment and use of consumer products, including solvents, such as cleaning supplies. The proposed building would be an all-electric facility and no natural gas would be used. The project would also produce criteria air pollutant emissions from the on-site diesel-fueled emergency generator as well as fugitive emissions from the 12,000-gallon gasoline AST.

Operational criteria pollutant emissions were calculated for mobile, energy, area, and stationary sources for the project's two buildout years: 2026 and 2036. Operational emissions were calculated for fleet vehicles and employee vehicles traveling to and from the project site. CalEEMod defaults for vehicle miles traveled (VMT) were used for employee trips. Service vehicle VMT was based on information provided by the applicant. Emissions attributed to energy use include emissions from electricity for lighting and space and water heating. As previously noted, no natural gas would be used at the project site so all building energy is assumed to come from electricity purchased from Southern California Edison (SCE). Area source emissions would also be generated from landscape maintenance equipment, consumer products, architectural coatings, and industrial chemicals used in the maintenance shop. Building related emissions were calculated for the year 2026 and were conservatively assumed to stay the same for 2036 as electricity providers increase their renewable energy content. As shown in Table 8, the net daily operational emissions from the project site would be well below the AVAQMD significance thresholds.

Table 8. Unmitigated Operational Daily Maximum Criteria Air Pollutant Emissions (pounds per day)

Source	VOC/ROG	NOx	CO	SO ₂	PM10	PM2.5
2024						
<i>Mobile</i>						
Employees	1.36	1.48	19.42	0.03	3.14	0.81
Service Vehicle	0.32	0.90	4.16	0.03	0.38	0.13
Existing Total	1.68	2.38	23.58	0.06	3.52	0.94
2026^a						
<i>Mobile</i>						
Employees	1.62	1.46	22.43	0.040	4.050	1.04
Service Vehicle	0.38	0.99	4.99	0.03	0.49	0.17
<i>Area</i>	0.92	0.01	1.28	0.00	0.00	0.00
<i>Energy^b</i>	0.00	0.00	0.00	0.00	0.00	0.00
<i>Stationary</i>						
Emergency Generator	2.20	6.16	5.62	0.01	0.32	0.32
Gasoline AST	0.1	-	-	-	-	-

Table 8. Unmitigated Operational Daily Maximum Criteria Air Pollutant Emissions (pounds per day)

Source	VOC/ROG	NOx	CO	SO ₂	PM10	PM2.5
Project Total	5.22	8.62	34.31	0.08	4.86	1.54
Total Existing	1.68	2.38	23.58	0.06	3.52	0.94
Net Project Total	3.54	6.24	10.74	0.03	1.35	0.59
AVAQMD Threshold	137	137	548	137	82	65
Exceed Threshold	No	No	No	No	No	No
2036^a						
<i>Mobile</i>						
Employees	2.28	1.40	30.37	0.070	7.74	1.98
Service Vehicle	0.50	0.90	7.90	0.05	1.01	0.03
<i>Area</i>	0.93	0.01	1.28	0.00	0.00	0.00
<i>Energy^b</i>	0.00	0.00	0.00	0.00	0.00	0.00
<i>Stationary</i>						
Emergency Generator	2.20	6.16	5.62	0.01	0.32	0.32
Gasoline AST	0.1	-	-	-	-	-
Project Total	6.02	8.46	45.16	0.14	9.07	2.33
Total Existing	1.68	2.38	23.58	0.06	3.52	0.94
Net Project Total	4.33	6.08	21.58	0.08	5.56	1.39
AVAQMD Threshold	137	137	548	137	82	65
Exceed Threshold	No	No	No	No	No	No
2041^a						
<i>Mobile</i>						
Employees	3.19	1.76	44.76	0.10	12.40	3.16
Service Vehicle	0.73	0.74	12.75	0.041	0.27	0.09
<i>Area</i>	0.92	0.01	1.28	0.00	0.00	0.01
<i>Energy^b</i>	0.00	0.00	0.00	0.00	0.00	0.00
<i>Stationary</i>						
Emergency Generator	2.20	6.16	5.62	0.01	0.32	0.32
Gasoline AST	0.1	-	-	-	-	-
Project Total	7.04	8.66	64.40	0.15	13.00	3.58
Total Existing	1.68	2.38	23.58	0.06	3.52	0.94
Net Project Total	5.36	6.28	40.82	0.10	9.48	2.64
AVAQMD Threshold	137	137	548	137	82	65

Table 8. Unmitigated Operational Daily Maximum Criteria Air Pollutant Emissions (pounds per day)

Source	VOC/ROG	NOx	CO	SO ₂	PM10	PM2.5
Exceed Threshold	No	No	No	No	No	No

Source: Appendix B

Notes:

All service vehicles in both 2026 and 2036 are assumed to be light heavy-duty vehicles fueled by gasoline. 2026 assumes approximately 199 service vehicle trips and 310 employee trips per day. 2036 assumes approximately 381 service vehicle trips and 594 employee trips per day. 2041 assumes approximately 611 service vehicle trips and 952 employee trips per day.

^a Only existing service vehicle trips provided. Employee trips were not calculated.

^b Building area and energy emissions were conservatively assumed the same for 2026 and 2036 years. Analysis conservatively does not include the 75 percent electricity anticipated from the PV panels.

Threshold AQ-3 Expose sensitive receptors to substantial pollutant concentrations.

Sensitive Receptors

According to the AVAQMD's CEQA residences, schools, daycare centers, playgrounds, and medical facilities are considered sensitive receptor land uses. The closest sensitive receptor is the Assurance Learning Academy High School located approximately 0.38-mile to the north of the project site.

Toxic Air Contaminants

Concentrations TACs are also used as indicators of ambient air quality conditions. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

Intermittent construction activities associated with the project would result in short-term emissions of diesel particulate matter, which the State has identified as a TAC. During construction, the exhaust of off-road heavy-duty diesel equipment would emit DPM during general construction activities, such as grading, building construction, and paving.

CONSTRUCTION

Temporary TAC emissions associated with DPM emissions from heavy construction equipment would occur during construction activities. The project would be implemented in accordance with the applicable AVAQMD rules and regulations intended to reduce emissions from construction equipment and activities. The project would also be implemented in accordance with regulatory control measures including the CARB Air Toxics Control Measure (ATCM) that limits diesel powered equipment and vehicle idling to no more than 5 minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation that requires fleets to retire, replace, or repower of older, dirtier engines with newer emission-controlled models. Compliance with these rules, regulations, and regulatory control measures would minimize emissions of TACs during construction. Construction is relatively short-term, and would result in an overall low level of DPM

concentrations in the project site (Table 7). Furthermore, compliance with the aforementioned CARB ATCM anti-idling measure further minimizes DPM emissions.

The project is also required to be implemented in accordance with best practices to limit exposure to Valley Fever. During excavation, grading, and other earth-moving activities, construction workers and nearby sensitive receptors have the potential to be exposed to Valley Fever. As this risk cannot be eliminated entirely, implementation of the following measures would help reduce the chance of exposure and protect the health of the construction workers.

- Valley Fever training sessions including educational handouts and access to personal protective equipment
- Valley Fever Dust Management Plan in consultation with Los Angeles County Public Health Department
- On-site risk reduction measures including enclosed cabs for heavy equipment, two-way radios, N-95 respirators and appropriate training for use, separate eating areas with hand washing facilities, equipment/wheel washing to prevent transport of soil off-site, medical oversight for employees showing symptoms of Valley Fever, notification to nearby residents for construction activities, on-site signage, positioning workers upwind when possible, and Cal OSHA audits

Compliance with regulatory control measures, best practices to limit exposure to Valley Fever, and the limited duration of construction activities would minimize exposure.

OPERATIONS

CARB recommends that health risk assessments be conducted for substantial sources of operational DPM emissions (e.g., truck stops and warehouse distribution facilities that generate more than 100 trucks per day or more than 40 trucks with operating transport refrigeration units) and has provided guidance for analyzing mobile source diesel emissions. The project would not include any truck stop or warehouse distribution uses, and, as such, operations would generate only minor amounts of diesel emissions from mobile sources, such as delivery trucks and occasional maintenance. Since the project emissions are primarily from service vehicle and employee vehicle trips that are fueled by gasoline, project operations would not be considered a substantial source of diesel particulates. Furthermore, typical sources of hazardous TACs include industrial manufacturing processes, which are not proposed as part of the project.

With respect to the use of consumer products and architectural coatings, the project's land uses would not include installation of industrial-sized paint booths or require extensive use of commercial or household cleaning products. While the project includes a 12,000 gallon AST, the fueling area is anticipated to be phased out once all service vehicle vehicles are converted to clean energy vehicles. Additionally, all fueling activities are required to be implemented in accordance with AVAQMD rules including Rule 461, Gasoline Transfer and Dispensing. With respect to the diesel emergency generator, the use would only be during emergencies and for testing and maintenance purposes. The generator is required to be operated in accordance with AVAQMD Rule 1110.2 Emissions from Stationary, Non-Road and Portable Internal Combustion Engines.

Carbon Monoxide Hotspots

Motor vehicles are a primary source of pollutants within the project vicinity. Traffic-congested roadways and intersections have the potential to generate high levels of localized CO. Localized areas where ambient concentrations exceed State and/or federal standards are termed CO “hotspots.” Such hot spots are defined as locations where the ambient CO concentrations exceed the State or federal ambient air quality standards. CO is produced in greatest quantities from vehicle combustion and is usually concentrated at or near ground level because it does not readily disperse into the atmosphere. As a result, potential air quality impacts to sensitive receptors are assessed through an analysis of localized CO concentrations. Areas of vehicle congestion have the potential to create CO hotspots that exceed the State ambient air quality 1-hour standard of 20 ppm or the 8-hour standard of 9 ppm. The federal levels are less stringent than the State standards. Thus, an exceedance condition would occur based on the State standards prior to exceedance of the federal standard.

A CO hotspot is an area of localized CO pollution caused by severe vehicle congestion on major roadways, typically near intersections. If a project increases average daily traffic at signalized intersections operating at Level of Service (LOS) E or F or causes an intersection that would operate at LOS D or better without the project to operate at LOS E or F with the project, further screening is required. There is 1 signalized intersection (Business Center Parkway and Avenue L) and 1 two-way stop-controlled intersection (Business Center Parkway and Avenue K 15) considered in the *Antelope Valley Paratransit Operations and Maintenance Facility – Traffic Impact Analysis Technical Memorandum* prepared for the project (HDR 2026).

Based on the results of the *Antelope Valley Paratransit Operations and Maintenance Facility – Traffic Impact Analysis Technical Memorandum*, the background traffic growth will cause LOS to deteriorate through the planning horizon for the signalized intersection but the project would not increase traffic delay to a level that would cause an adverse effect at this intersection. However, at Business Center Parkway/Avenue K 15, the two-way stop-controlled intersection will need to be signalized to mitigate traffic delay for the No Project and With Project scenarios for all years considered. The signalization of the intersection would mitigate all project-related impacts. Therefore, the project would not result in the creation of a CO hotspot and would not expose sensitive receptors to substantial pollutant concentrations associated with a CO hotspot.

Other Emissions (Odors)

Threshold AQ-4 Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Land uses typically producing objectionable odors include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The project is a light industrial facility. However, the majority of the operations associated with vehicle maintenance would be conducted indoors. The building would include, but is not limited to, a repair bay, inspection bay, office/workstations, tire shop and storage, portable equipment storage, battery room, and a lube/compressor room. The unleaded gasoline AST would be phased out as ACCESS converts to clean energy fleet vehicles. However, until it is phased out, it would be required to comply with AVAQMD Rule 402 (Nuisance) and Rule 461

(Gasoline Transfer and Dispensing). Sparse residences are located in the vicinity of the project site; therefore, periodic refueling during long-term operations would not impact a substantial number of people.

During construction, odors would come predominantly from construction equipment, which would cease immediately after construction is complete. Furthermore, the project would be implemented in accordance with California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. This would further reduce the detectable odors from heavy-duty equipment exhaust. Additionally, all applicable AVAQMD rules and regulation to minimize odors would be implemented. As such, the project is not expected to result in adverse emissions affecting a substantial number of people.

Greenhouse Gas Impacts

The CEQA Guidelines Appendix G was utilized to assess potential environmental impacts associated with GHG emissions.

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

Construction Emissions

The emissions of GHGs associated with construction of the project were calculated for each year of construction activity. Construction-related GHG emissions by year are presented in Table 9. Although construction-related GHGs are one-time emissions, any assessment of project emissions should include construction emissions. AEP recommends that a project's construction-related GHG emissions be amortized over the project's 30-year lifetime in order to include these emissions as part of the project's annualized lifetime total emissions, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies. As indicated in Table 9, project construction emissions during the approximate 16-month construction period would generate an estimated 413 MTCO₂e, or approximately 14 MTCO₂e amortized over a 30-year period. A complete listing of the equipment by phase, emission factors, and calculation parameters used in this analysis is included within the emissions calculation worksheets that are provided in Appendix B.

Table 9. Unmitigated Annual Construction GHG Emissions (MTCO₂e per year)

Year/Description	GHG Emissions
2025	317
2026	97
Project Total	413
Amortized Construction Emissions	14

Source: Appendix B

Note:

Totals may not add up due to rounding.

Operational Emissions

GHG emissions would be generated from mobile sources (i.e. employee and service vehicle trips), energy uses (i.e., electricity), area sources (landscaping, consumer products such as cleaning supplies), fuel tank, and testing and maintenance of the emergency generator. Operational emissions were calculated for Years 2026, 2036, and 2041. GHG for service vehicle emissions occurring in 2024 were subtracted from the project emissions since those represent the existing emissions. Table 10 summarizes operational emissions associated with the project. The total construction GHG emissions, amortized over 30 years, was added to the annual estimated operational emissions to estimate annual GHG emissions generated by the project. The project site would include PV array shading that is anticipated to provide 75 percent or more of the building's energy consumption upon completion of full buildout. As shown in Table 10, the project would not emit GHG to a level that would exceed the AVAQMD threshold of 100,000 MTCO₂e per year both with and without the PV array shading.

