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MEMORANDUM

DATE: December 12, 2023

TO: Kristine Simmons, Rich Developments Enterprises, LLC.

FROM: Jessica Coria, Associate
Bianca Martinez, Air Quality Specialist

SUBJECT: Air Quality and Greenhouse Gas Technical Memorandum for the Proposed L and 10th Lancaster Project in Lancaster, California

INTRODUCTION

LSA has prepared this Air Quality and Greenhouse Gas Technical Memorandum to evaluate the impacts associated with construction and operation of the proposed L and 10th Lancaster Project (project) located in Lancaster, Los Angeles County, California. This analysis follows the guidelines identified by the Antelope Valley Air Quality Management District (AVAQMD) in its California Environmental Quality Act (CEQA) and Federal Air Conformity Guidelines.[1] This analysis includes an assessment of criteria pollutant emissions, an assessment of carbon monoxide (CO) hot-spot impacts, and an assessment of the project's greenhouse gas (GHG) emissions.

PROJECT LOCATION AND DESCRIPTION

The 3.73-acre project site is located at the southwest corner of 10th Street West and West Avenue L in Lancaster, California. The proposed project is bounded to the north by West Avenue L and to the east by 10th Street West. A commercial shopping center, a Costco Wholesale and Gas Station, and fast-food operations are in the project vicinity. Access to the project site is provided by West Avenue L and 10th Street. The project location is shown on Figure 1 (Attachment A).

The proposed project would construct a 2,900 square-foot (sq ft) fast food restaurant with a drive-through, a 2,400 sq ft coffee shop with a drive-through, and a 3,600 sq ft car wash. The proposed project would include a total of 80 parking spaces, including 5 accessible parking spaces, 16 electric vehicle (EV) spaces, 4 electric vehicle charging stations (EVCS), and 6 bicycle spaces. Approximately 28 percent (43,000 sq ft) of the total project site area would be designated for landscape. Once operational, the proposed project would generate a total of approximately 2,883 average daily trips

[1] Antelope Valley Air Quality Management District (AVAQMD). 2016. California Environmental Quality Act (CEQA) and Federal Air Conformity Guidelines. Website: https://avaqmd.ca.gov/files/e5b34d385/AV%20CEQA%20Guides%202016.pdf (accessed November 2023).

(ADT), including 1,220 ADT for the fast-food restaurant, 1,153 ADT for the coffee shop, and 460 ADT for the car wash.[1]

Construction would include site preparation, grading, building construction, paving, and architectural coating activities. Construction of the proposed project is anticipated to begin in April 2024 and would end in 2025. The proposed project would be balanced, and no soil import or export is anticipated. Per the project applicant, the proposed project would utilize two scrapers and front-end loaders for the grading phase and 3 to 4 backhoes for the building construction phase. Site preparation, paving, and architectural coating would involve the use of standard earthmoving equipment such as large excavators, cranes, and other related equipment. All construction equipment would be Tier 2, as required by the California Air Resources Board (CARB) In-Use Off-Road Diesel Fueled Fleets Regulation.[2]

EXISTING LAND USES IN THE PROJECT AREA

For the purpose of this analysis, sensitive receptors are areas of the population that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include residences, schools, daycare centers, hospitals, parks, and similar uses that are sensitive to air quality. Impacts on sensitive receptors are of particular concern because those receptors are the population most vulnerable to the effects of air pollution. The project site is surrounded primarily by commercial and residential uses. The areas adjacent to the project site include the following uses: existing commercial uses to the north, existing commercial uses to the east, vacant land to the south, and an existing place of worship to the west. The closest sensitive receptors to the project site include residential uses located northeast of the project site across West Avenue L at approximately 270 feet.

ENVIRONMENTAL SETTING

Air Quality Background

Air quality is primarily a function of local climate, local sources of air pollution, and regional pollution transport. The amount of a given pollutant in the atmosphere is determined by the amount of the pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain, and sunshine (i.e., for photochemical pollutants).

A region's topographic features have a direct correlation with air pollution flow and therefore are used to determine the boundary of air basins. The proposed project is in Los Angeles County and is within the jurisdiction of the AVAQMD, which regulates air quality in the Mojave Desert Air Basin (MDAB).

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1 Linscott, Law, & Greenspan, Engineers. 2023. *Table 1 – Project Trip Generation.* October 20.

2 California Air Resources Board (CARB). *Guide to Off-Road Vehicle & Equipment Regulations*. Website: https://ww2.arb.ca.gov/sites/default/files/offroadzone/pdfs/offroad_booklet.pdf (accessed November 2023).

The MDAB is an assemblage of mountain ranges interspersed with long, broad valleys that often contain dry lakes. Many of the lower mountains that dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor.

Both State and federal governments have established health-based ambient air quality standards for six criteria air pollutants: CO, ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and suspended particulate matter. In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Two criteria pollutants (O_3 and NO_2) are considered regional pollutants because they (or their precursors) affect air quality on a regional scale. Pollutants such as CO, SO_2, and Pb are considered local pollutants that tend to accumulate in the air locally.

Air quality monitoring stations are located throughout the nation and are maintained by the local air districts and State air quality regulating agencies. Data collected at permanent monitoring stations are used by the United States Environmental Protection Agency (USEPA) to identify regions as "attainment" or "nonattainment" depending on whether the regions meet the requirements stated in the applicable National Ambient Air Quality Standards (NAAQS). Nonattainment areas are imposed with additional restrictions as required by the USEPA. In addition, different classifications of attainment (e.g., marginal, moderate, serious, severe, and extreme) are used to classify each air basin in the State on a pollutant-by-pollutant basis. The classifications are used as a foundation to create air quality management strategies to improve air quality and to comply with the NAAQS. The AVAQMD, together with CARB, maintains ambient air quality monitoring stations in the MDAB. Table A provides a summary of the attainment status for the MDAB with respect to NAAQS and the California Ambient Air Quality Standards (CAAQS).

Table A: Attainment Status of Criteria Pollutants in the Mojave Desert Air Basin

Pollutant	State	Federal
O_3 1-hour	Nonattainment: Moderate	Revoked June 2005
O_3 8-hour	Nonattainment	Nonattainment: Moderate
PM_{10}	Nonattainment	Nonattainment: Moderate
$PM_{2.5}$	Nonattainment	Unclassified/Attainment
CO	Attainment	Attainment
NO_2	Attainment/unclassified	Attainment/Unclassified
SO_2	Attainment/unclassified	Attainment/Unclassified
Lead	Attainment	Attainment[1]
All Others	Nonattainment: Moderate	Revoked June 2005

Source: California Air Resources Board (2016) (Website: http://www.arb.ca.gov/desig/desig.htm; accessed November 2023).

CAAQS = California Ambient Air Quality Standards
CO = carbon monoxide
N/A = not applicable
NAAQS = National Ambient Air Quality Standards
NO_2 = nitrogen dioxide
O_3 = ozone
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
SCAQMD = South Coast Air Quality Management District
SO_2 = sulfur dioxide
USEPA = United States Environmental Protection Agency

O_3 levels, as measured by peak concentrations and the number of days over the State 1-hour standard, have declined substantially as a result of aggressive programs by the AVAQMD and other regional, State, and federal agencies. The reduction of peak concentrations represents progress in improving public health; however, the MDAB still exceeds the State standard for 1-hour and 8-hour O_3 levels. The USEPA lowered the 1997 0.80 parts per million (ppm) national 8-hour O_3 standard to 0.75 ppm in 2008 and then to 0.70 ppm on October 1, 2015. The MDAB is classified as nonattainment for the 1-hour and 8-hour O_3 standards at the State level and as Severe-15 nonattainment for the 8-hour O_3 standard at the federal level. During the 2020–2022 period, the Lancaster Station located at 43301 Division Street (the closest monitoring station to the project site) recorded the following exceedances of the State and federal 1-hour and 8-hour O_3 standards.[1] The federal 1-hour O_3 standard had no exceedances in the 3-year period.