Table 10. Unmitigated Annual Operational GHG Emissions (MTCO₂e per year)

Source	GHG
2024	
<i>Mobile</i>	
Employees	531
Service Vehicle	482
Total Existing	1,013
2026^a	
Construction	14
<i>Mobile</i>	
Employees	655
Service Vehicle	598
<i>Area</i>	0.4

Table 10. Unmitigated Annual Operational GHG Emissions (MTCO₂e per year)

Source	GHG
<i>Energy</i>	244
<i>Stationary</i>	13
Total Existing	1,013
Total Net Project	512
Energy Credit with PV Power	-162
Total Net Project with PV Power	350
AVAQMD Threshold	100,000
Exceed Threshold	No
2036	
Construction	14
<i>Mobile</i>	
Employees	1,061
Service Vehicle	999
<i>Area</i>	0.4
<i>Energy</i>	244
<i>Stationary</i>	13
Total Existing	1,013
Total Net Project	1,013
Energy Credit with PV Power	-183
Total Net Project with PV Power	830
AVAQMD Threshold	100,000
Exceed Threshold	No
2041	
Construction	14
<i>Mobile</i>	
Employees	1,633
Service Vehicle	765
<i>Area</i>	0.4

Table 10. Unmitigated Annual Operational GHG Emissions (MTCO₂e per year)

Source	GHG
<i>Energy</i>	244
<i>Stationary</i>	13
Total Existing	1,013
Total Net Project	1,656
Energy Credit with PV Power	-183
Total Net Project with PV Power	1,473
AVAQMD Threshold	100,000
Exceed Threshold	No

Notes:

a Building emissions are under the 2026 scenario.

b Energy consumption does not include the PV array shading that is anticipated to achieve 75 percent or better of the building energy consumption upon completion of full buildout.

Conflict with State and Local Plans, Policies, or Regulations

Threshold GHG-2 Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

The project would generate an incremental contribution to and a cumulative increase in GHG emissions. A specific discussion regarding potential GHG emissions associated with the construction and operational phases of the project is provided above. As shown in Table 9 and Table 10, the project's GHG emissions would not exceed the significance threshold.

CALGREEN STANDARDS

The California Energy Commission adopted CALGreen (Part 11 of Title 24, Building Energy Efficiency Standards) to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a 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 air quality" (CBSC, 2010). The project would comply with CALGreen requirements, which could include but are not limited to installation of ENERGY STAR® compliant appliances to the greatest extent feasible, installation of solar, electric and installation of water-efficient irrigation systems.

The project would incorporate energy and water efficiency design features to enhance efficiency in all aspects of the buildings' life cycle. These design features would increase the structures' energy efficiency, water efficiency, and overall sustainability. Project-related GHG emissions would be reduced by increasing energy-efficiency, reducing indoor and outdoor water demand,

installing energy-efficient equipment, and complying with California Title 24 Building Energy Efficiency Standards. As such, implementation of the project would not conflict with this code.

2022 SCOPING PLAN UPDATE

Many of the measures and programs included in the 2022 Scoping Plan would result in the reduction of project-related GHG emissions, including GHG emission reductions through increased energy efficiency and renewable energy production (SB 350), reduction in carbon intensity of transportation fuels (low-carbon fuel standard), and the accelerated efficiency and electrification of the statewide vehicle fleet (Mobile Source Strategy).

CARB approved the Advanced Clean Cars Program, and the Advanced Clean Cars II Program, for model years 2026 through 2035, which requires that all new passenger cars, trucks and SUVs sold in California be zero emissions by 2035. Because the project would operate as a paratransit facility providing transportation services to disabled individuals in the Los Angeles County. The current service vehicles are fueled with gasoline but will be phased into 100 percent clean energy vehicles, once feasible. The project site consists of column-supported shade structures with PV arrays covering all fleet parking. The PV array shading is anticipated to achieve 75 percent or better of the building energy consumption. In addition, the project would be an all-electric facility with LED technology for all internal and external lighting.

Although the project would introduce GHGs into the environment, the project would decrease VMT in the area by providing public transportation. The project is consistent with measures in the 2022 Scoping Plan.

2020-2045 RTP/SCS

At the regional level, the 2020–2045 RTP/SCS is an applicable plan adopted for the purpose of reducing GHGs. The purpose of the 2020–2045 RTP/SCS is to achieve the regional per capita GHG reduction targets for the passenger vehicle and light-duty truck sector established by CARB pursuant to SB 375. The 2020–2045 RTP/SCS seeks improved mobility and accessibility, which is defined as “the ability to reach desired destinations with relative ease and within a reasonable time, using reasonably available transportation choices.” (SCAG 2020).

The 2020–2045 RTP/SCS seeks to implement strategies that “alleviates development pressure in sensitive resource areas by promoting compact, focused infill development in established communities with access to high-quality transportation.” (SCAG 2020). Furthermore, the 2020–2045 RTP/SCS states that while “[t]ransportation emissions are most prevalent relative to all other sectors in California and specifically in the SCAG region,” the RTP/SCS would focus “growth in existing urban regions and opportunity areas, where transit and infrastructure are already in place. Locating new growth near bikeways, greenways, and transit would increase active transportation options and the use of other transit modes, thereby reducing number of vehicle trips and trip lengths and associated emissions.” (SCAG 2020).

The project would not conflict with the 2020–2045 RTP/SCS goals and would result in benefits intended to improve mobility such as providing more transportation, reducing vehicular demand and associated emissions (through placing employment near existing residential land uses), and reducing VMT by siting the proposed facility near a highway. Furthermore, the project would include 341 new jobs located near a number of local bus routes, including bus route 4 to the

Boulevard Transit Center and bus route 50 to Owen Memorial Park with connections to the Lancaster Metrolink Station. As such, the project would not conflict with the VMT reduction standards of the 2020-2045 RTP/SCS. The project is within the boundaries of the City of Lancaster's Lancaster Business Park Phase III Specific Plan (SP No. 90-01) which aims to develop the site as a high-quality business center, an important element of the long-range economic development strategy for the City of Lancaster. The project would provide a transportation service to any ADA paratransit eligible individuals to a fixed bus operated by the Los Angeles County public bus system. The project would support "micro-power grids" by providing PV solar arrays on the roofs of the shade structures. PV array shading is anticipated to achieve 75 percent or better of the building energy consumption.

LANCASTER CLIMATE ACTION PLAN

The project would provide a shared transportation service and would gradually increase the number of service vehicle trips per day from the current maximum daily trips of approximately 154 to a total buildout of approximately 611 trips per day. Thus, the project would decrease the number of single ridership by reducing VMT. As such the project would support the City's General Plan by minimizing VMT via increasing public transportation.

SCE is the utility provider to the project site. SCE produces and purchases their energy from a mix of conventional and renewable generating sources. SCE is subject to compliance with RPS, which requires utilities to source 60% renewable energy by December 31, 2030 and to plan for 100 percent renewable energy by December 31, 2045. The project would benefit from SCE's compliance with RPS and GHG emissions would decrease as grid-generated electricity reaches a higher percentage of renewable energy. Additionally, the project includes solar panels which would help offset the amount of electricity purchased from the SCE. Therefore, the project would support the City's CAP.

Given the project's consistency analysis with applicable GHG plans, policies and regulations adopted for the purpose of reducing GHG emissions and emissions below the significance threshold, impacts would be less than significant.

Project Level Transportation Conformity

The project would be subject to air quality transportation conformity. The project is included in the 2023 FTIP (LA9919271) and is exempt from a transportation conformity determination under Table 2 of 40 CFR 93.126 (SCAG 2023). Thus, a formal conformity determination would not be required. For disclosure purposes ROG and NOx, the non-attainment transportation-related pollutant emissions associated with the project for both construction and operations are considered and can be found in Appendix B.

As shown in Table 11 and Table 12, the maximum annual construction and operational emissions would be well below the AVAQMD threshold limits and the *de minimis* levels, and the project would not result in an adverse effect related to air quality.

Table 11. Total Construction Emissions

Source	ROG	NOx	CO	SO ₂	PM10	PM2.5
2025	0.15	1.24	1.84	0.00	0.15	0.08
Total Project	0.15	1.24	1.84	0.00	0.15	0.08
<i>De Minimus</i> Levels	25.00	25.00	--	--	--	--
Exceed <i>De Minimus</i>	No	No	--	--	--	--
2026	0.17	0.34	0.54	0.00	0.04	0.02
Total Project	0.17	0.34	0.54	0.00	0.04	0.02
<i>De Minimus</i> Levels	25.00	25.00	--	--	--	--
Exceed <i>De Minimus</i>	No	No	--	--	--	--

Source: HDR, Appendix A

Notes:

Totals may not add up due to rounding.

--: No *de minimus* levels

Table 12. Unmitigated Project Annual Emissions of Criteria Air Pollutant Emissions (tons per year)

Source	ROG	NOx	CO	SO ₂	PM10	PM2.5
2024						
<i>Mobile^a</i>						
<i>Employees</i>	0.23	0.28	2.89	0.01	0.57	0.15
<i>Service Vehicle</i>	0.06	0.16	0.76	0.00	0.07	0.02
Total Existing Service Vehicle	0.06	0.16	0.76	0.00	0.07	0.02
2026^b						
<i>Mobile</i>						
<i>Employees</i>	0.28	0.30	3.34	0.01	0.73	0.19
<i>Service Vehicle</i>	0.07	0.18	0.91	0.01	0.09	0.03
<i>Area</i>	0.15	0.001	0.11	0.000	0.000	0.00
<i>Energy</i>	0.00	0.00	0.00	0.00	0.000	0.00
<i>Stationary</i>	0.03	0.08	0.07	0.00	0.00	0.00
Total	0.53	0.56	4.44	0.02	0.82	0.23
Total Existing Service Vehicle	0.06	0.16	0.76	0.00	0.07	0.02
Total Project	0.47	0.40	3.68	0.01	0.75	0.21
<i>De minimis</i> level	25.00	25.00	100.00	25.00	15.00	12.00
Exceed Threshold	No	No	No	No	No	No
2036^c						
<i>Mobile</i>						
<i>Employees</i>	0.39	0.29	4.54	0.01	1.40	0.36

Table 12. Unmitigated Project Annual Emissions of Criteria Air Pollutant Emissions (tons per year)

Source	ROG	NOx	CO	SO ₂	PM10	PM2.5
<i>Service Vehicle</i>	0.09	0.16	1.44	0.01	0.18	0.01
<i>Area</i>	0.15	0.00	0.11	0.00	0.00	0.00
<i>Energy</i>	0.00	0.00	0.00	0.00	0.00	0.00
<i>Stationary</i>	0.03	0.08	0.07	0.00	0.00	0.00
Total	0.66	0.53	6.17	0.02	1.59	0.37
Total Existing Service Vehicle	0.06	0.16	0.76	0.00	0.07	0.02
Total Project	0.60	0.37	5.41	0.02	1.52	0.35
<i>De minimis</i> level	25.00	25.00	100.00	25.00	15.00	12.00
Exceed Threshold	No	No	No	No	No	No
2041^c						
<i>Mobile</i>						
<i>Employees</i>	0.55	0.37	6.67	0.02	2.24	0.57
<i>Service Vehicle</i>	0.13	1.34	2.33	0.01	0.05	0.02
<i>Area</i>	0.15	0.00	0.00	0.00	0.00	0.00
<i>Energy</i>	0.00	0.00	0.00	0.00	0.00	0.00
<i>Stationary</i>	0.03	0.08	0.07	0.00	0.00	0.00
Total	0.86	1.79	9.07	0.03	2.29	0.59
Total Existing Service Vehicle	0.06	0.16	0.76	0.00	0.07	0.02
Total Project	0.80	1.63	8.31	0.02	2.22	0.57
<i>De minimis</i> level	25.00	25.00	100.00	25.00	15.00	12.00
Exceed Threshold	No	No	No	No	No	No

Notes:

^a Only employee and service vehicle trips were calculated. Building Emissions were not calculated.

^b Building area and energy emissions were conservatively assumed the same for 2026, 2036, and 2041 years.

^c The energy analysis conservatively does not include the 75 percent electricity anticipated from the PV panels.

Social Cost of GHG

The social cost of the construction-related GHG emissions are shown in Table 13. A range of values is provided by year to represent different discount rates of 2.5%, 2.0% and 1.5% per the CEQ guidance.

Table 13. Social Cost of Annual Construction GHG Emissions

Year	Project CO ₂ e Emissions (MTCO ₂ e/year)	2.5%_CO ₂ e	2.0%_CO ₂ e	1.5%_CO ₂ e
2025	317	\$40,000	\$70,000	\$110,000
2026	97	\$10,000	\$20,000	\$40,000

Source: Appendix C.

The social cost of the operational-related GHG emissions is shown in Table 14. A range of values is provided to represent different discount rates of 2.5%, 2.0% and 1.5% per the CEQ guidance. The values would range from as low as \$30,000 to as high as \$860,000. The total social cost of the project is shown in Table 15. Greater savings are expected in future years as the service vehicles are converted to clean energy vehicles and the PV array shading structures are fully installed.

Table 14. Social Cost of Annual Operational GHG Emissions

Year	Project CO ₂ e Emissions (MTCO ₂ e/year)	2.5%_CO ₂ e	2.0%_CO ₂ e	1.5%_CO ₂ e	Total Net
Phase 1 (2026)	239	\$30,000	\$50,000	\$90,000	\$170,000
Phase 2 (2036)	1046	\$170,000	\$260,000	\$430,000	\$860,000
2041 Full Buildout	239	\$40,000	\$60,000	\$100,000	\$200,000

Source: Appendix C

Table 15. Social Cost of Project

Project CO ₂ e Emissions (MTCO ₂ e/year)	2.5%_CO ₂ e	2.0%_CO ₂ e	1.5%_CO ₂ e	Total Net
1,938	\$ 290,000	\$460,000	\$770,000	\$1,520,000

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Attachment A. Pollutant Specific Overview

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards to protect public health and welfare. There are six criteria air pollutants: Ozone (O₃); Particulate Matter, which consists of particulate matter 10 micrometers and smaller (PM₁₀) and particulate matter 2.5 micrometers and smaller (PM_{2.5}); Carbon Monoxide (CO); Nitrogen Dioxide (NO₂); Sulfur Dioxide (SO₂); and Lead (Pb).

Principal characteristics and possible health and environmental effects of each criteria air pollutant are described below.

OZONE

O₃, also known as “smog”, is not emitted directly into the atmosphere. Instead, it is a secondary pollutant that is formed when volatile organic compounds (VOCs) or reactive organic gases (ROGs) and nitrogen oxides (NO_x) (both byproducts of the internal combustion engine exhaust) undergo chemical reactions in the presence of sunlight. ROG and NO_x are known as O₃ precursors.

O₃ poses a higher risk to those already suffering from respiratory diseases (e.g., asthma), children, older adults, and people who are active outdoors. In addition, people with certain genetic characteristics, and people with reduced intake of certain nutrients, such as vitamins C and E, are at greater risk from O₃ exposure (United States Environmental Protection Agency [USEPA] 2023a).

Long-term exposure to O₃ is linked to aggravation of asthma and is likely to be one of many causes of asthma development. Elevated concentrations of O₃ can result in deaths from respiratory causes (USEPA 2023a).

O₃ can also affect sensitive vegetation and ecosystems, including forests, parks, wildlife refuges and wilderness areas. In particular, O₃ can harm sensitive vegetation during the growing season. Exposure to O₃ can result in reduced photosynthesis, stunted growth, increased risk of diseases, and leaf discoloration (USEPA 2022a).

PARTICULATE MATTER

Particulate matter consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Particulate matter includes PM₁₀, which are inhalable coarse particles with a diameter of 10 micrometers or less, and PM_{2.5}, which are inhalable fine particles with a diameter of 2.5 micrometers or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Particulate matter may also form in the atmosphere as a result of complex reactions of chemicals such as sulfur dioxide and nitrogen oxides, which are pollutants emitted from power plants, industries and automobiles.

Particles less than 2.5 micrometers in diameter pose the greatest risk to health because these particles can get deep into the lungs and may even enter the bloodstream. People with heart or lung diseases, children, and older adults are the most likely to be affected by particle pollution exposure. Health effects of exposure to particulate matter include (USEPA 2022b): premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated

asthma, decreased lung function, increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing.

In addition to human health effects, particulate matter can also cause environmental effects such as visibility impairment, environmental damage, and aesthetic damage. $PM_{2.5}$ is the main cause of reduced visibility (haze) in parts of the U.S., including many national parks and wilderness areas. Particles can be carried over long distances by wind and then settle on ground or water. Effects of this settling include making lakes and streams acidic, changing the nutrient balance in coastal waters and large river basins, depleting the nutrients in soil, damaging sensitive forests and farm crops, affecting the diversity of ecosystems, and contributing to acid rain effects. Particulate matter can also stain and damage stone and other materials, including culturally important objects such as statues and monuments (USEPA 2022b).

CARBON MONOXIDE

CO is a colorless, odorless gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections.

Breathing air with a high concentration of CO reduces the amount of oxygen that can be transported in the blood stream to critical organs like the heart and brain. This condition is especially critical for people with cardiovascular or chronic lung diseases. At very high levels, which are possible indoors or in other enclosed environments, CO can cause dizziness, confusion, unconsciousness, and death (USEPA 2022c).

NITROGEN DIOXIDE

NO_2 is a major component of the group of highly reactive gases known as oxides of nitrogen or NO_x , which is an O_3 precursor. NO_2 primarily gets in the air from the burning of fuel. NO_2 forms from emissions from cars, trucks and buses, power plants, and off-road equipment.

Breathing air with a high concentration of NO_2 can irritate airways in the human respiratory system. Short-term exposure to NO_2 can aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing), hospital admissions and visits to emergency rooms. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly are generally at greater risk for the health effects of NO_2 (USEPA 2022d).

NO_2 and other NO_x interact with water, oxygen, and other chemicals in the atmosphere to form acid rain, which can harm sensitive ecosystems such as lakes and forests. NO_x can make the air hazy and affect visibility. NO_x also contributes to nutrient pollution in coastal waters (USEPA 2022d).

SULFUR DIOXIDE

SO_2 is the component of greatest concern for the group of gaseous sulfur oxides (SO_x). The largest source of SO_2 in the atmosphere is the burning of fossil fuels by power plants and other

industrial facilities. Smaller sources of SO₂ emissions include industrial processes such as extracting metal from ore; natural sources such as volcanoes; and locomotives, ships and other vehicles and heavy equipment that burn fuel with a high sulfur content.

Short-term exposures to SO₂ can harm the human respiratory system and make breathing difficult. These effects of SO₂ are of particular concern to people with asthma, particularly children. SO₂ emissions can contribute to particulate matter pollution that can penetrate deeply into the lungs and contribute to health effects. SO_x can harm trees and plants by damaging foliage and decreasing growth. SO₂ and other SO_x can contribute to acid rain that is harmful for sensitive ecosystems. SO₂ and other SO_x can react with other compounds in the atmosphere to form fine particles that reduce visibility (haze) (USEPA 2023b).

LEAD

Major sources of Pb in the air are ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Other sources are waste incinerators, utilities, and lead-acid battery manufacturers. The highest air concentrations of Pb are usually found near lead smelters.

Depending on the level of exposure, Pb can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system. Pb exposure also affects the oxygen carrying capacity of the blood. Infants and young children are especially sensitive to Pb exposures, which may contribute to behavioral problems, learning deficits and lowered IQ. Elevated levels of Pb in the environment can result in decreased growth and reproduction in plants and animals, and neurological effects in vertebrates (USEPA 2022e).

Mobile Source Air Toxics

Toxic air contaminants (TACs) are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. Examples of TACs include benzene, which is found in gasoline; perchloroethylene, which is emitted from some dry-cleaning facilities; and methylene chloride, which is used as a solvent and paint stripper by a number of industries. Examples of other TACs include dioxin, asbestos, toluene, and metals such as cadmium, mercury, chromium, and lead compounds.

Diesel engines emit a complex mixture of pollutants, including very small carbon particles, or "soot" coated with numerous organic compounds, known as diesel particulate matter (DPM). DPM contains more than 40 cancer-causing substances, most of which are readily adsorbed onto the soot particles (USEPA 2023c). In 1998, California identified DPM as a TAC based on its potential to cause cancer. People living and working in cities and industrial areas and near heavy truck or train traffic are most likely to be exposed to DPM. Exposure to DPM can contribute to a range of health problems. These include irritation to the eyes, throat and nose, heart and lung disease, and lung cancer. In addition to its health effects, DPM can contribute to haze that reduces visibility by obscuring outdoor views and decreasing the distance over which one can distinguish features across the landscape. DPM also plays an important role in climate change. A large proportion of DPM is composed of black carbon or soot, which is a potent contributor to global warming.

Greenhouse Gas Emissions

Greenhouse gases (GHGs) are gases that warm the Earth by trapping heat in the atmosphere. The most important GHGs directly emitted by humans include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated gases.

Different GHGs can have different effects on the Earth's warming. The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, typically a 100-year time horizon, relative to the emissions of 1 ton of CO₂. (USEPA 2023d). Gases with a higher GWP absorb more energy, per ton emitted, than gases with a lower GWP, and thus contribute more to warming Earth. The major GHGs are described below.

CARBON DIOXIDE

CO₂ is the primary GHG emitted through human activities. CO₂ is naturally present in the atmosphere as part of the Earth's carbon cycle (the natural circulation of carbon among the atmosphere, oceans, soil, plants, and animals). Human activities are altering the carbon cycle – both by adding more CO₂ to the atmosphere and by influencing the ability of natural sinks, like forests and soils, to remove and store CO₂ from the atmosphere. While CO₂ emissions come from a variety of natural sources, human-related emissions are responsible for the increase that has occurred in the atmosphere since the industrial revolution. The main sources of CO₂ emissions in the U.S. are transportation, electricity, industry, and residential and commercial. The GWP of CO₂, by definition, is 1 (USEPA 2023d).

METHANE

In 2021, CH₄ accounted for 12% of all U.S. GHG emissions from human activities (USEPA 2023d). Human activities emitting CH₄ include energy production, industrial processes, agriculture, land use, and waste management. CH₄ is emitted during the production, processing, storage, and transport of coal, natural gas, and oil. CH₄ is emitted from raising domestic livestock such as cattle, swine, sheep, and goats that produce CH₄ as part of their normal digestive process. In addition, CH₄ is generated when animal manure is stored or managed in holding tanks. CH₄ is also generated in landfills as municipal waste decomposes and in the treatment of wastewater. CH₄ is also emitted from a number of natural sources such as wetlands, reservoirs and ponds, termites, oceans, sediments, volcanoes, and wildfires. The GWP of CH₄ is 28 (USEPA 2023d).

NITROUS OXIDE

In 2021, N₂O accounted for 6% of all U.S. GHG emissions from human activities (USEPA 2023d). N₂O is naturally present in the atmosphere as part of the Earth's nitrogen cycle (natural circulation of nitrogen among the atmosphere, plants, animals, and microorganisms that live in soil and water). Human activities such as agriculture, fuel combustion, wastewater management, and industrial processes are increasing the amount of N₂O in the atmosphere. N₂O is emitted during combustion of fuels. N₂O is also generated from treatment of domestic wastewater. The GWP of N₂O is 265 based on IPCC's Fifth Assessment Report (USEPA 2023d).

FLUORINATED GASES

Unlike many other GHGs, fluorinated gases have no significant natural sources and come almost entirely from human-related activities. They are emitted through their use as substitutes for O₃-depleting substances (e.g., as refrigerants) and through a variety of industrial processes such as aluminum and semiconductor manufacturing. Many fluorinated gases have very GWPs relative to other GHGs, so small atmospheric concentrations can nevertheless have large effects on global temperatures. Fluorinated gases can also have long atmospheric lifetimes—in some cases, lasting thousands of years. Like other long-lived greenhouse gases, most fluorinated gases are well-mixed in the atmosphere, spreading around the world after they are emitted. In general, fluorinated gases are the most potent and longest lasting type of greenhouse gases emitted by human activities. There are four main categories of fluorinated gases – hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃). The GWP of HFCs is up to 12,400, PFCs is up to 11,100, NF₃ is 16,100, and SF₆ is 23,500 based on IPCC's Fifth Assessment Report (USEPA 2023d).

Attachment B. Construction and Operational Emissions

CalEEMod Input

Project Name:

Antelope Valley Paratransit Operations and Maintenance Facility

Project Location:

Antelop Valley AQMD

CEC Climate Zone:

7

Land Use Setting:

Urban

Operational Year:

2026

Utility Company

Southern California Edison

Land Use

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Square Footage	
Office (commercial)	Office Park	9,826.00	SF	0.30	13,068.00	From Project Description
Light Industrial (Maintenance/Wash Area)	General Light Industry	19,507.00	SF	0.51		
Parking	Other Asphalt Surfaces	231,765.00	SF	5.50	231,765.00	
Landscaping (Recreational)	City Park	21,470.00		0.50		From Project Description
				6.81		

Construction Schedule

Construction Phase Name	Phase Type	Start Date	End Date	# Days/Week	# one-way worker trips/day	# one-way vendor trips/day	# Total haul trips	Worker Trip Length	Vendor Trip Length	Haul Trip Length
Surface Preparation and Site Grading	Grading	3/3/2025	3/29/2025	5	30	0	0	18.5	0	0
Foundation/Building Construction	Trenching	3/31/2025	2/13/2026	5	24	3	0	18.5	10.2	0
Paving	Paving	2/16/2026	4/10/2026	5	24	39	0	18.5	10.2	0
Architectural Coating	Architectural Coating	4/13/2026	6/5/2026	5	16	0	0	18.5	0	0

Notes:

Work would occur during the weekdays (5 days per week)

Trip lengths for worker, vendor, and hauling trips are CalEeMod defaults

Asphalt Pavement

231,765.00 SF From Email dated 3/8/2024

Thickness

0.5 feet (6 ")

115,882.50 CF

4,291.94 CY

10 CY/Truck Used concrete truck size

429.19 Trucks

858.39 Trucks Trips

40 days paving phase

21.46 Truck Trips/Day

List of Construction Equipment

Equipment Name	CalEEMod Equipment Name	Count	Hours/Day	HP	Load Factor	Notes
Grading						
Excavators	Excavators	1	8	36		default
Graders	Graders	1	8	148		default
Rubber Tired Dozers	Rubber Tired Dozers	1	8	367		default
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	3	8	84		default
Building Construction						
Cranes	Cranes	1	7	367		default
Forklifts	Forklifts	3	8	82		default
Generator Sets	Generator Sets	1	8	14		default
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	3	7	84		default
Welders	Welders	1	8	46		default
Paving						
Pavers	Pavers	2	8	81		default
Roller	Roller	2	8	36		default
Paving Equipment	Paving Equipment	2	8	89		default
Architectural Coating						
Air Compressor	Air Compressor	1	6	37		default

Facility would be all electric, no natural gas assumed.