- The federal 8-hour O_3 standard had 8 exceedances in 2020, 3 in 2021, and 33 in 2022.
- The State 8-hour O_3 standard had 8 exceedances in 2020, 4 in 2021, and 36 in 2022.
- The State 1-hour O_3 standard had four exceedances in 2020, no exceedances in 2021, and three in 2022.

NAAQS and CAAQS have also been established for particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) over 24-hour and yearly averaging periods. $PM_{2.5}$, because of the small size of individual particles, can be especially harmful to human health. $PM_{2.5}$ is emitted by common combustion sources such as cars, trucks, buses, and power plants, in addition to ground-disturbing activities. On December 17, 2006, the USEPA strengthened the 24-hour $PM_{2.5}$ NAAQS from 65 micrograms per cubic meter ($\mu g/m^3$) to 35 $\mu g/m^3$, and the MDAB was subsequently designated as an attainment area for the $PM_{2.5}$ standard at the State and federal levels. During the 2020–2022 time period, the Lancaster Station recorded the following exceedances of the federal 24-hour $PM_{2.5}$ standards. The State 24-hour $PM_{2.5}$ standards had no exceedances in the 3-year period.

- The federal 24-hour $PM_{2.5}$ standard had nine exceedances in 2021, one in 2021, and none in 2022.

The MDAB is classified as a particulate matter less than 10 microns in diameter (PM_{10}) serious nonattainment area at the State and federal levels. From 2020 to 2022, the Lancaster Station recorded the following exceedances of the federal 24-hour PM_{10} standard. No data were reported for the State 24-hour PM_{10} standard in the 3-year period.

- The federal 24-hour PM_{10} standard had one exceedance in 2020, one in 2021, and none in 2022.

All areas of the MDAB have continued to remain below the federal CO standards (35 ppm 1-hour and 9 ppm 8-hour). The MDAB is also well below the State CO standards (20 ppm 1-hour CO and 9 ppm 8-hour CO).

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1 CARB. 2020. iADAM Air Quality Data Statistics. Website: https://www.arb.ca.gov/adam/topfour/topfour1.php (accessed November 2023).

Greenhouse Gas Background

GHGs are present in the atmosphere naturally, are released by natural sources, or form from secondary reactions taking place in the atmosphere. Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, which is believed to be causing global warming. Although manmade GHGs include naturally occurring GHGs such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), some gases like hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), nitrogen trifluoride (NF_3), and sulfur hexafluoride (SF_6) are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

These gases vary considerably in terms of global warming potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG; the definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e).

REGULATORY SETTING

This section provides regulatory background information for air quality, GHG, and energy.

Air Quality

Applicable federal, State, regional, and local air quality regulations are discussed below.

Federal Regulations

The 1970 federal Clean Air Act (CAA) authorized the establishment of national health-based air quality standards and set deadlines for their attainment. The CAA Amendments of 1990 changed deadlines for attaining national standards as well as the remedial actions required for areas of the nation that exceed the standards. Under the CAA, State and local agencies in areas that exceed the national standards are required to develop State Implementation Plans to demonstrate how they will achieve the national standards by specified dates.

State Regulations

In 1988, the California Clean Air Act (CCAA) required that all air districts in the State endeavor to achieve and maintain CAAQS for CO, O_3, SO_2, and NO_2 by the earliest practical date. The CCAA

provides districts with the authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and areawide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in districtwide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce emissions to achieve air quality standards. Generally, the State standards for these pollutants are more stringent than the national standards.

CARB is the State's "clean air agency." CARB's goals are to attain and maintain healthy air quality, protect the public from exposure to toxic air contaminants, and oversee compliance with air pollution rules and regulations.

Regional Regulations

Antelope Valley Air Quality Management District. The AVAQMD is the regional agency responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain CAAQS and NAAQS in the northern desert portion of Los Angeles County. Programs include air quality rules and regulations that regulate stationary sources, area sources, point sources, and certain mobile-source emissions. The AVAQMD is also responsible for establishing stationary-source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases.

All areas designated as nonattainment under the CCAA are required to prepare plans showing how they will meet the air quality standards. The most recent air quality plans are the PM_{10} Attainment Demonstration and Attainment Plan and the O_3 Attainment Plan.

In addition, emissions that would result from mobile, area, and stationary sources during construction and operation of the project are subject to the rules and regulations of the AVAQMD. The AVAQMD rules applicable to the project may include, but are not limited to, the following:

- **Rule 401 – Visible Emissions:** This rule establishes the limit for visible emissions from stationary sources.

- **Rule 402 – Nuisance:** This rule prohibits the discharge of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; that endanger the comfort, repose, health, or safety of any such persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property.

- **Rule 403 – Fugitive Dust:** This rule ensures that the NAAQS for PM_{10} will not be exceeded due to anthropogenic sources of fugitive dust within the Antelope Valley Planning Area by requiring actions to prevent, reduce, or mitigate fugitive dust emissions.

- **Rule 1113 – Architectural Coatings:** This rule requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce volatile organic compound

(VOC) emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

Southern California Association of Governments. The Southern California Association of Governments (SCAG) is a council of governments for Los Angeles, Orange, Riverside, San Bernardino, Imperial, and Ventura counties. It is a regional planning agency and serves as a forum for regional issues relating to transportation, the economy and community development, and the environment. SCAG is the federally designated Metropolitan Planning Organization (MPO) for the majority of the Southern California region and is the largest MPO in the nation. With regard to air quality planning, SCAG prepares the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP), which address regional development and growth forecasts and form the basis for the land use and transportation control portions of the Air Quality Management Plan (AQMP) and are utilized in the preparation of the air quality forecasts and consistency analysis included in the AQMP. The RTP, RTIP, and AQMP are based on projections originating within local jurisdictions.

Although SCAG is not an air quality management agency, it is responsible for developing transportation, land use, and energy conservation measures that affect air quality. SCAG's Regional Comprehensive Plan (RCP) provides growth forecasts that are used in the development of air quality-related land use and transportation control strategies by the AVAQMD. The RCP is a framework for decision-making for local governments, assisting them in meeting federal and State mandates for growth management, mobility, and environmental standards while maintaining consistency with regional goals regarding growth and changes. Policies within the RCP include consideration of air quality, land use, transportation, and economic relationships by all levels of government.

SCAG adopted the 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (Connect SoCal) on September 3, 2020. Connect SoCal is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. Connect SoCal is an important planning document for the region, allowing project sponsors to qualify for federal funding, and takes into account operations and maintenance costs to ensure reliability, longevity, and cost-effectiveness. The forecasted development pattern, when integrated with the financially constrained transportation investments identified in Connect SoCal, would reach the regional target of reducing GHG emissions from autos and light-duty trucks by 19 percent by 2035 (compared to 2005 levels).

Local Regulations

City of Lancaster General Plan 2030. The City of Lancaster (City) addresses air quality in its General Plan 2030 Plan for the Natural Environment Section.[1] The Plan for the Natural Environment Section includes goals and policies that work to identify the level of natural resources needed to support existing and future development within Lancaster and its sphere of influence, and ensure that these

[1] City of Lancaster. 2009. General Plan 2030. July 14. Website: https://www.cityoflancasterca.org/home/showpublisheddocument/9323/635775792210230000 (accessed November 2023).

resources are managed and protected. The following policies are related to air quality and are applicable to the proposed project:

- **Policy 3.3.1:** Minimize the amount of vehicle miles traveled.
- **Policy 3.3.2:** Facilitate the development and use of transportation and travel modes such as bicycle riding and walking.
- **Policy 3.3.3:** Minimize air pollutant emissions generated by new and existing development.
- **Policy 3.3.4:** Protect sensitive uses such as homes, schools, and medical facilities, from the impacts of air pollution.

Greenhouse Gas Emissions

This section describes regulations related to global climate change at the federal, State, and local levels.

Federal Regulations

The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the USEPA has the authority to regulate CO_2 emissions under the CAA.

Although there currently are no adopted federal regulations for the control or reduction of GHG emissions, the USEPA commenced several actions in 2009 to implement a regulatory approach to global climate change, including the 2009 USEPA final rule for mandatory reporting of GHGs from large GHG emission sources in the United States. Additionally, the USEPA Administrator signed an endangerment finding action in 2009 under the CAA, finding that seven GHGs (CO_2, CH_4, N_2O, HFCs, NF_3, PFCs, and SF_6) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to global climate change, leading to national GHG emission standards.

State Regulations

CARB is the lead agency for implementing climate change regulations in the State. Since its formation, CARB has worked with the public, the business sector, and local governments to find solutions to California's air pollution problems. Key efforts by the State are described below.

Assembly Bill 32 (2006), California Global Warming Solutions Act. California's major initiative for reducing GHG emissions is Assembly Bill (AB) 32, passed by the State legislature on August 31, 2006. This effort set a GHG emission reduction target to reduce GHG emissions to 1990 levels by 2020. The CARB has established the level of GHG emissions in 1990 at 427 million metric tons (MMT) of CO_2e. The emissions target of 427 MMT requires the reduction of 169 MMT from the State's projected business-as-usual 2020 emissions of 596 MMT. AB 32 requires CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that

contribute to global climate change. CARB approved the Scoping Plan on December 11, 2008. It contains the main strategies California will implement to achieve the reduction of approximately 169 MMT CO_2e, or approximately 30 percent, from the State's projected 2020 emissions level of 596 MMT CO_2e under a business-as-usual scenario (this is a reduction of 42 MMT CO_2e, or almost 10 percent, from the 2002–2004 average emissions). The Scoping Plan also includes CARB-recommended GHG reductions for each emissions sector of the State's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- Improved emissions standards for light-duty vehicles (estimated reduction of 31.7 MMT CO_2e)
- The Low-Carbon Fuel Standard (15.0 MMT CO_2e)
- Energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO_2e)
- A renewable portfolio standard for electricity production (21.3 MMT CO_2e)

The Scoping Plan identifies 18 emission reduction measures that address cap-and-trade programs, vehicle gas standards, energy efficiency, low carbon fuel standards, renewable energy, regional transportation-related GHG targets, vehicle efficiency measures, goods movement, solar roof programs, industrial emissions, high-speed rail, green building strategies, recycling, sustainable forests, water, and air. The measures would result in a total reduction of 174 MMT CO_2e by 2020.

On August 24, 2011, CARB unanimously approved both the new supplemental assessment and reapproved its Scoping Plan, which provides the overall roadmap and rule measures to carry out AB 32. CARB also approved a more robust CEQA equivalent document supporting the supplemental analysis of the cap-and-trade program. The cap-and-trade took effect on January 1, 2012, with an enforceable compliance obligation that began January 1, 2013.

CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The First Update defines CARB climate change priorities until 2020 and sets the groundwork to reach long-term goals set forth in Executive Orders (EOs) S-3-05 and B-16-2012. The First Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals as defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan,[1] to reflect the 2030 target that was set by EO B-30-15 and codified by Senate Bill (SB) 32.

[1] CARB. 2017. *California's 2017 Climate Change Scoping Plan*. November.

The 2022 Scoping Plan[1] was approved in December 2022 and assesses progress toward the statutory 2030 target while laying out a path to achieving carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

Senate Bill 375 (2008). Signed into law on October 1, 2008, SB 375 supplements GHG reductions from new vehicle technology and fuel standards with reductions from more efficient land use patterns and improved transportation. Under the law, CARB approved GHG reduction targets in February 2011 for California's 18 federally designated regional planning bodies, known as MPOs. CARB may update the targets every 4 years and must update them every 8 years. MPOs, in turn, must demonstrate how their plans, policies, and transportation investments meet the targets set by CARB through SCSs. The SCSs are included with the RTP, a report required by State law. However, if an MPO finds that its SCS will not meet the GHG reduction targets, it may prepare an Alternative Planning Strategy. The Alternative Planning Strategy identifies the impediments to achieving the targets.

Executive Order B-30-15 (2015). Governor Jerry Brown signed EO B-30-15 on April 29, 2015, which added the immediate target of:

- GHG emissions should be reduced to 40 percent below 1990 levels by 2030.

All State agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. The CARB was directed to update the AB 32 Scoping Plan to reflect the 2030 target and, therefore, is moving forward with the update process. The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue reducing emissions.

Senate Bill 350 (2015) Clean Energy and Pollution Reduction Act. SB 350, signed by Governor Jerry Brown on October 7, 2015, updates and enhances AB 32 by introducing the following set of objectives in clean energy, clean air, and pollution reduction for 2030:

- Raise California's renewable portfolio standard from 33 percent to 50 percent.
- Increase energy efficiency in buildings by 50 percent by the year 2030.

The 50 percent renewable energy standard will be implemented by the California Public Utilities Commission (CPUC) for the private utilities and by the California Energy Commission (CEC) for municipal utilities. Each utility must submit a procurement plan showing it will purchase clean energy to displace other nonrenewable resources. The 50 percent increase in energy efficiency in

[1] CARB. 2022. *2022 Scoping Plan* . December. Website: https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf (accessed November 2023).

buildings must be achieved through the use of existing energy efficiency retrofit funding and regulatory tools already available to State energy agencies under existing law. The addition made by this legislation requires State energy agencies to plan for and implement those programs in a manner that achieves the energy efficiency target.

Senate Bill 32, California Global Warming Solutions Act of 2016, and Assembly Bill 197. In summer 2016, the Legislature passed, and the Governor signed, SB 32 and AB 197. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in Governor Brown's April 2015 EO B-30-15. SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels, consistent with an Intergovernmental Panel on Climate Change analysis of the emission trajectory that would stabilize atmospheric GHG concentrations at 450 ppm CO_2e and reduce the likelihood of catastrophic impacts from climate change.

AB 197, the companion bill to SB 32, provides additional direction to CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 meant to provide easier public access to air emissions data that are collected by CARB was posted in December 2016.

Senate Bill 100. On September 10, 2018, Governor Brown signed SB 100, which raises California's renewable portfolio standard requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the Western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18. EO B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." EO B-55-18 directs CARB to work with relevant State agencies to ensure that future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning that not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

Title 24, Building Efficiencies Standards, and the California Green Building Standards Code. In November 2008, the California Building Standards Commission established the California Green Building Standards Code (CALGreen) (California Code of Regulations, Title 24, Part 11), which sets performance standards for residential and nonresidential development to reduce environmental impacts and to encourage sustainable construction practices. CALGreen addresses energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. CALGreen is updated every 3 years and was most recently updated in 2022 to include new mandatory measures for residential as well as nonresidential uses; the new measures took effect on January 1, 2023.

Regional Regulations

Antelope Valley Air Quality Management District. The AVAQMD has adopted GHG emissions thresholds in its CEQA Guidelines but has not adopted a comprehensive strategy for reducing GHG emissions. The AVAQMD threshold is 100,000 tons of CO_2e per year and 548,000 pounds of CO_2e per day.

Southern California Association of Governments. The Southern California Association of Governments (SCAG) is a regional council consisting of the following six counties: Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. In total, the SCAG region encompasses 191 cities and over 38,000 square miles within Southern California. SCAG is the MPO serving the region under federal law and serves as the Joint Powers Authority, the Regional Transportation Planning Agency, and the Council of Governments under State law. As the Regional Transportation Planning Agency, SCAG prepares long-range transportation plans for the Southern California region, including the RTP/SCS and the 2008 RCP.