1 BTU = 0.000293083 kWh

	Total Annual Consumption			Annual Consumption by Title 24 Category					
				Subject to Title 24 Standards			Not Subject to Title 24		
	Default NG (kBTU/yr)	Default Electricity (kWh/yr)	Updated Electricity (kWh/yr)	Default NG (kBTU/yr)	Electricity (kWh/yr)	Updated Electricity (kWh/yr)	Default NG (kBTU/yr)	Electricity (kWh/yr)	Updated Electricity (kWh/yr)
Land Use									
General Light									
Industrial	834,937.47	187,125.50	431,831.67	314,327.18	159,624.12	251,748.15	520,610.30	520,610.30	673,192.45
Office Park	249,054.39	175,102.13	248,095.80	197,272	141,689.84	199,506.95	51,782.39	33,412.29	48,588.84

Unitigated Operationl Daily Criteria Air Pollutant Emissions (pounds per day)

Source	ROG	NOx	CO	SO ₂	PM10	PM2.5
2024						
<i>Mobile^a</i>						
Employees	1.36	1.48	19.42	0.03	3.14	0.81
Shuttle	0.32	0.90	4.16	0.03	0.38	0.13
Total Existing Mobile	1.68	2.38	23.58	0.06	3.52	0.94
2026^b						
<i>Mobile</i>						
Employees	1.62	1.46	22.43	0.040	4.050	1.04
Shuttle	0.38	0.99	4.99	0.03	0.49	0.17
<i>Area</i>	0.92	0.01	1.28	0.00	0.00	0.00
<i>Energy^c</i>	0.00	0.00	0.00	0.00	0.00	0.00
<i>Stationary</i>	2.30	6.16	5.62	0.01	0.32	0.32
Total	5.22	8.62	34.31	0.08	4.86	1.54
Total Existing Moble	1.68	2.38	23.58	0.06	3.52	0.94
Total Project	3.54	6.24	10.74	0.03	1.35	0.59
AVAQMD Threshold	137.00	137.00	548.00	137.00	82.00	65.00
Exceed Threshold	No	No	No	No	No	No
2036^c						
<i>Mobile</i>						
Employees	2.28	1.40	30.37	0.070	7.74	1.98
Shuttle	0.50	0.90	7.90	0.05	1.01	0.03
<i>Area</i>	0.93	0.01	1.28	0.00	0.00	0.00
<i>Energy</i>	0.00	0.00	0.00	0.00	0.00	0.00
<i>Stationary</i>	2.20	6.16	5.62	0.01	0.32	0.32
Total	6.02	8.46	45.16	0.14	9.07	2.33
Total Existing Mobile	1.68	2.38	23.58	0.06	3.52	0.94
Total Project	4.33	6.08	21.58	0.08	5.56	1.39
AVAQMD Threshold	137.00	137.00	548.00	137.00	82.00	65.00
Exceed Threshold	No	No	No	No	No	No
2041^c						
<i>Mobile</i>						
Employees	3.19	1.76	44.76	0.10	12.40	3.16
Shuttle	0.73	0.74	12.75	0.041	0.27	0.09
<i>Area</i>	0.92	0.01	1.28	0.00	0.00	0.01
<i>Energy</i>	0.00	0.00	0.00	0.00	0.00	0.00
<i>Stationary</i>	2.20	6.16	5.62	0.01	0.32	0.32
Total	7.04	8.66	64.40	0.15	13.00	3.58
Total Existing Mobile	1.68	2.38	23.58	0.06	3.52	0.94
Total Project	5.36	6.28	40.82	0.10	9.48	2.64
AVAQMD Threshold	137.00	137.00	548.00	137.00	82.00	65.00
Exceed Threshold	No	No	No	No	No	No

a Only existing shuttle trips provided. Employee trips were not calculated.

b Building area and energy emissions were conservatively assumed the same for 2026 and 2036 years.

c The energy analysis conservately does not include the 75 percent electricity anticipated from the PV panels.

Unmitigated Construction Daily Maximum Criteria
Air Pollutant Emissions (lbs per day)

Source	GHG
2024^a	
Mobile	
Employees	531
Shuttle	482
Total Existing	1,013
2026^b	
Construction	14
<i>Mobile</i>	
Employees	655
Shuttle	598
Area	0.4
Energy ^c	244
Stationary	13
<i>Total Existing</i>	1,013
Total Project	512
AVAQMD Threshold	100,000
Exceed Threshold	No
2036^b	
Construction	14
<i>Mobile</i>	
Employees	1061
Shuttle	999
Area	0.4
Energy	244
Stationary	13
<i>Total Existing</i>	1,013
Total Project	1,318
AVAQMD Threshold	100,000
Exceed Threshold	No
2041^b	
Construction	14
<i>Mobile</i>	
Employees	1633
Shuttle	765
Area	0.4
Energy	244
Stationary	13
<i>Total Existing</i>	1,013
Total Project	1,656
AVAQMD Threshold	100,000
Exceed Threshold	No
a: Building emissions under the 2026 scenario. b Energy consumption does not include the PV array shading that is anticipated to achieve 75 percent or better of the building energy consumption upon completion of full buildout.	

Year/Description	GHG Emissions
2025	317
2026	97
Total Project	413
Amortized over 30 Years	14
Total Project	13
AVAQMD Threshold	100,000
Exceed Threshold	No
Source: HDR, Appendix A	
Note: Totals may not add up due to rounding.	

Unmitigated Project Annual Emissions of Criteria Air Pollutant Emissions (tons per year)

Source	ROG	NOx	CO	SO ₂	PM10	PM2.5
2024						
<i>Mobile^a</i>						
Employees	0.23	0.28	2.89	0.01	0.57	0.15
Shuttle	0.06	0.16	0.76	0.00	0.07	0.02
Total Existing Shuttle	0.06	0.16	0.76	0.00	0.07	0.02
2026^b						
<i>Mobile</i>						
Employees	0.28	0.30	3.34	0.01	0.73	0.19
Shuttle	0.07	0.18	0.91	0.01	0.09	0.03
Area	0.15	0.001	0.11	0.000	0.000	0.00
Energy	0.00	0.00	0.00	0.00	0.000	0.00
Stationary	0.03	0.08	0.07	0.00	0.00	0.00
Total	0.53	0.56	4.44	0.02	0.82	0.23
Total Existing Shuttle	0.06	0.16	0.76	0.00	0.07	0.02
Total Project	0.47	0.40	3.68	0.01	0.75	0.21
De minimis level	25.00	25.00	100.00	25.00	15.00	12.00
Exceed Threshold	No	No	No	No	No	No
2036^c						
<i>Mobile</i>						
Employees	0.39	0.29	4.54	0.01	1.40	0.36
Shuttle	0.09	0.16	1.44	0.01	0.18	0.01
Area	0.15	0.00	0.11	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00
Stationary	0.03	0.08	0.07	0.00	0.00	0.00
Total	0.66	0.53	6.17	0.02	1.59	0.37
Total Existing Shuttle	0.06	0.16	0.76	0.00	0.07	0.02
Total Project	0.60	0.37	5.41	0.02	1.52	0.35
De minimis level	25.00	25.00	100.00	25.00	15.00	12.00
Exceed Threshold	No	No	No	No	No	No
2041^c						
<i>Mobile</i>						
Employees	0.55	0.37	6.67	0.02	2.24	0.57
Shuttle	0.13	1.34	2.33	0.01	0.05	0.02
Area	0.15	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00
Stationary	0.03	0.08	0.07	0.00	0.00	0.00
Total	0.86	1.79	9.07	0.03	2.29	0.59
Total Existing Shuttle	0.06	0.16	0.76	0.00	0.07	0.02
Total Project	0.80	1.63	8.31	0.02	2.22	0.57
De minimis level	25.00	25.00	100.00	25.00	15.00	12.00
Exceed Threshold	No	No	No	No	No	No

a Only employee and shuttle trips were calculated. Building Emissions were not calculated.

b Building area and energy emissions were conservatively assumed the same for 2026, 2036, and 2041 years.

c The energy analysis conservatively does not include the 75 percent electricity anticipated from the PV panels.

Tank Capacity	12,000 gals	
Fuel Type	gasoline (RVP 7)	
Tank Dimensions	96"x32'	assumption based on email
Diameter	8'	
VOCs		
L_W	1,976 lbs per yr	
L_S	255 lbs per yr	
Total	6.1 lbs per day	
VOC EF	0.921 lbs/1000-gal	pg. 11, Controlled value for an AST
Project Total	0.01 lbs/day	

Working Loss

M_V	68
P_{VA}	3.88
Q	312 gallons
K_N	1
K_P	1
L_W	1,976 lbs/yr

Standing Loss

U	365 days
V_F	54
V_V	256.0
C	12
W_V	0.047
K_E	0.106
K_S	0.55
S_A	0.1028
H	8
S_B	0.0141
D	8

SPECIAL CASES

For horizontal tank :

$$V_F = \frac{H * D^3}{2} \quad (Eq. 10-a)$$

$$K_S = \frac{1}{1 + (0.0265 * P_{VA} * D)} \quad (Eq. 11-a)$$

$$V_F = \frac{0.393 * H * L_1 * L_2}{(L_1 + L_2)} \quad (Eq. 10-b)$$

EMISSIONS FROM FIXED ROOF TANKS

Total emissions or losses from fixed roof tanks are equal to the sum of the working loss and standing loss:

$$L_T = L_W + L_S + L_X \quad (Eq. 6)$$

where:

L_T	= total loss, lbs/yr
L_W	= working loss, lbs/yr
L_S	= standing loss, lbs/yr
L_X	= loss from process upset, lbs/yr

Working Loss - The working loss from fixed roof tanks can be estimated from:

$$L_W = 0.024 * M_V * P_{VA} * Q * K_N * K_P \quad (Eq. 7)$$

where:

L_W	= working loss, lbs/yr
M_V	= average vapor molecular weight, lb/lb-mole [See Appendix 1 for vapor molecular weight of selected materials]
P_{VA}	= true vapor pressure of stored liquid at average liquid surface temperature, psia [See Appendix 1 for true vapor pressure of selected materials]
Q	= annual throughput, Mgallon/yr
K_N	= turn over factor, dimensionless, dependent of annual throughput, Q

Standing Loss - Fixed roof tank standing loss can be estimated from:

$$L_S = U * V_V * W_V * K_E * K_S \quad (Eq. 9)$$

where:

L_S	= standing storage loss, lbs/yr
U	= number of days of the year that the tank is used to store liquid material. This number must not be more than 365 days. If not known, assume 365 days.
V_V	= vapor space volume can be calculated as:

$$V_V = 66.84 * C + V_F \quad (Eq. 10)$$

where:

C	= tank capacity, Mgallons
V_F	= vapor space function, depending on tank diameter [See Appendix 2 for selected vapor space function]

W_V	= vapor density, lb/ft ³ [See Appendix 1 for vapor density of selected materials]
K_E	= vapor space expansion factor, dimensionless [See Appendix 1 for vapor space expansion factors for selected materials]
K_S	= vented vapor saturation factor, dimensionless, can be calculated as follows:

AV Paratransit - Ops- Existing Custom Report

Table of Contents

- 1. Basic Project Information
 - 1.1. Basic Project Information
 - 1.2. Land Use Types
 - 1.3. User-Selected Emission Reduction Measures by Emissions Sector
- 2. Emissions Summary
 - 2.4. Operations Emissions Compared Against Thresholds
 - 2.5. Operations Emissions by Sector, Unmitigated
- 4. Operations Emissions Details
 - 4.1. Mobile Emissions by Land Use
 - 4.1.1. Unmitigated
 - 4.2. Energy
 - 4.2.1. Electricity Emissions By Land Use - Unmitigated
 - 4.2.3. Natural Gas Emissions By Land Use - Unmitigated
 - 4.3. Area Emissions by Source
 - 4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	AV Paratransit - Ops- Existing
Operational Year	2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.50
Precipitation (days)	13.0
Location	34.6612343730406, -118.12905241159191
County	Los Angeles-Mojave Desert
City	Lancaster
Air District	Antelope Valley AQMD
Air Basin	Mojave Desert
TAZ	3663
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	User Defined
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Light Industry	19.5	1000sqft	0.50	19,507	0.00	—	—	—
Office Park	9.83	1000sqft	0.30	9,826	21,470	—	—	—

Parking Lot	232	1000sqft	5.50	0.00	0.00	—	—	—
City Park	0.49	Acre	0.50	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.86	4.48	7.50	26.3	0.04	0.35	3.12	3.46	0.34	0.79	1.13	30.0	5,917	5,947	3.28	0.15	20.9	6,095
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.54	4.17	7.63	20.1	0.04	0.34	3.12	3.46	0.34	0.79	1.13	30.0	5,561	5,591	3.29	0.16	5.51	5,726
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.41	2.23	1.95	16.8	0.03	0.04	3.09	3.14	0.04	0.78	0.82	30.0	4,595	4,625	3.25	0.15	11.9	4,763
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.44	0.41	0.36	3.07	0.01	0.01	0.56	0.57	0.01	0.14	0.15	4.96	761	766	0.54	0.03	1.98	789