On September 3, 2020, SCAG adopted Connect SoCal: The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy.[1] In general, the SCS outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce vehicle miles traveled (VMT) from automobiles and light-duty trucks and thereby reduce GHG emissions from these sources. For the SCAG region, CARB has set GHG reduction targets at 8 percent below 2005 per-capita emissions levels by 2020, and 19 percent below 2005 per-capita emissions levels by 2035. The RTP/SCS lays out a strategy for the region to meet these targets. Overall, the SCS is meant to provide growth strategies that will achieve the regional GHG emissions reduction targets. Land use strategies to achieve the region's targets include planning for new growth around high-quality transit areas and livable corridors, and creating neighborhood mobility areas to integrate land use and transportation and plan for more active lifestyles.[2] However, the SCS does not require that local General Plans, Specific Plans, or zoning be consistent with the SCS; instead, it provides incentives to governments and developers for consistency.

Local Regulations

City of Lancaster Climate Action Plan (Draft). The City of Lancaster published a Climate Action Plan Draft (CAP)[3] in June 2016. The CAP is a public document outlining a list of projects that may be implemented to reduce GHG emissions. As such, the CAP provides a roadmap that supports strategic decisions businesses have to make to be more sustainable and may even attract sustainability-focused businesses and employment opportunities to the area. The CAP contains 61 measures in the broad categories of transportation, energy, municipal operations, water, waste, built environment,

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1 Southern California Association of Governments (SCAG). 2020. *Connect SoCal: The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments*. Website: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176 (accessed November 2023).

2 Ibid.

3 City of Lancaster. 2016. *City of Lancaster Climate Action Plan Draft*. June. Website: https://www.cityoflancasterca.org/Home/ShowDocument?id=32356 (accessed November 2023).

community, and land use. The following GHG emissions reduction strategies are applicable to the proposed project:

- **Transportation**
    - Provide pedestrian amenities throughout the City to encourage walking instead of driving
    - Install bike sharing infrastructure throughout the City to provide an alternative methos of transportation.
    - Implement a car sharing program to provide an alternative method of public transportation.
- **Built Environment**
    - Establish goals that new commercial and residential construction exceed the California Building Standards Code energy requirements by 10 percent.
    - Develop and implement green building education programs for commercial and residential construction and renovations.
- **Waste**
    - Implement programs to increase composting in residential and commercial settings.
- **Land Use**
    - Develop a better built building program to incentivize the construction or rehabilitation of buildings to be green.

METHODOLOGY

Construction Emissions

Construction activities can generate a substantial amount of air pollution. Construction activities are considered temporary; however, short-term impacts can contribute to exceedances of air quality standards. Construction activities include site preparation, earthmoving, and general construction. The emissions generated from these common construction activities include fugitive dust from soil disturbance and fuel combustion from mobile heavy-duty, diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips.

The California Emissions Estimator Model version 2022.1 (CalEEMod) computer program was used to calculate emissions from on-site construction equipment and emissions from worker and vehicle trips to the site. Construction of the proposed project is anticipated to begin in April 2024 and would end in 2025. This analysis assumes that the proposed project would comply with AVAQMD Rule 403 measures as required by existing regulations. The proposed project would be balanced, and no soil import or export is anticipated. Per the project applicant, the proposed would utilize two scrapers and front-end loaders for the grading phase and 3 to 4 backhoes for the building construction phase. Site preparation, paving, and architectural coating would involve the use of standard earthmoving

equipment such as large excavators, cranes, and other related equipment. All construction equipment would be Tier 2 as required by the CARB In-Use Off-Road Diesel Fueled Fleets Regulation. All other construction details are not yet known; therefore, default assumptions (e.g., construction equipment, construction worker and truck trips, and fleet activities) from CalEEMod were used.

Operational Emissions

This air quality analysis includes estimating emissions associated with long-term operation of the project. Indirect emissions of criteria pollutants with regional impacts would be emitted by project-generated vehicle trips. In addition, localized air quality impacts (i.e., higher CO concentrations or "hot-spots") near intersections or roadway segments in the project vicinity would also potentially occur due to project-generated vehicle trips.

Consistent with AVAQMD guidance for estimating emissions associated with land use development projects, the CalEEMod computer program was used to calculate the long-term operational emissions associated with the project. As previously discussed in the Project Location and Description section, the proposed project would construct a fast-food restaurant with a drive-through, a coffee shop with a drive-through, and a car wash. Therefore, the proposed project was analysis was conducted using land codes *Fast Food Restaurant with Drive Through, Automobile Care Center*, and *Parking Lot.* Trip generation rates used in CalEEMod for the project were based on the project's trip generation analysis, which identifies that the project would generate a total of approximately 2,883 ADT, including 1,220 ADT for the fast-food restaurant, 1,153 ADT for the coffee shop, and 460 ADT for the car wash. When project-specific data were not available, default assumptions from CalEEMod were used to estimate project emissions.

Greenhouse Gas Emissions

GHG emissions associated with the project would occur over the short term from construction activities and would consist primarily of emissions from equipment exhaust. There would also be long-term GHG emissions associated with project-related vehicular trips. Recognizing that the field of global climate change analysis is rapidly evolving, the approaches advocated most recently indicate that, for determining a project's contribution to GHG emissions, lead agencies should calculate, or estimate, emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation, construction activities, and any other significant source of emissions within the project area. The CalEEMod results were used to quantify GHG emissions generated by the project.

THRESHOLDS OF SIGNIFICANCE

The *State CEQA Guidelines* indicate that a project would normally have a significant adverse air quality impact if project-generated pollutant emissions would do any of the following:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project is in nonattainment under applicable NAAQS or CAAQS;

- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) affecting a substantial number of people.

Certain air districts (e.g., AVAQMD) have created guidelines and requirements to conduct air quality analysis. The AVAQMD's current guidelines, the *CEQA Air Quality Handbook* with associated updates, were followed in this assessment of air quality and GHG impacts for the proposed project.

Regional Emissions Thresholds

The AVAQMD has established daily emissions thresholds for construction and operation of a proposed project in the MDAB. Specific criteria for determining whether the potential air quality impacts of a project are significant are set forth in the AVAQMD's CEQA and Federal Conformity Guidelines. The criteria include emissions thresholds, compliance with CAAQS and NAAQS, and consistency with the current air quality plans. The emissions thresholds were established based on the attainment status of the MDAB with regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety, these emissions thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

Table B lists the CEQA significance thresholds for construction and operational emissions established for the MDAB. Projects in the MDAB with construction- or operation-related emissions that exceed any of their respective emission thresholds would be considered significant under AVAQMD guidelines. These thresholds, which AVAQMD developed and that apply throughout the MDAB, apply as both project and cumulative thresholds. If a project exceeds these standards, it is considered to have a project-specific and cumulative impact.

Table B: Regional Thresholds for Construction and Operational Emissions

Emissions Source	Pollutant Emissions Threshold					
	VOCs	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_X
Tons per Year						
Construction	25	25	100	15	12	15
Operations	25	25	100	15	12	25
Pounds per Day						
Construction	137	137	548	82	65	137
Operations	137	137	548	82	65	137

Source: AVAQMD (2016). (Website: https://avaqmd.ca.gov/files/e5b34d385/AV%20CEQA%20Guides%202016.pdf; accessed November 2023).

AVAQMD = Antelope Valley Air Quality Management
CO = carbon monoxide
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SO_X = sulfur oxides
VOC = volatile organic compound

Local Microscale Concentration Standards

The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. Because ambient CO levels are below the standards throughout the SCAQMD, a project would be considered to have a significant CO impact if project emissions result in an exceedance of one or more of the 1-hour or 8-hour standards. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20 ppm
- California State 8-hour CO standard of 9 ppm

Greenhouse Gas Thresholds

State CEQA Guidelines Section 15064(b) provides that the "determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data," and further states that an "ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting."