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
--------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.51	1.36	1.33	19.4	0.03	0.02	3.12	3.14	0.02	0.79	0.81	—	3,434	3,434	0.13	0.10	15.8	3,483
Area	0.94	0.92	0.01	1.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.25	5.25	< 0.005	< 0.005	—	5.27
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,297	1,297	0.08	0.01	—	1,302
Water	—	—	—	—	—	—	—	—	—	—	—	12.0	54.7	66.7	1.23	0.03	—	106
Waste	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Stationary	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Total	4.86	4.48	7.50	26.3	0.04	0.35	3.12	3.46	0.34	0.79	1.13	30.0	5,917	5,947	3.28	0.15	20.9	6,095
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.41	1.26	1.48	14.5	0.03	0.02	3.12	3.14	0.02	0.79	0.81	—	3,083	3,083	0.13	0.11	0.41	3,119
Area	0.71	0.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,297	1,297	0.08	0.01	—	1,302
Water	—	—	—	—	—	—	—	—	—	—	—	12.0	54.7	66.7	1.23	0.03	—	106
Waste	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Stationary	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Total	4.54	4.17	7.63	20.1	0.04	0.34	3.12	3.46	0.34	0.79	1.13	30.0	5,561	5,591	3.29	0.16	5.51	5,726
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.42	1.27	1.53	15.8	0.03	0.02	3.09	3.11	0.02	0.78	0.80	—	3,164	3,164	0.13	0.11	6.84	3,207
Area	0.82	0.81	0.01	0.63	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.59	2.59	< 0.005	< 0.005	—	2.60
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,297	1,297	0.08	0.01	—	1,302
Water	—	—	—	—	—	—	—	—	—	—	—	12.0	54.7	66.7	1.23	0.03	—	106
Waste	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Stationary	0.17	0.15	0.42	0.38	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	77.2	77.2	< 0.005	< 0.005	0.00	77.4
Total	2.41	2.23	1.95	16.8	0.03	0.04	3.09	3.14	0.04	0.78	0.82	30.0	4,595	4,625	3.25	0.15	11.9	4,763
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.26	0.23	0.28	2.89	0.01	< 0.005	0.56	0.57	< 0.005	0.14	0.15	—	524	524	0.02	0.02	1.13	531
Area	0.15	0.15	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.43	0.43	< 0.005	< 0.005	—	0.43
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	215	215	0.01	< 0.005	—	216
Water	—	—	—	—	—	—	—	—	—	—	—	1.99	9.05	11.0	0.20	< 0.005	—	17.6
Waste	—	—	—	—	—	—	—	—	—	—	—	2.98	0.00	2.98	0.30	0.00	—	10.4
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84	0.84
Stationary	0.03	0.03	0.08	0.07	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	12.8	12.8	< 0.005	< 0.005	0.00	12.8
Total	0.44	0.41	0.36	3.07	0.01	0.01	0.56	0.57	0.01	0.14	0.15	4.96	761	766	0.54	0.03	1.98	789

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	629	629	0.04	< 0.005	—	632
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	362	362	0.02	< 0.005	—	363
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	306	306	0.02	< 0.005	—	307
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,297	1,297	0.08	0.01	—	1,302
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	629	629	0.04	< 0.005	—	632
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	362	362	0.02	< 0.005	—	363
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	306	306	0.02	< 0.005	—	307
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,297	1,297	0.08	0.01	—	1,302
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	104	104	0.01	< 0.005	—	105
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	59.9	59.9	< 0.005	< 0.005	—	60.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	50.6	50.6	< 0.005	< 0.005	—	50.8
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	215	215	0.01	< 0.005	—	216

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	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
Office Park	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
Parking Lot	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
City Park	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
Total	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	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
Office Park	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
Parking Lot	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
City Park	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
Total	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	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

Office Park	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
Parking Lot	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
City Park	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
Total	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

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.65	0.65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.23	0.21	0.01	1.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.25	5.25	< 0.005	< 0.005	—	5.27
Total	0.94	0.92	0.01	1.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.25	5.25	< 0.005	< 0.005	—	5.27
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	0.65	0.65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.71	0.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.12	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	0.02	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.43	0.43	< 0.005	< 0.005	—	0.43
Total	0.15	0.15	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.43	0.43	< 0.005	< 0.005	—	0.43

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	8.64	37.9	46.5	0.89	0.02	—	75.1

Office Park	—	—	—	—	—	—	—	—	—	—	—	3.35	16.8	20.1	0.34	0.01	—	31.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	12.0	54.7	66.7	1.23	0.03	—	106
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	8.64	37.9	46.5	0.89	0.02	—	75.1
Office Park	—	—	—	—	—	—	—	—	—	—	—	3.35	16.8	20.1	0.34	0.01	—	31.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	12.0	54.7	66.7	1.23	0.03	—	106
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	1.43	6.27	7.70	0.15	< 0.005	—	12.4
Office Park	—	—	—	—	—	—	—	—	—	—	—	0.55	2.78	3.34	0.06	< 0.005	—	5.17
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.99	9.05	11.0	0.20	< 0.005	—	17.6

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	13.0	0.00	13.0	1.30	0.00	—	45.6
Office Park	—	—	—	—	—	—	—	—	—	—	—	4.92	0.00	4.92	0.49	0.00	—	17.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.02	0.00	0.02	< 0.005	0.00	—	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	13.0	0.00	13.0	1.30	0.00	—	45.6
Office Park	—	—	—	—	—	—	—	—	—	—	—	4.92	0.00	4.92	0.49	0.00	—	17.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.02	0.00	0.02	< 0.005	0.00	—	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	2.16	0.00	2.16	0.22	0.00	—	7.55

Office Park	—	—	—	—	—	—	—	—	—	—	—	0.82	0.00	0.82	0.08	0.00	—	2.85
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	< 0.005	0.00	< 0.005	< 0.005	0.00	—	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	2.98	0.00	2.98	0.30	0.00	—	10.4

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.08	5.08
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.08	5.08
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02

City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84	0.84
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84	0.84

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emerg ency Generat or	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Total	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emerg ency Generat or	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Total	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emerg ency Generat or	0.03	0.03	0.08	0.07	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	12.8	12.8	< 0.005	< 0.005	0.00	12.8
Total	0.03	0.03	0.08	0.07	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	12.8	12.8	< 0.005	< 0.005	0.00	12.8

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetati on	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	240	240	240	87,600	4,440	4,440	4,440	1,620,600

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	44,000	14,667	14,375

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Light Industry	431,832	532	0.0330	0.0040	0.00
Office Park	248,096	532	0.0330	0.0040	0.00
Parking Lot	209,872	532	0.0330	0.0040	0.00
City Park	0.00	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
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General Light Industry	4,510,994	0.00
Office Park	1,746,412	347,477
Parking Lot	0.00	0.00
City Park	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Light Industry	24.2	—
Office Park	9.14	—
Parking Lot	0.00	—
City Park	0.04	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
----------------	-----------	-------------	----------------	---------------	------------	-------------

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	2.00	50.0	671	0.73

5.16.2. Process Boilers

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

Equipment Type	Fuel Type
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8. User Changes to Default Data

Screen	Justification
Operations: Emergency Generators and Fire Pumps	Updated HP with information provided by client.
Land Use	Updated lot acreage to equal project site
Operations: Vehicle Data	Assumed all in one land use since trip length the same for all land uses.
Operations: Fleet Mix	Most cars would be passenger vehicles. No heavy duty vehicles assumed.
Characteristics: Utility Information	No Natural Gas used at the Project
Operations: Energy Use	The project would be an all-electric facility. Converted NG consumption to electricity consumption.

AV Paratransit - Ops- Phase 1 Bldgs & Employees Sept Detailed Report

Table of Contents

- 1. Basic Project Information
 - 1.1. Basic Project Information
 - 1.2. Land Use Types
 - 1.3. User-Selected Emission Reduction Measures by Emissions Sector
- 2. Emissions Summary
 - 2.4. Operations Emissions Compared Against Thresholds
 - 2.5. Operations Emissions by Sector, Unmitigated
- 4. Operations Emissions Details
 - 4.1. Mobile Emissions by Land Use
 - 4.1.1. Unmitigated
 - 4.2. Energy
 - 4.2.1. Electricity Emissions By Land Use - Unmitigated
 - 4.2.3. Natural Gas Emissions By Land Use - Unmitigated
 - 4.3. Area Emissions by Source
 - 4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	AV Paratransit - Ops- Phase 1 Bldgs & Employees Sept
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.50
Precipitation (days)	13.0
Location	34.6612343730406, -118.12905241159191
County	Los Angeles-Mojave Desert
City	Lancaster
Air District	Antelope Valley AQMD
Air Basin	Mojave Desert
TAZ	3663
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	User Defined
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Light Industry	19.5	1000sqft	0.50	19,507	0.00	—	—	—
Office Park	9.83	1000sqft	0.30	9,826	21,470	—	—	—

Parking Lot	232	1000sqft	5.50	0.00	0.00	—	—	—
City Park	0.49	Acre	0.50	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.15	4.74	7.62	29.3	0.05	0.35	4.03	4.38	0.35	1.02	1.37	30.0	6,724	6,754	3.30	0.17	22.5	6,909
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.81	4.42	7.77	22.5	0.05	0.35	4.03	4.38	0.35	1.02	1.37	30.0	6,288	6,318	3.31	0.18	5.55	6,458
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.68	2.48	2.09	19.3	0.04	0.05	3.99	4.04	0.04	1.01	1.06	30.0	5,340	5,370	3.27	0.17	12.6	5,515
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.49	0.45	0.38	3.53	0.01	0.01	0.73	0.74	0.01	0.18	0.19	4.96	884	889	0.54	0.03	2.09	913

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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AV Paratransit - Ops- Phase 1 Bldgs & Employees Sept Detailed Report, 9/30/2024

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.79	1.62	1.46	22.4	0.04	0.02	4.03	4.05	0.02	1.02	1.04	—	4,240	4,240	0.15	0.12	17.4	4,297
Area	0.94	0.92	0.01	1.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.25	5.25	< 0.005	< 0.005	—	5.27
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,297	1,297	0.08	0.01	—	1,302
Water	—	—	—	—	—	—	—	—	—	—	—	12.0	54.7	66.7	1.23	0.03	—	106
Waste	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Stationary	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Total	5.15	4.74	7.62	29.3	0.05	0.35	4.03	4.38	0.35	1.02	1.37	30.0	6,724	6,754	3.30	0.17	22.5	6,909
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.68	1.51	1.61	16.8	0.04	0.02	4.03	4.05	0.02	1.02	1.04	—	3,810	3,810	0.15	0.13	0.45	3,852
Area	0.71	0.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,297	1,297	0.08	0.01	—	1,302
Water	—	—	—	—	—	—	—	—	—	—	—	12.0	54.7	66.7	1.23	0.03	—	106
Waste	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Stationary	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Total	4.81	4.42	7.77	22.5	0.05	0.35	4.03	4.38	0.35	1.02	1.37	30.0	6,288	6,318	3.31	0.18	5.55	6,458
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.69	1.51	1.67	18.3	0.04	0.02	3.99	4.02	0.02	1.01	1.03	—	3,909	3,909	0.15	0.13	7.52	3,959
Area	0.82	0.81	0.01	0.63	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.59	2.59	< 0.005	< 0.005	—	2.60
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,297	1,297	0.08	0.01	—	1,302
Water	—	—	—	—	—	—	—	—	—	—	—	12.0	54.7	66.7	1.23	0.03	—	106
Waste	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Stationary	0.17	0.15	0.42	0.38	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	77.2	77.2	< 0.005	< 0.005	0.00	77.4
Total	2.68	2.48	2.09	19.3	0.04	0.05	3.99	4.04	0.04	1.01	1.06	30.0	5,340	5,370	3.27	0.17	12.6	5,515
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.31	0.28	0.30	3.34	0.01	< 0.005	0.73	0.73	< 0.005	0.18	0.19	—	647	647	0.03	0.02	1.24	655
Area	0.15	0.15	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.43	0.43	< 0.005	< 0.005	—	0.43
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	215	215	0.01	< 0.005	—	216
Water	—	—	—	—	—	—	—	—	—	—	—	1.99	9.05	11.0	0.20	< 0.005	—	17.6
Waste	—	—	—	—	—	—	—	—	—	—	—	2.98	0.00	2.98	0.30	0.00	—	10.4
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84	0.84
Stationary	0.03	0.03	0.08	0.07	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	12.8	12.8	< 0.005	< 0.005	0.00	12.8
Total	0.49	0.45	0.38	3.53	0.01	0.01	0.73	0.74	0.01	0.18	0.19	4.96	884	889	0.54	0.03	2.09	913

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	629	629	0.04	< 0.005	—	632
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	362	362	0.02	< 0.005	—	363
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	306	306	0.02	< 0.005	—	307
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,297	1,297	0.08	0.01	—	1,302
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	629	629	0.04	< 0.005	—	632
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	362	362	0.02	< 0.005	—	363
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	306	306	0.02	< 0.005	—	307
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,297	1,297	0.08	0.01	—	1,302
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	104	104	0.01	< 0.005	—	105
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	59.9	59.9	< 0.005	< 0.005	—	60.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	50.6	50.6	< 0.005	< 0.005	—	50.8
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	215	215	0.01	< 0.005	—	216

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	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
Office Park	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
Parking Lot	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
City Park	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
Total	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	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
Office Park	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
Parking Lot	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
City Park	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
Total	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	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

Office Park	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
Parking Lot	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
City Park	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
Total	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

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.65	0.65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.23	0.21	0.01	1.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.25	5.25	< 0.005	< 0.005	—	5.27
Total	0.94	0.92	0.01	1.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.25	5.25	< 0.005	< 0.005	—	5.27
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	0.65	0.65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.71	0.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.12	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	0.02	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.43	0.43	< 0.005	< 0.005	—	0.43
Total	0.15	0.15	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.43	0.43	< 0.005	< 0.005	—	0.43

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	8.64	37.9	46.5	0.89	0.02	—	75.1

Office Park	—	—	—	—	—	—	—	—	—	—	—	3.35	16.8	20.1	0.34	0.01	—	31.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	12.0	54.7	66.7	1.23	0.03	—	106
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	8.64	37.9	46.5	0.89	0.02	—	75.1
Office Park	—	—	—	—	—	—	—	—	—	—	—	3.35	16.8	20.1	0.34	0.01	—	31.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	12.0	54.7	66.7	1.23	0.03	—	106
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	1.43	6.27	7.70	0.15	< 0.005	—	12.4
Office Park	—	—	—	—	—	—	—	—	—	—	—	0.55	2.78	3.34	0.06	< 0.005	—	5.17
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.99	9.05	11.0	0.20	< 0.005	—	17.6

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	13.0	0.00	13.0	1.30	0.00	—	45.6
Office Park	—	—	—	—	—	—	—	—	—	—	—	4.92	0.00	4.92	0.49	0.00	—	17.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.02	0.00	0.02	< 0.005	0.00	—	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	13.0	0.00	13.0	1.30	0.00	—	45.6
Office Park	—	—	—	—	—	—	—	—	—	—	—	4.92	0.00	4.92	0.49	0.00	—	17.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.02	0.00	0.02	< 0.005	0.00	—	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	2.16	0.00	2.16	0.22	0.00	—	7.55

Office Park	—	—	—	—	—	—	—	—	—	—	—	0.82	0.00	0.82	0.08	0.00	—	2.85
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	< 0.005	0.00	< 0.005	< 0.005	0.00	—	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	2.98	0.00	2.98	0.30	0.00	—	10.4

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.08	5.08
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.08	5.08
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02

City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84	0.84
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84	0.84

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emerg ency Generat or	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Total	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emerg ency Generat or	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Total	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emerg ency Generat or	0.03	0.03	0.08	0.07	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	12.8	12.8	< 0.005	< 0.005	0.00	12.8
Total	0.03	0.03	0.08	0.07	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	12.8	12.8	< 0.005	< 0.005	0.00	12.8

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetati on	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	310	310	310	113,150	5,735	5,735	5,735	2,093,275

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	44,000	14,667	14,375

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBtu/yr)
General Light Industry	431,832	532	0.0330	0.0040	0.00
Office Park	248,096	532	0.0330	0.0040	0.00
Parking Lot	209,872	532	0.0330	0.0040	0.00
City Park	0.00	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
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General Light Industry	4,510,994	0.00
Office Park	1,746,412	347,477
Parking Lot	0.00	0.00
City Park	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Light Industry	24.2	—
Office Park	9.14	—
Parking Lot	0.00	—
City Park	0.04	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	2.00	50.0	671	0.73

5.16.2. Process Boilers

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

Equipment Type	Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

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

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	34.8	annual days of extreme heat
Extreme Precipitation	1.35	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	1.27	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

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

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

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	0	0	N/A

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

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

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	88.7
AQ-PM	8.01
AQ-DPM	13.1
Drinking Water	55.4
Lead Risk Housing	39.1
Pesticides	0.00
Toxic Releases	98.4
Traffic	42.0
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	75.2
Impaired Water Bodies	0.00
Solid Waste	67.4
Sensitive Population	—
Asthma	98.6
Cardio-vascular	93.4
Low Birth Weights	95.4
Socioeconomic Factor Indicators	—
Education	56.5
Housing	25.7
Linguistic	28.8

Poverty	61.6
Unemployment	17.1

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	53.61221609
Employed	14.93648146
Median HI	51.73873989
Education	—
Bachelor's or higher	27.90966252
High school enrollment	100
Preschool enrollment	50.86616194
Transportation	—
Auto Access	43.30809701
Active commuting	11.07404081
Social	—
2-parent households	22.13524958
Voting	30.05261132
Neighborhood	—
Alcohol availability	84.57590145
Park access	2.194276915
Retail density	38.86821506
Supermarket access	37.04606698
Tree canopy	31.48979854
Housing	—
Homeownership	61.20877711

Housing habitability	72.60361863
Low-inc homeowner severe housing cost burden	46.16963942
Low-inc renter severe housing cost burden	57.91094572
Uncrowded housing	78.31387142
Health Outcomes	—
Insured adults	66.66238932
Arthritis	76.8
Asthma ER Admissions	6.1
High Blood Pressure	81.4
Cancer (excluding skin)	63.4
Asthma	46.1
Coronary Heart Disease	74.7
Chronic Obstructive Pulmonary Disease	62.6
Diagnosed Diabetes	60.0
Life Expectancy at Birth	5.2
Cognitively Disabled	68.5
Physically Disabled	60.6
Heart Attack ER Admissions	7.3
Mental Health Not Good	43.4
Chronic Kidney Disease	73.0
Obesity	37.5
Pedestrian Injuries	19.6
Physical Health Not Good	52.6
Stroke	70.4
Health Risk Behaviors	—
Binge Drinking	17.1
Current Smoker	42.3
No Leisure Time for Physical Activity	58.6

Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	6.8
Elderly	87.4
English Speaking	78.9
Foreign-born	19.9
Outdoor Workers	65.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	81.8
Traffic Density	47.7
Traffic Access	23.0
Other Indices	—
Hardship	49.8
Other Decision Support	—
2016 Voting	23.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	63.0
Healthy Places Index Score for Project Location (b)	38.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Operations: Emergency Generators and Fire Pumps	Updated HP with information provided by client. Assuming a maximum of 2 hours per day for a maximum of 50 hours per year.
Land Use	Updated lot acreage to equal project site
Operations: Vehicle Data	Assumed all in one land use since trip length the same for all land uses.
Operations: Fleet Mix	Most cars would be passenger vehicles. No heavy duty vehicles assumed.
Characteristics: Utility Information	No Natural Gas used at the Project
Operations: Energy Use	The project would be an all-electric facility. Converted NG consumption to electricity consumption.

AV Paratransit - Ops- Phase 2 Bldgs & Employees Sept Custom Report

Table of Contents

- 1. Basic Project Information
 - 1.1. Basic Project Information
 - 1.2. Land Use Types
 - 1.3. User-Selected Emission Reduction Measures by Emissions Sector
- 2. Emissions Summary
 - 2.4. Operations Emissions Compared Against Thresholds
 - 2.5. Operations Emissions by Sector, Unmitigated
- 4. Operations Emissions Details
 - 4.1. Mobile Emissions by Land Use
 - 4.1.1. Unmitigated
 - 4.2. Energy
 - 4.2.1. Electricity Emissions By Land Use - Unmitigated
 - 4.2.3. Natural Gas Emissions By Land Use - Unmitigated
 - 4.3. Area Emissions by Source
 - 4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	AV Paratransit - Ops- Phase 2 Bldgs & Employees Sept
Operational Year	2036
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.50
Precipitation (days)	13.0
Location	34.6612343730406, -118.12905241159191
County	Los Angeles-Mojave Desert
City	Lancaster
Air District	Antelope Valley AQMD
Air Basin	Mojave Desert
TAZ	3663
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	User Defined
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Light Industry	19.5	1000sqft	0.50	19,507	0.00	—	—	—
Office Park	9.83	1000sqft	0.30	9,826	0.00	—	—	—

Parking Lot	232	1000sqft	5.50	0.00	0.00	—	—	—
City Park	0.49	Acre	0.50	0.00	21,470	21,470	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.88	5.42	7.56	37.3	0.08	0.35	7.72	8.07	0.35	1.95	2.30	30.0	9,369	9,399	3.35	0.21	15.1	9,561
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.51	5.07	7.71	28.6	0.07	0.35	7.72	8.07	0.35	1.95	2.30	30.0	8,663	8,693	3.36	0.22	5.36	8,849
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.37	3.12	2.04	25.9	0.06	0.05	7.65	7.70	0.05	1.94	1.98	30.0	7,778	7,807	3.32	0.22	9.40	7,965
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.62	0.57	0.37	4.72	0.01	0.01	1.40	1.41	0.01	0.35	0.36	4.96	1,288	1,293	0.55	0.04	1.56	1,319

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
--------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.51	2.28	1.40	30.4	0.07	0.02	7.72	7.74	0.02	1.95	1.98	—	6,883	6,883	0.20	0.16	9.95	6,946
Area	0.95	0.93	0.01	1.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.25	5.25	< 0.005	< 0.005	—	5.27
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,297	1,297	0.08	0.01	—	1,302
Water	—	—	—	—	—	—	—	—	—	—	—	12.0	57.3	69.3	1.23	0.03	—	109
Waste	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Stationary	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Total	5.88	5.42	7.56	37.3	0.08	0.35	7.72	8.07	0.35	1.95	2.30	30.0	9,369	9,399	3.35	0.21	15.1	9,561
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.37	2.15	1.56	23.0	0.06	0.02	7.72	7.74	0.02	1.95	1.98	—	6,183	6,183	0.20	0.17	0.26	6,240
Area	0.72	0.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,297	1,297	0.08	0.01	—	1,302
Water	—	—	—	—	—	—	—	—	—	—	—	12.0	57.3	69.3	1.23	0.03	—	109
Waste	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Stationary	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Total	5.51	5.07	7.71	28.6	0.07	0.35	7.72	8.07	0.35	1.95	2.30	30.0	8,663	8,693	3.36	0.22	5.36	8,849
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.37	2.15	1.61	24.9	0.06	0.02	7.65	7.68	0.02	1.94	1.96	—	6,344	6,344	0.20	0.18	4.30	6,406
Area	0.84	0.83	0.01	0.63	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.59	2.59	< 0.005	< 0.005	—	2.60
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,297	1,297	0.08	0.01	—	1,302
Water	—	—	—	—	—	—	—	—	—	—	—	12.0	57.3	69.3	1.23	0.03	—	109
Waste	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Stationary	0.17	0.15	0.42	0.38	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	77.2	77.2	< 0.005	< 0.005	0.00	77.4
Total	3.37	3.12	2.04	25.9	0.06	0.05	7.65	7.70	0.05	1.94	1.98	30.0	7,778	7,807	3.32	0.22	9.40	7,965
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.43	0.39	0.29	4.54	0.01	< 0.005	1.40	1.40	< 0.005	0.35	0.36	—	1,050	1,050	0.03	0.03	0.71	1,061
Area	0.15	0.15	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.43	0.43	< 0.005	< 0.005	—	0.43
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	215	215	0.01	< 0.005	—	216
Water	—	—	—	—	—	—	—	—	—	—	—	1.99	9.48	11.5	0.20	< 0.005	—	18.0
Waste	—	—	—	—	—	—	—	—	—	—	—	2.98	0.00	2.98	0.30	0.00	—	10.4
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84	0.84
Stationary	0.03	0.03	0.08	0.07	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	12.8	12.8	< 0.005	< 0.005	0.00	12.8
Total	0.62	0.57	0.37	4.72	0.01	0.01	1.40	1.41	0.01	0.35	0.36	4.96	1,288	1,293	0.55	0.04	1.56	1,319

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	629	629	0.04	< 0.005	—	632
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	362	362	0.02	< 0.005	—	363
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	306	306	0.02	< 0.005	—	307
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,297	1,297	0.08	0.01	—	1,302
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	629	629	0.04	< 0.005	—	632
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	362	362	0.02	< 0.005	—	363
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	306	306	0.02	< 0.005	—	307
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,297	1,297	0.08	0.01	—	1,302
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	104	104	0.01	< 0.005	—	105
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	59.9	59.9	< 0.005	< 0.005	—	60.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	50.6	50.6	< 0.005	< 0.005	—	50.8
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	215	215	0.01	< 0.005	—	216

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	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
Office Park	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
Parking Lot	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
City Park	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
Total	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	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
Office Park	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
Parking Lot	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
City Park	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
Total	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	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

Office Park	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
Parking Lot	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
City Park	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
Total	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

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.66	0.66	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.23	0.21	0.01	1.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.25	5.25	< 0.005	< 0.005	—	5.27
Total	0.95	0.93	0.01	1.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.25	5.25	< 0.005	< 0.005	—	5.27
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	0.66	0.66	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.72	0.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.12	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	0.02	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.43	0.43	< 0.005	< 0.005	—	0.43
Total	0.15	0.15	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.43	0.43	< 0.005	< 0.005	—	0.43

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	8.64	37.9	46.5	0.89	0.02	—	75.1

Office Park	—	—	—	—	—	—	—	—	—	—	—	3.35	14.7	18.0	0.34	0.01	—	29.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	4.77	4.77	< 0.005	< 0.005	—	4.79
Total	—	—	—	—	—	—	—	—	—	—	—	12.0	57.3	69.3	1.23	0.03	—	109
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	8.64	37.9	46.5	0.89	0.02	—	75.1
Office Park	—	—	—	—	—	—	—	—	—	—	—	3.35	14.7	18.0	0.34	0.01	—	29.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	4.77	4.77	< 0.005	< 0.005	—	4.79
Total	—	—	—	—	—	—	—	—	—	—	—	12.0	57.3	69.3	1.23	0.03	—	109
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	1.43	6.27	7.70	0.15	< 0.005	—	12.4
Office Park	—	—	—	—	—	—	—	—	—	—	—	0.55	2.43	2.98	0.06	< 0.005	—	4.81
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.79	0.79	< 0.005	< 0.005	—	0.79
Total	—	—	—	—	—	—	—	—	—	—	—	1.99	9.48	11.5	0.20	< 0.005	—	18.0

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	13.0	0.00	13.0	1.30	0.00	—	45.6
Office Park	—	—	—	—	—	—	—	—	—	—	—	4.92	0.00	4.92	0.49	0.00	—	17.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.02	0.00	0.02	< 0.005	0.00	—	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	13.0	0.00	13.0	1.30	0.00	—	45.6
Office Park	—	—	—	—	—	—	—	—	—	—	—	4.92	0.00	4.92	0.49	0.00	—	17.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.02	0.00	0.02	< 0.005	0.00	—	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	2.16	0.00	2.16	0.22	0.00	—	7.55

Office Park	—	—	—	—	—	—	—	—	—	—	—	0.82	0.00	0.82	0.08	0.00	—	2.85
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	< 0.005	0.00	< 0.005	< 0.005	0.00	—	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	2.98	0.00	2.98	0.30	0.00	—	10.4

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.08	5.08
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.08	5.08
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02

City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84	0.84
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84	0.84

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emerg ency Generat or	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Total	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emerg ency Generat or	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Total	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emerg ency Generat or	0.03	0.03	0.08	0.07	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	12.8	12.8	< 0.005	< 0.005	0.00	12.8
Total	0.03	0.03	0.08	0.07	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	12.8	12.8	< 0.005	< 0.005	0.00	12.8

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetati on	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	594	594	594	216,810	10,989	10,989	10,989	4,010,985

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	44,000	14,667	14,375

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Light Industry	431,832	532	0.0330	0.0040	0.00
Office Park	248,096	532	0.0330	0.0040	0.00
Parking Lot	209,872	532	0.0330	0.0040	0.00
City Park	0.00	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
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General Light Industry	4,510,994	0.00
Office Park	1,746,412	0.00
Parking Lot	0.00	0.00
City Park	0.00	772,171

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Light Industry	24.2	—
Office Park	9.14	—
Parking Lot	0.00	—
City Park	0.04	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	2.00	50.0	671	0.73

5.16.2. Process Boilers

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

Equipment Type	Fuel Type
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8. User Changes to Default Data

Screen	Justification
Operations: Emergency Generators and Fire Pumps	Updated HP with information provided by client.
Land Use	Updated lot acreage to equal project site
Operations: Vehicle Data	Assumed all in one land use since trip length the same for all land uses.
Operations: Fleet Mix	Most cars would be passenger vehicles. No heavy duty vehicles assumed.
Characteristics: Utility Information	No Natural Gas used at the Project
Operations: Energy Use	The project would be an all-electric facility. Converted NG consumption to electricity consumption.