According to Appendix G of the *State CEQA Guidelines*, a project would normally have a significant effect on the environment if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

The analysis of the proposed project's GHG emissions impacts follows the guidance and methodologies recommended in AVAQMD's *CEQA and Federal Conformity Guidelines*. CEQA allows the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on climate change. The AVAQMD has established thresholds of significance for GHG emissions that are applicable to both construction and operations regardless of whether they are stationary or mobile sources. The AVAQMD's GHG emissions thresholds are 548,000 pounds per day (lbs/day) CO_2e or 100,000 metric tons per year CO_2e (MT CO_2e per year). Therefore, the proposed project would be evaluated against the AVAQMD's GHG thresholds of 100,000 MT CO_2e per year and 548,000 lbs/day of CO_2e.

IMPACT ANALYSIS

This section identifies potential air quality and GHG impacts associated with implementation of the proposed project.

Air Quality Impacts

Air pollutant emissions associated with the project would occur over the short term from construction activities and over the long term from project-related vehicular trips and due to energy consumption (e.g., electricity and natural gas usage) by the proposed land uses.

Consistency with Applicable Air Quality Plans

A consistency determination plays an essential role in local agency project review by linking local planning and unique individual projects to the air quality plans. A consistency determination fulfills the CEQA goal of fully informing local agency decision-makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are addressed. Only new or amended General Plan elements, Specific Plans, and significantly unique projects need to undergo a consistency review due to the air quality plan strategy being based on projections from local General Plans. The proposed project would not require a change to the General Plan land use designation or the current zoning, and it would be consistent with the City's General Plan and Zoning Ordinance.

As identified above, all areas designated as nonattainment under the CCAA are required to prepare plans showing how they will meet the air quality standards. The most recent air quality plans are the 2020 70 parts per billion (ppb) Ozone Evaluation[1] and the Federal 70 ppb Ozone Attainment Plan.[2] The attainment plans are based on regional growth projections developed by SCAG. The proposed project would construct a fast-food restaurant with a drive-through, a coffee shop with a drive-through, and a car wash, for a combined total of approximately 8,900 sq ft. Under CEQA, a project has the potential to be regionally significant if it would house more than 1,000 persons, occupy more than 40 acres of land, or encompass more than 650,000 sq ft of floor area. Thus, the proposed project would not be considered regionally significant.

With respect to determining the proposed project consistency with the air quality plan growth assumptions, the projections in the AQMP for achieving air quality goals are based on assumptions in SCAG's RTP/SCS regarding population, housing, and growth trends. According to SCAG's 2020–2045 RTP/SCS, the City's population, households, and employment are forecast to increase by approximately 55,500 residents, 27,700 households, and 9,200 jobs, respectively, between 2016 and 2045.[3] Per the project applicant, the proposed project would have 6 car-wash employees, 25 coffee shop employees, and 25 fast-food restaurant employees, for a total of 56 employees. The additional 56 employees would fall within the 9,200 projected jobs projected for the City. Therefore, it is assumed that it the project's labor demand would not substantially increase population,

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1 Antelope Valley Air Quality Management District (AVAQMD). 2020. *70 ppb Ozone Standard Implementation Evaluation.* May 19. Website: https://avaqmd.ca.gov/files/722da0773/2020+AV+70+ppb+Ozone+Standard+Evaluation+May+2020.pdf (accessed November 2023).

2 AVAQMD. 2023. *Federal 70 ppb Ozone Attainment Plan.* January 17. Website: https://avaqmd.ca.gov/files/020b4aec1/70+ppb+Ozone+Plan+Final+Draft+AV+01.04.2023.pdf (accessed November 2023).

3 SCAG. 2020*. Connect SoCal 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy.* Website: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176 (accessed November 2023).

households, or employment in Lancaster. As such, the project would be consistent with SCAG's goals for new job growth in the region.

The project would be consistent with the SCAG's employment forecast for the region. In addition, the proposed project would be consistent with the City's General Plan land use designation and zoning ordinance, which is consistent with the SCAG's RTP/SCS. As such, the proposed project would be consistent with the regional air quality plans. Therefore, the proposed project would not affect the regional emissions inventory or conflict with strategies in the applicable air quality plans.

Criteria Pollutant Analysis

The MDAB is designated as nonattainment for O_3 and $PM_{2.5}$ for federal standards and nonattainment for O_3, PM_{10}, and $PM_{2.5}$ for State standards. The AVAQMD's nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, the AVAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is unnecessary. The following analysis assesses the potential project-level construction- and operation-related air quality impacts.

Construction Emissions. During construction, short-term degradation of air quality may occur due to the release of particulate matter emissions (i.e., fugitive dust) generated by grading, building construction, paving, and other activities. Emissions from construction equipment are also anticipated and would include CO, nitrogen oxides (NO_X), VOCs, directly emitted $PM_{2.5}$ or PM_{10}, and toxic air contaminants such as diesel exhaust particulate matter.

Project construction activities would include grading, site preparation, building construction, architectural coating, and paving activities. Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase due to the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and amount of operating equipment. Larger dust particles would settle near the source, whereas fine particles would be dispersed over greater distances from the construction site.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. AVAQMD has established Rule 403: Fugitive Dust, which would require the applicant to implement measures that would reduce the amount of particulate matter generated during the construction period.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, sulfur oxides (SO_X), NO_X, VOCs, and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles idle in traffic. These emissions would be temporary in nature and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the project using CalEEMod and are summarized in Table C. (CalEEMod output sheets are provided in Attachment B.)

Table C: Short-Term Regional Construction Emissions

Construction Phase	Maximum Daily Regional Pollutant Emissions					
	VOCs	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Maximum Pounds per Day						
Maximum (lbs/day)	1.6	40.0	30.2	<0.1	9.0	5.0
AVAQMD Thresholds	**137.0**	**137.0**	**548.0**	**137.0**	**82.0**	**65.0**
Exceeds?	**No**	**No**	**No**	**No**	**No**	**No**
Tons per Year						
Maximum (Tons/year)	0.1	1.2	1.0	<0.1	0.1	0.1
AVAQMD Thresholds	**25.0**	**25.0**	**100.0**	**25.0**	**15.0**	**12.0**
Exceeds?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (November 2023)
Note: Maximum emissions of VOCs and CO occurred during the overlapping building construction and architectural coating phases.
AVAQMD = Antelope Valley Air Quality Management District
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
PM_{10} = particulate matter less than 10 microns in diameter
SO_X = sulfur oxides
VOCs = volatile organic compounds

The results shown in Table C indicate the proposed project would not exceed the significance criteria for daily VOC, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$ emissions. Therefore, construction of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under applicable NAAQS or CAAQS.

Operational Air Quality Impacts. Long-term air pollutant emissions associated with operation of the proposed project include emissions from area, energy, and mobile sources. Area-source emissions include architectural coatings, consumer products, and landscaping. Energy-source emissions result from activities in buildings that use natural gas. Mobile-source emissions are from vehicle trips associated with operation of the project.

PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Entrainment of PM_{10} occurs when vehicle tires pulverize small rocks and pavement and the vehicle wakes generate airborne dust. The contribution of tire and brake wear is small compared to the other particulate matter emission processes. Gasoline-powered engines have small rates of particulate matter emissions compared with diesel-powered vehicles.

Energy-source emissions result from activities in buildings that use natural gas. The quantity of emissions is the product of usage intensity (i.e., the amount of natural gas) and the emission factor of the fuel source. The primary sources of energy demand for the proposed project would include building mechanical systems such as water and space heating. Greater building or appliance efficiency reduces the amount of energy for a given activity and thus lowers the resultant emissions.

Area-source emissions consist of direct sources of air emissions at the project site, including architectural coatings, consumer products, and use of landscape maintenance equipment.

Long-term operational emissions associated with the proposed project were calculated using CalEEMod. Table D provides the estimated existing emission estimates and the proposed project's estimated operational emissions. (CalEEMod output sheets are provided in Attachment B.)

Table D: Project Operational Emissions

Emission Type	Pollutant Emissions					
	VOCs	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Pounds per Day						
Mobile Sources	14.6	9.7	87.8	0.2	13.5	3.5
Area Sources	0.3	<0.1	0.4	<0.1	<0.1	<0.1
Energy Sources	<0.1	0.2	0.2	<0.1	<0.1	<0.1
Total Project Emissions	**14.9**	**9.9**	**88.4**	**0.2**	**13.5**	**3.5**
AVAQMD Thresholds	**137.0**	**137.0**	**548.0**	**137.0**	**82.0**	**65.0**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**
Tons per Year						
Mobile Sources	2.3	1.8	14.0	<0.1	2.4	0.6
Area Sources	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Energy Sources	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Trip Project Emissions	**2.3**	**1.8**	**14.0**	**<0.1**	**2.4**	**0.6**
AVAQMD Thresholds	**25.0**	**25.0**	**100.0**	**25.0**	**15.0**	**12.0**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (November 2023).
Note: Some values may not appear to add correctly due to rounding.
AVAQMD = Antelope Valley Air Quality Management District
CO = carbon monoxide
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
PM_{10} = particulate matter less than 10 microns in diameter
SO_X = sulfur oxides
VOC = volatile organic compound

The results shown in Table D indicate the proposed project would not exceed the significance criteria for daily VOC, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$ emissions. Therefore, operation of the proposed

project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under applicable NAAQS or CAAQS.

Long-Term Microscale (CO Hot Spot) Analysis. Vehicular trips associated with the proposed project would contribute to congestion at intersections and along roadway segments in the vicinity of the proposed project site. Localized air quality impacts would occur when emissions from vehicular traffic increase as a result of the proposed project. The primary mobile-source pollutant of local concern is CO, a direct function of vehicle idling time and, thus, of traffic flow conditions. CO transport is extremely limited; under normal meteorological conditions, it disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels, thereby affecting local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients).

Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended to determine a project's effect on local CO levels.

An assessment of project-related impacts on localized ambient air quality requires that future ambient air quality levels be projected. Existing CO concentrations in the immediate project vicinity are not available. Ambient CO levels monitored at the Lancaster Monitoring Station located at 43301 Division Street (the closest station to the project site monitoring CO), showed a highest recorded 1-hour concentration of 1.6 ppm (the State standard is 20 ppm) and a highest 8-hour concentration of 1.1 ppm (the State standard is 9 ppm) from 2020 to 2022. The highest CO concentrations would normally occur during peak traffic hours; hence, CO impacts calculated under peak traffic conditions represent a worst-case analysis. Reduced speeds and vehicular congestion at intersections result in increased CO emissions.

The proposed project is expected to generate 2,883 ADT, with 346 trips occurring in the a.m. peak hour and 215 trips occurring in the p.m. peak hour. Therefore, given the extremely low level of CO concentrations in the project area and the lack of traffic impacts at any intersections, project-related vehicles are not expected to result in CO concentrations exceeding the State or federal CO standards. No CO hot spots would occur, and the project would not result in any project-related impacts on CO concentrations.

Health Risk on Nearby Sensitive Receptors

Sensitive receptors are defined as people who have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential dwelling units. As discussed above, the closest sensitive receptors to the project site include residential uses located northeast of the project site across West Avenue L at approximately 270 feet.

According to the AVAQMD CEQA and Federal Conformity Guidelines, the following types of projects with sensitive receptors within the specified distance are required to prepare a Health Risk Assessment:

- Any industrial projects within 1,000 feet of a sensitive receptor land use;
- Any distribution center (40 or more trucks per day) within 1,000 feet;
- A major transportation project (50,000 or more vehicles per day) within 1,000 feet;
- A dry cleaner using perchloroethylene within 500 feet; and
- A gasoline dispensing facility within 300 feet.

The proposed project would construct a fast-food restaurant with drive-through, a coffee shop with drive-through, and a car wash. Therefore, a health risk assessment would not be required.

However, construction of the proposed project may expose sensitive receptors to airborne particulates, as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). To reduce this risk, construction contractors are required to comply with AVAQMD Rule 403. With implementation of AVAQMD Rule 403, project construction pollutant emissions would be below the AVAQMD significance thresholds. Emissions associated with construction of the proposed project would not be expected to exceed the most stringent applicable NAAQS or CAAQS. It should be noted that the ambient air quality standards are developed and represent levels at which the most susceptible persons (children and the elderly) are protected. In other words, the ambient air quality standards are purposefully set low to protect children, the elderly, and those with existing respiratory problems. Therefore, given the temporary nature of short-term construction impacts, and the absence of any exceeded threshold of significance related to construction impacts, construction of the proposed project would not exceed AVAQMD thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations. No significant health risk would occur from project construction activities.

Additionally, as identified in Table D, above, project operational emissions of criteria pollutants would be below AVAQMD significance thresholds; thus, they are not likely to have a significant impact on nearby sensitive receptors given the distance and the dispersion that would occur. Therefore, operation emissions from the project would not result in a substantial health risk. The proposed project would not expose sensitive receptors to substantial pollutant concentrations.

Valley Fever

Valley fever is a fungal infection caused by Coccidioides organisms. It can cause fever, chest pain, and coughing, among other signs and symptoms. The Coccidioides species of fungi that cause valley fever are commonly found in the soil in certain areas, including Kern County. These fungi can be stirred into the air by anything that disrupts the soil, such as farming, construction, and wind. The fungi can then be breathed into the lungs and cause Valley Fever, also known as acute coccidioidomycosis. A mild case of Valley Fever usually goes away on its own. In more severe cases of Valley Fever, doctors prescribe antifungal medications that can treat the underlying infection. Valley Fever is not contagious and therefore does not spread from person to person. Most cases (approximately 60 percent) have no symptoms or only very mild flu-like symptoms and do not see a

doctor. When symptoms are present, the most common are fatigue, cough, fever, profuse sweating at night, loss of appetite, chest pain, and generalized muscle and joint aches, particularly of the ankles and knees. There may also be a rash that resembles measles or hives but develops more often as tender red bumps on the shins or forearms.

The closest sensitive receptors to the project site include residential uses located northeast of the project site across West Avenue L at approximately 270 feet. Except under high wind conditions, this distance is sufficient that particulate matter would settle prior to reaching the nearest sensitive receptor. In addition, crosswinds influenced by the adjacent traffic intersection would help dissipate any particulate matter associated with the construction phase of the project. Therefore, any Valley Fever spores suspended with the dust would not reach the sensitive receptors. However, during project construction, it is possible that workers could be exposed to Valley Fever through fugitive dust. Dust control measures, consistent with AVAQMD Rule 403, would reduce exposure for the workers and nearby residences. Dust from the construction of the project is not anticipated to significantly add to the existing exposure of people to Valley Fever.

Odors

During project construction, some odors may be present due to diesel exhaust. However, these odors would be temporary and limited to the construction period. The proposed project would not include any activities or operations that would generate objectionable odors and, once operational, the project would not be a source of odors. Therefore, the proposed project would not result in other emissions (such as those leading to odors) affecting a substantial number of people.

Greenhouse Gas Emission Impacts

The following sections describe the proposed project's construction- and operation-related GHG impacts and consistency with applicable GHG reduction plans.

Generation of Greenhouse Gas Emissions

This section describes the proposed project's construction- and operation-related GHG emissions and contribution to global climate change. The AVAQMD has not addressed emission thresholds for construction. Thus, an evaluation of the project's impacts related to the release of GHG emissions for both construction and operational phases of the project is described below.