AV Paratransit - Ops- 2041 Bldgs & Employees Custom Report

Table of Contents

- 1. Basic Project Information
 - 1.1. Basic Project Information
 - 1.2. Land Use Types
 - 1.3. User-Selected Emission Reduction Measures by Emissions Sector
- 2. Emissions Summary
 - 2.4. Operations Emissions Compared Against Thresholds
 - 2.5. Operations Emissions by Sector, Unmitigated
- 4. Operations Emissions Details
 - 4.1. Mobile Emissions by Land Use
 - 4.1.1. Unmitigated
 - 4.2. Energy
 - 4.2.1. Electricity Emissions By Land Use - Unmitigated
 - 4.2.3. Natural Gas Emissions By Land Use - Unmitigated
 - 4.3. Area Emissions by Source
 - 4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	AV Paratransit - Ops- 2041 Bldgs & Employees
Operational Year	2041
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.50
Precipitation (days)	13.0
Location	34.6612343730406, -118.12905241159191
County	Los Angeles-Mojave Desert
City	Lancaster
Air District	Antelope Valley AQMD
Air Basin	Mojave Desert
TAZ	3663
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	User Defined
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Light Industry	19.5	1000sqft	0.50	19,507	0.00	—	—	—
Office Park	9.83	1000sqft	0.30	9,826	21,470	—	—	—

Parking Lot	232	1000sqft	5.50	0.00	0.00	—	—	—
City Park	0.49	Acre	0.50	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.88	6.32	7.93	51.6	0.12	0.36	12.4	12.7	0.35	3.13	3.49	30.0	13,095	13,125	3.44	0.28	12.0	13,307
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.48	5.94	8.13	39.5	0.10	0.35	12.4	12.7	0.35	3.13	3.49	30.0	12,003	12,033	3.44	0.30	5.28	12,214
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.33	3.98	2.47	37.6	0.10	0.05	12.3	12.3	0.05	3.11	3.16	30.0	11,206	11,236	3.40	0.30	8.08	11,418
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.79	0.73	0.45	6.86	0.02	0.01	2.24	2.25	0.01	0.57	0.58	4.96	1,855	1,860	0.56	0.05	1.34	1,890

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
--------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.52	3.19	1.76	44.8	0.10	0.03	12.4	12.4	0.03	3.13	3.16	—	10,611	10,611	0.28	0.24	6.89	10,695
Area	0.94	0.92	0.01	1.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.25	5.25	< 0.005	< 0.005	—	5.27
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,297	1,297	0.08	0.01	—	1,302
Water	—	—	—	—	—	—	—	—	—	—	—	12.0	54.7	66.7	1.23	0.03	—	106
Waste	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Stationary	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Total	6.88	6.32	7.93	51.6	0.12	0.36	12.4	12.7	0.35	3.13	3.49	30.0	13,095	13,125	3.44	0.28	12.0	13,307
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.35	3.03	1.97	33.9	0.09	0.03	12.4	12.4	0.03	3.13	3.16	—	9,525	9,525	0.29	0.25	0.18	9,607
Area	0.71	0.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,297	1,297	0.08	0.01	—	1,302
Water	—	—	—	—	—	—	—	—	—	—	—	12.0	54.7	66.7	1.23	0.03	—	106
Waste	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Stationary	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Total	6.48	5.94	8.13	39.5	0.10	0.35	12.4	12.7	0.35	3.13	3.49	30.0	12,003	12,033	3.44	0.30	5.28	12,214
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.34	3.02	2.04	36.6	0.10	0.03	12.3	12.3	0.03	3.11	3.14	—	9,774	9,774	0.29	0.26	2.97	9,862
Area	0.82	0.81	0.01	0.63	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.59	2.59	< 0.005	< 0.005	—	2.60
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,297	1,297	0.08	0.01	—	1,302
Water	—	—	—	—	—	—	—	—	—	—	—	12.0	54.7	66.7	1.23	0.03	—	106
Waste	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Stationary	0.17	0.15	0.42	0.38	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	77.2	77.2	< 0.005	< 0.005	0.00	77.4
Total	4.33	3.98	2.47	37.6	0.10	0.05	12.3	12.3	0.05	3.11	3.16	30.0	11,206	11,236	3.40	0.30	8.08	11,418
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.61	0.55	0.37	6.67	0.02	0.01	2.24	2.24	0.01	0.57	0.57	—	1,618	1,618	0.05	0.04	0.49	1,633
Area	0.15	0.15	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.43	0.43	< 0.005	< 0.005	—	0.43
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	215	215	0.01	< 0.005	—	216
Water	—	—	—	—	—	—	—	—	—	—	—	1.99	9.05	11.0	0.20	< 0.005	—	17.6
Waste	—	—	—	—	—	—	—	—	—	—	—	2.98	0.00	2.98	0.30	0.00	—	10.4
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84	0.84
Stationary	0.03	0.03	0.08	0.07	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	12.8	12.8	< 0.005	< 0.005	0.00	12.8
Total	0.79	0.73	0.45	6.86	0.02	0.01	2.24	2.25	0.01	0.57	0.58	4.96	1,855	1,860	0.56	0.05	1.34	1,890

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	629	629	0.04	< 0.005	—	632
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	362	362	0.02	< 0.005	—	363
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	306	306	0.02	< 0.005	—	307
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,297	1,297	0.08	0.01	—	1,302
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	629	629	0.04	< 0.005	—	632
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	362	362	0.02	< 0.005	—	363
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	306	306	0.02	< 0.005	—	307
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,297	1,297	0.08	0.01	—	1,302
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	104	104	0.01	< 0.005	—	105
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	59.9	59.9	< 0.005	< 0.005	—	60.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	50.6	50.6	< 0.005	< 0.005	—	50.8
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	215	215	0.01	< 0.005	—	216

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	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
Office Park	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
Parking Lot	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
City Park	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
Total	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	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
Office Park	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
Parking Lot	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
City Park	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
Total	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	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

Office Park	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
Parking Lot	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
City Park	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
Total	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

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.65	0.65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.23	0.21	0.01	1.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.25	5.25	< 0.005	< 0.005	—	5.27
Total	0.94	0.92	0.01	1.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.25	5.25	< 0.005	< 0.005	—	5.27
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	0.65	0.65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.71	0.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.12	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	0.02	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.43	0.43	< 0.005	< 0.005	—	0.43
Total	0.15	0.15	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.43	0.43	< 0.005	< 0.005	—	0.43

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	8.64	37.9	46.5	0.89	0.02	—	75.1

Office Park	—	—	—	—	—	—	—	—	—	—	—	3.35	16.8	20.1	0.34	0.01	—	31.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	12.0	54.7	66.7	1.23	0.03	—	106
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	8.64	37.9	46.5	0.89	0.02	—	75.1
Office Park	—	—	—	—	—	—	—	—	—	—	—	3.35	16.8	20.1	0.34	0.01	—	31.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	12.0	54.7	66.7	1.23	0.03	—	106
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	1.43	6.27	7.70	0.15	< 0.005	—	12.4
Office Park	—	—	—	—	—	—	—	—	—	—	—	0.55	2.78	3.34	0.06	< 0.005	—	5.17
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.99	9.05	11.0	0.20	< 0.005	—	17.6

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	13.0	0.00	13.0	1.30	0.00	—	45.6
Office Park	—	—	—	—	—	—	—	—	—	—	—	4.92	0.00	4.92	0.49	0.00	—	17.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.02	0.00	0.02	< 0.005	0.00	—	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	13.0	0.00	13.0	1.30	0.00	—	45.6
Office Park	—	—	—	—	—	—	—	—	—	—	—	4.92	0.00	4.92	0.49	0.00	—	17.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.02	0.00	0.02	< 0.005	0.00	—	0.08
Total	—	—	—	—	—	—	—	—	—	—	—	18.0	0.00	18.0	1.80	0.00	—	62.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	2.16	0.00	2.16	0.22	0.00	—	7.55

Office Park	—	—	—	—	—	—	—	—	—	—	—	0.82	0.00	0.82	0.08	0.00	—	2.85
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	< 0.005	0.00	< 0.005	< 0.005	0.00	—	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	2.98	0.00	2.98	0.30	0.00	—	10.4

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.08	5.08
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.08	5.08
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02

City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.10	5.10
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84	0.84
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.84	0.84

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emerg ency Generat or	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Total	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emerg ency Generat or	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Total	2.42	2.20	6.16	5.62	0.01	0.32	0.00	0.32	0.32	0.00	0.32	0.00	1,127	1,127	0.05	0.01	0.00	1,130
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emerg ency Generat or	0.03	0.03	0.08	0.07	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	12.8	12.8	< 0.005	< 0.005	0.00	12.8
Total	0.03	0.03	0.08	0.07	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	12.8	12.8	< 0.005	< 0.005	0.00	12.8

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipm ent Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetati on	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	952	952	952	347,480	17,612	17,612	17,612	6,428,380

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	44,000	14,667	14,375

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Light Industry	431,832	532	0.0330	0.0040	0.00
Office Park	248,096	532	0.0330	0.0040	0.00
Parking Lot	209,872	532	0.0330	0.0040	0.00
City Park	0.00	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
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General Light Industry	4,510,994	0.00
Office Park	1,746,412	347,477
Parking Lot	0.00	0.00
City Park	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Light Industry	24.2	—
Office Park	9.14	—
Parking Lot	0.00	—
City Park	0.04	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	2.00	50.0	671	0.73

5.16.2. Process Boilers

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

Equipment Type	Fuel Type
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8. User Changes to Default Data

Screen	Justification
Operations: Emergency Generators and Fire Pumps	Updated HP with information provided by client. Assumed a maximum of 2 hours per day and a total of 50 hours per year.
Land Use	Updated lot acreage to equal project site
Operations: Vehicle Data	Assumed all in one land use since trip length the same for all land uses.
Operations: Fleet Mix	Most cars would be passenger vehicles. No heavy duty vehicles assumed.
Characteristics: Utility Information	No Natural Gas used at the Project
Operations: Energy Use	The project would be an all-electric facility. Converted NG consumption to electricity consumption.

Source: EMFAC2021 (v1.0.2) Emission Rates

Vehicle Classification: EMFAC202x Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated base

	Year	g/mile	g/vehicle/day	g/trip	g/mile	g/vehicle/day	g/trip	g/mile
		NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RUNEX	PM2.5_IDLEX	PM2.5_STREX	PM2.5_PMTW
Shuttle Vehicles	2024	0.179211358	0.037424298	0.663978581	0.000948377	0	0.000281517	0.002000001

2024 trip length	11.09	miles/trip
2024 # of trips	154	trips per day
inventory data	14.90	trips/veh-day
g/lb	453.59	

	NOX	PM2.5	PM10	CO2	CH4	N2O
g/mi	0.179211358	0.034798387	0.100031475	694.0658399	0.003732332	0.011040455
g/veh-day	0.037424298	0	0	139.2889912	0.118520428	0.003029676
g/trip	0.663978581	0.000281517	0.000306175	25.63915321	0.03602722	0.052327852
g/trip	2.65	0.39	1.11	7732.18	0.09	0.17

Year	NOX	PM2.5	PM10	CO2	CH4	N2O	ROG
Mobile Shuttle lbs/day							
2024	0.90	0.13	0.38	2625.18	0.03	0.06	0.32
Mobile Shuttle TPY							
2024	0.16	0.02	0.07	479.10	0.01	0.01	0.06

d on total VMT.

g/mile	g/mile	g/vehicle/day	g/trip	g/mile	g/mile	g/mile	g/vehicle/day	g/trip	g/mile
PM2.5_PMBW	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMTW	PM10_PMBW	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX
0.031850009	0.001031446	0	0.000306175	0.008000002	0.091000026	694.0658399	139.2889912	25.63915321	0.003732332

ROG	CO	SOx
0.017300057	0.812345446	0.006861547
3.77252593	3.761481777	0.001377013
0.509252145	2.981986257	0.000253469

0.95	12.24	0.08
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CO	SOx	CO2e
4.16	0.03	2,642
0.76	0.00	482

g/vehicle/day	g/trip	g/mile	g/vehicle/day	g/trip	g/mile	g/vehicle/day	g/trip	g/trip	g/trip
CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSOAK	ROG_RUNLOSS
0.118520428	0.03602722	0.011040455	0.003029676	0.052327852	0.017300057	0.429074872	0.174747144	0.050253482	0.284251519

g/vehicle/day	g/mile	g/mile	g/vehicle/day	g/trip	g/mile	g/vehicle/day	g/trip
ROG_DIURN	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNEX	SOx_IDLEX	SOx_STREX
3.343451058	0.044956321	0.812345446	3.761481777	2.981986257	0.006861547	0.001377013	0.000253469