Construction Greenhouse Gas Emissions. Construction activities associated with the proposed project would produce combustion emissions from various sources. Construction would emit GHGs through the operation of construction equipment and from worker and builder supply vendor vehicles for the duration of the approximately 6-month construction period. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, the fueling of heavy equipment emits CH_4. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

As indicated above, AVAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are required to quantify and disclose GHG emissions

that would occur during construction. Based on CalEEMod, it is estimated that the project would generate 137.8 MT CO_2e, or 303,804 lbs/day of CO_2e, during construction of the project. When amortized over the 30-year life of the project, annual emissions would be 4.6 MT CO_2e, or 10,126.8 lbs/day of CO_2e.

Operational Greenhouse Gas Emissions. Long-term operation of the proposed project would generate GHG emissions from area, mobile, waste, and water sources as well as indirect emissions from sources associated with energy consumption. Mobile-source GHG emissions would include project-generated vehicle trips associated with trips to the proposed project. Area-source emissions would be associated with activities such as landscaping and maintenance on the project site and other sources. Waste-source emissions generated by the proposed project include energy generated by landfilling and other methods of disposal related to transporting and managing project-generated waste. In addition, water-source emissions associated with the proposed project are generated by water supply and conveyance, water treatment, water distribution, and wastewater treatment.

GHG emissions were estimated using CalEEMod. Table E shows the estimated operational GHG emissions for the proposed project.

Table E: Greenhouse Gas Emissions

Emission Type	Operational Emissions			
	CO_2	CH_4	N_2O	CO_2e
Pounds per Day				
Mobile Source	15,050.0	0.9	0.8	15,349.0
Area Source	0.8	<0.1	<0.1	0.8
Energy Source	618.4	<0.1	<0.1	620.5
Water Source	24.4	0.4	<0.1	36.7
Waste Source	40.3	4.0	0.0	141.0
Total Operational Emissions				**16,148.0**
Amortized Construction Emissions				10,126.8
Total Emissions				**26,274.8**
AVAQMD Threshold				**548,000**
Exceedance?				**No**
Tons per Year				
Mobile Source	2,491.7	0.2	0.1	2,541.2
Area Source	0.1	<0.1	<0.1	0.1
Energy Source	102.4	<0.1	0.1	102.7
Water Source	4.0	0.1	<0.1	6.1
Waste Source	6.7	0.7	0.0	23.4
Total Operational Emissions				**2,673.5**
Amortized Construction Emissions				4.6
Total Annual Emissions				**2,678.1**
AVAQMD Threshold				**100,000**
Exceedance?				**No**

Source: Compiled by LSA (November 2023).
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
N_2O = nitrous oxide

As discussed above, a project would have less than significant GHG emissions if it would result in operation-related GHG emissions of less than the AVAQMD threshold of 100,000 MT CO_2e per year or the 548,000 lbs/day of CO_2e. Based on the analysis results, the proposed project would generate approximately 2,678.1 tons of CO_2e per year or 26,274.8 lbs/day of CO_2e. Therefore, operation of the proposed project would not generate significant GHG emissions that would have a significant effect on the environment.

Consistency with Greenhouse Gas Reduction Plans

City of Lancaster Climate Action Plan (Draft). As mentioned above, the City of Lancaster drafted a CAP in June 2016. The CAP contains 61 measures in the broad categories of transportation, energy, municipal operations, water, waste, built environment, and community and land use. The following GHG emissions reduction strategies are applicable to the proposed project:

- **Transportation**
    - Provide pedestrian amenities throughout the City to encourage walking instead of driving
    - Install bike sharing infrastructure throughout the City to provide an alternative methos of transportation.
    - Implement a car sharing program to provide an alternative method of public transportation.
- **Built Environment**
    - Establish goals that new commercial and residential construction exceed the California Building Standards Code energy requirements by 10 percent.
    - Develop and implement green building education programs for commercial and residential construction and renovations.
- **Waste**
    - Implement programs to increase composting in residential and commercial settings.
- **Land Use**
    - Develop a better built building program to incentivize the construction or rehabilitation of buildings to be green.

The proposed project would be required to meet the latest Title 24 standards, regarding energy conservation and green building standards and reduction of wastewater and water use. As such, the proposed project would be consistent with the Land Use and Built Environment CAP measures. In addition, the proposed project would be located near bus stations and residential and commercial areas facilitating the use of alternative methods of transportation. The proposed project would also include 16 EV spaces, 4 EVCS spaces, and 6 bicycle spaces. As such, the proposed project would be consistent with applicable transportation measures from the CAP. Therefore, the proposed project

would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions.

The following discussion evaluates the proposed project according to the goals of the 2022 Scoping Plan, EO B-30-15, SB 32, AB 197, and SCAG's 2020–2045 RTP/SCS.

2022 Scoping Plan. EO B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reduction target of at least 40 percent below 1990 levels by 2030 contained in EO B-30-15. CARB released the 2017 Scoping Plan to reflect the 2030 target set by EO B-30-15 and codified by SB 32.[1] SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels. AB 197, the companion bill to SB 32, provides additional direction to CARB that is related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 that is intended to provide easier public access to air emission data collected by CARB was posted in December 2016.

In addition, the 2022 Scoping Plan[2] assesses progress toward the statutory 2030 target while laying out a path to achieving carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

The 2022 Scoping Plan focuses on building clean energy production and distribution infrastructure for a carbon-neutral future, including transitioning existing energy production and transmission infrastructure to produce zero-carbon electricity and hydrogen, and utilizing biogas resulting from wildfire management or landfill and dairy operations, among other substitutes. The 2022 Scoping Plan states that in almost all sectors, electrification will play an important role. The 2022 Scoping Plan evaluates clean energy and technology options and the transition away from fossil fuels, including adding four times the solar and wind capacity by 2045 and about 1,700 times the amount of current hydrogen supply. As discussed in the 2022 Scoping Plan, EO N-79-20 requires that all new passenger vehicles sold in California will be zero-emission by 2035 and all other fleets will have transitioned to zero-emission as fully possible by 2045, which will reduce the percentage of fossil-fuel-combustion vehicles.

- **Energy-efficient measures** are intended to maximize energy-efficiency building and appliance standards, pursue additional efficiency efforts (including new technologies and new policy and implementation mechanisms), and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and

[1] CARB. *2022 Scoping Plan for Achieving Carbon Neutrality.* December. Website: https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf (accessed November 2023)

[2] CARB. 2017. *California's 2017 Climate Change Scoping Plan*. November.

existing inventory of buildings. As identified above, the proposed project would comply with the 2022 CALGreen standards regarding energy conservation and green building. The proposed project would comply with State building code requirements as Title 24 advances to implement the building decarbonization goals from the 2022 Scoping Plan. Therefore, the proposed project would comply with applicable energy measures.

- **Water conservation and efficiency measures** are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. As noted above, the project would be required to comply with the 2022 CALGreen standards, which include a variety of different measures, including reduction of wastewater and water use. In addition, the proposed project would be required to comply with the California Model Water Efficient Landscape Ordinance. The project would include drought-tolerant landscape plants and efficient irrigation systems. Therefore, the proposed project would not conflict with any of the water conservation and efficiency measures.

- The goal of **transportation and motor vehicle measures** is to develop regional GHG emission reduction targets for passenger vehicles. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. However, vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. The second phase of Pavley standards will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025, resulting in a 3 percent decrease in average vehicle emissions for all vehicles by 2020. Therefore, the proposed project would not conflict with the identified transportation and motor vehicle measures.

The proposed project would comply with existing State regulations adopted to achieve the overall GHG emission reduction goals identified in the 2022 Scoping Plan, EO B-30-15, SB 32, and AB 197.