Source: EMFAC2021 (v1.0.2) Emission Rates
Vehicle Classification: EMFAC202x Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

	Year	NOx_RUNEX g/mile	NOx_IDLEX g/vehicle/day	NOx_STREX g/trip	PM2.5_RUNEX g/mile	PM2.5_IDLEX g/vehicle/day	PM2.5_STREX g/trip	PM2.5_PMTW g/mile	
Shuttle Vehicle (LHD2)	2026	0.146330108	0.035651138	0.634316976	0.000933018		0	0.00024372	0.002000001
Shuttle Vehicle (LDH2)	2036	0.05218224	0.027902226	0.486010064	0.000919409		0	0.000119057	0.001999942

2026 trip length 11.09 miles/trip
2026 # of trips 199 trips per day
2036# of trips 381 trips per day
inventory data 14.90 trips/veh-day
g/lb 453.59

		NOX	PM2.5	PM10	CO2	CH4	N2O	ROG
		g/mi	g/veh-day	g/trip				
		0.146330108	0.034783028	0.100014771	666.8065881	0.002900777	0.009315338	0.013236044
		0.035651138	0	0	137.5087385	0.114143544	0.002962545	3.570394561
		0.634316976	0.00024372	0.000265068	25.3307222	0.03369646	0.051003902	0.477158209
2026	g/trip	2.259510802	0.3859875	1.109428876	7429.445482	0.073527489	0.15450985	0.863593703
		NOX	PM2.5	PM10	CO2	CH4	N2O	ROG
		g/mi	g/veh-day	g/trip				
		0.05218224	0.003038408	0.099999735	581.9033176	0.000757447	0.004206325	0.002796505
		0.027902226	0	0.091000026	129.8643935	0.094003832	0.002617909	3.018412241
		0.486010064	0.000119057	0.091000026	24.13443828	0.024162701	0.043700259	0.362439807
2036	g/trip	1.066583922	0.033815004	1.19999709	6486.158833	0.038872404	0.090524119	0.596051306

Year	NOX	PM2.5	PM10	CO2	CH4	N2O	ROG	CO
Mobile Shuttle lbs/day								
2026	0.99	0.17	0.49	3259.46	0.03	0.07	0.38	4.99
2036	0.90	0.03	1.01	5448.15	0.03	0.08	0.50	7.90
Mobile Shuttle TPY								
2026	0.18	0.03	0.09	594.85	0.01	0.01	0.07	0.91
2036	0.16	0.01	0.18	994.29	0.01	0.01	0.09	1.44

PM2.5_PMBW g/mile	PM10_RUNEX g/mile	PM10_IDLEX g/vehicle/day	PM10_STREX g/trip	PM10_PMTW g/mile	PM10_PMBW g/mile	CO2_RUNEX g/mile	CO2_IDLEX g/vehicle/day	CO2_STREX g/trip	CH4_RUNEX g/mile	CH4_IDLEX g/vehicle/day	CH4_STREX g/trip
0.031850009	0.001014742	0	0.000265068	0.008000002	0.091000026	666.8065881	137.5087385	25.3307222	0.002900777	0.114143544	0.03369646
0.031850009	0.000999941	0	0.000129486	0.007999768	0.091000026	581.9033176	129.8643935	24.13443828	0.000757447	0.094003832	0.024162701

CO	SOx
0.732459266	0.006592062
3.766423955	0.001359414
3.004507443	0.00025042
11.38028611	0.073447632

CO	SOx
0.539290947	0.005752707
3.779309734	0.001283842
3.166177585	0.000238593
9.400584507	0.064122283

SOx	CO2e
0.03	3,278
0.05	5,472
0.01	598
0.01	999

N2O_RUNEX g/mile	N2O_IDLEX g/vehicle/day	N2O_STREX g/trip	ROG_RUNEX g/mile	ROG_IDLEX g/vehicle/day	ROG_STREX g/trip	ROG_HOTSOA g/trip	ROG_RUNLOSS g/trip	ROG_DIURN g/vehicle/day	CO_RUNEX g/mile	CO_IDLEX g/vehicle/day	CO_STREX g/trip
0.009315338	0.002962545	0.051003902	0.013236044	0.408897928	0.161612921	0.046447015	0.269098273	3.161496633	0.732459266	3.766423955	3.004507443
0.004206325	0.002617909	0.043700259	0.002796505	0.408897928	0.108596348	0.031623304	0.222220155	2.609514313	0.539290947	3.779309734	3.166177585

SOx_RUNEX g/mile	SOx_IDLEX g/vehicle/day	SOx_STREX g/trip
0.006592062	0.001359414	0.00025042
0.005752707	0.001283842	0.000238593

Source: EMFAC2021 (v1.0.2) Emission Rates
Vehicle Classification: EMFAC202x Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total V

	Calendar Year	Vehicle Category	g/mile	g/vehicle/day	g/trip	g/mile	g/vehicle/day	g/trip	g/mile
			NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RUNEX	PM2.5_IDLEX	PM2.5_STREX	PM2.5_PMTW
Shuttle Vehicles	2041	LDT2	0.029421126	0	0.219661241	0.000529559	0	0.000884816	0.002000001
2041 trip length	11.09	miles/trip	miles/trip						
2041 # of trips	611	trips per year	trips per day						
inventory data	4.62	trips/veh-day	trips/veh-day						
g/lb	453.59								
			NOX	PM2.5	PM10	CO2	CH4	N2O	ROG
		g/mi	0.0294	0.0058	0.0180	274.6571	0.0000	0.0040	0.0049
		g/veh-day	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.1673
		g/trip	0.2197	0.0009	0.0010	67.4820	0.0478	0.0329	0.2332
		g/trip	0.55	0.07	0.20	3113.43	0.05	0.08	0.54

Year	NOX	PM2.5	PM10	CO2	CH4	N2O	ROG
Mobile Shuttle (lbs/trip)							
2041	0.74	0.09	0.27	4194	0.06	0.10	0.73
Mobile Shuttle TPY							
2041	1	0	0	765	0.01	0.02	0

VMT.

g/mile	g/mile	g/vehicle/day	g/trip	g/mile	g/mile	g/mile	g/vehicle/day	g/trip	g/mile	g/vehicle/day
PM2.5_PMBW	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMTW	PM10_PMBW	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX
0.00328782	0.000575944	0	0.000962319	0.008000002	0.00939377	274.6570635	0	67.48197143	0.001566397	0

CO	SOx
0.6501	0.0027
0.0000	0.0000
2.2558	0.0007
9.47	0.03

CO	SOx	CO2e
12.75	0.04	4,223
2	0	765

g/trip	g/mile	g/vehicle/day	g/trip	g/mile	g/vehicle/day	g/trip	g/trip	g/trip	g/vehicle/day	g/mile
CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSOAK	ROG_RUNLOSS	ROG_DIURN	NH3_RUNEX
0.0477767507	0.004047646	0	0.032914713	0.004865141	0	0.186758093	0.046476792	0.178048576	1.167269131	0.041566606

g/mile	g/vehicle/day	g/trip	g/mile	g/vehicle/day	g/trip
CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNEX	SOx_IDLEX	SOx_STREX
0.650109779		0 2.255823552	0.002715265		0 0.000667128

Attachment C. Social Cost of Carbon

Emission Changes			
Year	Emissions Changes (metric tons)		
	CO2	CH4	N2O
2020			
2021			
2022			
2023			
2024			
2025	317	0	0
2026	97	0	-
2027			
2028			
2029			
2030			
2031			
2032			
2033			
2034			
2035			
2036			
2037			
2038			
2039			
2040			
2041			
2042			
2043			
2044			
2045			
2046			
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2052			
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2057			
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2060			
2061			
2062			
2063			
2064			
2065			
2066			
2067			
2068			
2069			
2070			
2071			
2072			
2073			
2074			
2075			
2076			
2077			
2078			
2079			
2080			
Total	414	0	0

Constant discounting			
Number of years (N)			
2			
Discount Rate			
2.5% 2.0% 1.5%			
Present and Annualized Values of CO2 Emission Changes (millions, 20205)			
GHG	CO2	CO2	CO2
Discount Rate			
2.5% 2.0% 1.5%			
Present Value in 2025 (20205)			
\$0.05 \$0.09 \$0.15			
Annualized Value (2 Years, 20205)			
\$0.03 \$0.05 \$0.08			
Present and Annualized Values of CH4 Emission Changes (millions, 20205)			
GHG	CH4	CH4	CH4
Discount Rate			
2.5% 2.0% 1.5%			
Present Value in 2025 (20205)			
\$0.00 \$0.00 \$0.00			
Annualized Value (2 Years, 20205)			
\$0.00 \$0.00 \$0.00			
Present and Annualized Values of N2O Emission Changes (millions, 20205)			
GHG	N2O	N2O	N2O
Discount Rate			
2.5% 2.0% 1.5%			
Present Value in 2025 (20205)			
\$0.00 \$0.00 \$0.00			
Annualized Value (2 Years, 20205)			
\$0.00 \$0.00 \$0.00			
Total Present and Annualized Values of all GHG Emission Changes (CO2, CH4, and N2O) (millions, 20205)			
GHG	Total	Total	Total
Discount Rate			
2.5% 2.0% 1.5%			
Present Value in 2025 (20205)			
\$0.05 \$0.09 \$0.15			
Annualized Value (2 Years, 20205)			
\$0.03 \$0.05 \$0.08			

Discounted, Monetized Value of Emission Changes, discounted to 2025 (millions, 20205) - Constant Discounting									
Year	Discounted, Monetized Value of CO2 Emissions Changes (millions, 20205)			Discounted, Monetized Value of CH4 Emissions Changes (millions, 20205)			Discounted, Monetized Value of N2O Emissions Changes (millions, 20205)		
	Discounted Back to 2025			Discounted Back to 2025			Discounted Back to 2025		
	CO2	CO2	CO2	CH4	CH4	CH4	N2O	N2O	N2O
2020	2.5%	2.0%	1.5%	2.5%	2.0%	1.5%	2.5%	2.0%	1.5%
2021									
2022									
2023									
2024									
2025	\$0.04	\$0.07	\$0.11	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2026	\$0.01	\$0.02	\$0.03	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2027									
2028									
2029									
2030									
2031									
2032									
2033									
2034									
2035									
2036									
2037									
2038									
2039									
2040									
2041									
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2068									
2069									
2070									
2071									
2072									
2073									
2074									
2075									
2076									
2077									
2078									
2079									
2080									
Totals	\$0.05	\$0.09	\$0.15	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Emission Changes			
Year	Emissions Changes (metric tons)		
	CO2	CH4	N2O
2020			
2021			
2022			
2023			
2024	1,245	1	0
2025			
2026	239	1	0
2027			
2028			
2029			
2030			
2031			
2032			
2033			
2034			
2035			
2036	1,046	0	0
2037			
2038			
2039			
2040			
2041	239	1	0
2042			
2043			
2044			
2045			
2046			
2047			
2048			
2049			
2050			
2051			
2052			
2053			
2054			
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2066			
2067			
2068			
2069			
2070			
2071			
2072			
2073			
2074			
2075			
2076			
2077			
2078			
2079			
2080			
Total	2,769	2	0

Constant discounting			
Number of years (N)			
4			
Discount Rate			
2.5% 2.0% 1.5%			
Present and Annualized Values of CO2 Emission Changes (millions, 20205)			
GHG	CO2	CO2	CO2
Discount Rate	2.5%	2.0%	1.5%
Present Value in 2024 (20205)	\$0.34	\$0.56	\$0.97
Annualized Value (4 Years, 20205)	\$0.09	\$0.15	\$0.25
Present and Annualized Values of CH4 Emission Changes (millions, 20205)			
GHG	CH4	CH4	CH4
Discount Rate	2.5%	2.0%	1.5%
Present Value in 2024 (20205)	\$0.00	\$0.00	\$0.01
Annualized Value (4 Years, 20205)	\$0.00	\$0.00	\$0.00
Present and Annualized Values of N2O Emission Changes (millions, 20205)			
GHG	N2O	N2O	N2O
Discount Rate	2.5%	2.0%	1.5%
Present Value in 2024 (20205)	\$0.01	\$0.01	\$0.01
Annualized Value (4 Years, 20205)	\$0.00	\$0.00	\$0.00
Total Present and Annualized Values of all GHG Emission Changes (CO2, CH4, and N2O) (millions, 20205)			
GHG	Total	Total	Total
Discount Rate	2.5%	2.0%	1.5%
Present Value in 2024 (20205)	\$0.35	\$0.57	\$0.99
Annualized Value (4 Years, 20205)	\$0.09	\$0.15	\$0.26

Discounted, Monetized Value of Emission Changes, discounted to 2024 (millions, 20205) - Constant Discounting									
Year	Discounted, Monetized Value of CO2 Emissions Changes (millions, 20205)			Discounted, Monetized Value of CH4 Emissions Changes (millions, 20205)			Discounted, Monetized Value of N2O Emissions Changes (millions, 20205)		
	Discounted Back to 2024			Discounted Back to 2024			Discounted Back to 2024		
	CO2	CO2	CO2	CH4	CH4	CH4	N2O	N2O	N2O
2020	2.5%	2.0%	1.5%	2.5%	2.0%	1.5%	2.5%	2.0%	1.5%
2021									
2022									
2023									
2024	\$0.16	\$0.26	\$0.44	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2025									
2026	\$0.03	\$0.05	\$0.08	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2027									
2028									
2029									
2030									
2031									
2032									
2033									
2034									
2035									
2036	\$0.13	\$0.21	\$0.36	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2037									
2038									
2039									
2040									
2041	\$0.03	\$0.05	\$0.08	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2042									
2043									
2044									
2045									
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2071									
2072									
2073									
2074									
2075									
2076									
2077									
2078									
2079									
2080									
Totals	\$0.34	\$0.56	\$0.97	\$0.00	\$0.00	\$0.01	\$0.01	\$0.01	\$0.01