SCAG's Regional Transportation Plan/Sustainable Communities Strategy. SCAG's RTP/SCS identifies that land use strategies that focus on new housing and job growth in areas served by high-quality transit and other opportunity areas would be consistent with a land use development pattern that supports and complements the proposed transportation network. The core vision in the 2020–2045 RTP/SCS is to better manage the existing transportation system through design management strategies, integrate land use decisions and technological advancements, create complete streets that are safe for all roadway users, preserve the transportation system, and expand transit and foster development in transit-oriented communities. The 2020–2045 RTP/SCS contains transportation projects to help more efficiently distribute population, housing, and employment growth, as well as forecast development that is generally consistent with regional-level General Plan data. The forecasted development pattern, when integrated with the financially constrained transportation investments identified in the 2020–2045 RTP/SCS, would reach the regional target of reducing GHG emissions from autos and light-duty trucks by 19 percent by 2035 (compared to 2005 levels). The 2020–2045 RTP/SCS does not require that local General Plans, Specific Plans, or zoning be consistent with the 2020–2045 RTP/SCS, but it provides incentives for consistency for governments and developers.

Implementing SCAG's RTP/SCS will greatly reduce the regional GHG emissions from transportation, helping to achieve statewide emissions reduction targets. The proposed project would not interfere with SCAG's ability to achieve the region's GHG reduction target of 19 percent below 2005 per-capita emissions levels by 2035. Furthermore, the proposed project is not regionally significant per *State CEQA Guidelines* Section 15206 and, as such, would not conflict with the SCAG RTP/SCS targets since those targets were established and are applicable on a regional level.

The proposed project would include a fast-food restaurant with a drive through, a coffee shop with a drive through, and a car wash. According to SCAG's 2020–2045 RTP/SCS, the City's population, households, and employment are forecast to increase by approximately 55,500 residents, 27,700 households, and 9,200 jobs, respectively, between 2016 and 2045.[1] Per the project applicant, the proposed project would have 6 car-wash employees, 25 coffee shop employees, and 25 fast-food restaurant employees, for a total of 56 employees. The additional 56 employees would fall within the 9,200 projected jobs projected for the City. Therefore, it is assumed that it the project's labor demand would not substantially increase population, households, or employment in Lancaster. As such, the project would be consistent with SCAG's goals for new job growth in the region. Implementation of the proposed project would not interfere with SCAG's ability to implement the regional strategies outlined in the RTP/SCS.

CONCLUSION

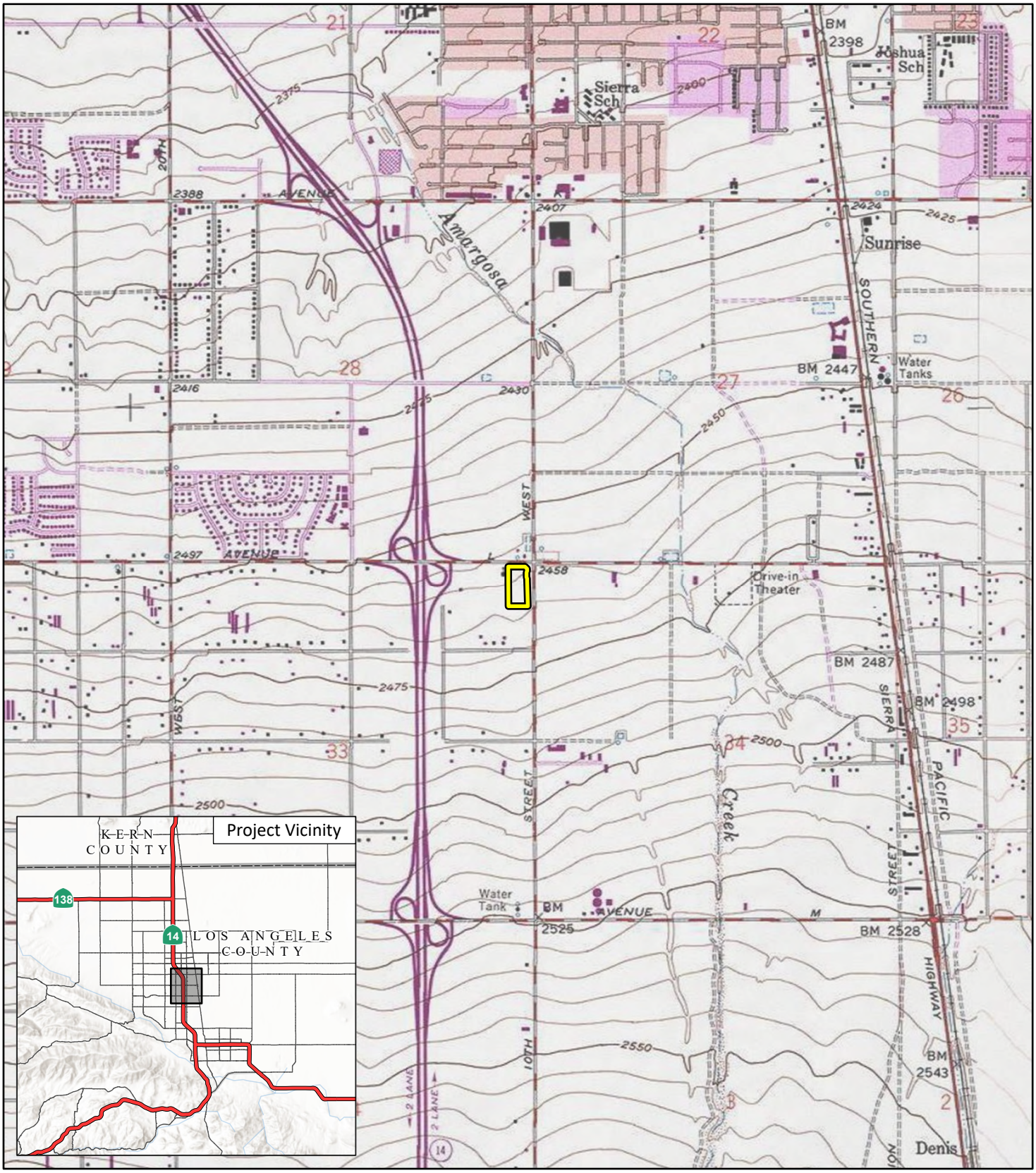
Based on the analysis presented above, construction and operation of the proposed project would not result in the generation of criteria air pollutants that would exceed the AVAQMD thresholds of significance. Compliance with AVAQMD Rule 403: Fugitive Dust would further reduce construction dust impacts. The proposed project is not expected to produce significant emissions that would affect nearby sensitive receptors. The project would also be consistent with the applicable air quality plans. The project would also not result in objectionable odors affecting a substantial number of people. GHG emissions released during construction and operation of the project are estimated to be minimal and would not be cumulatively considerable. The proposed project would generally be consistent with the City's Draft CAP, the City's 2022 Scoping Plan, and the SCAG RTP/SCS.

Attachments: A: Figure 1: Project Location
B: CalEEMod Output Files

[1] SCAG. 2020. *Connect SoCal 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy.* Website: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176 (accessed November 2023).

ATTACHMENT A

FIGURE 1: PROJECT LOCATION



LSA

FIGURE 1

L and 10th Lancaster Project

Project Location and Vicinity

SOURCE: USGS 7.5' Quad - *Lancaster West (1974)*, CA

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ATTACHMENT B

CALEEMOD OUTPUT FILES

L and 10Th Lancaster Project Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	L and 10Th Lancaster Project
Construction Start Date	4/1/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.50
Precipitation (days)	13.0
Location	34.6595029843772, -118.14853055452284
County	Los Angeles-Mojave Desert
City	Lancaster
Air District	Antelope Valley AQMD
Air Basin	Mojave Desert
TAZ	3664
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.20

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

Fast Food Restaurant with Drive Thru	2.90	1000sqft	0.61	2,900	43,000	0.00	—	—
Fast Food Restaurant with Drive Thru	2.40	1000sqft	0.61	2,400	0.00	0.00	—	—
Automobile Care Center	3.60	1000sqft	1.50	3,600	0.00	0.00	—	—
Parking Lot	80.0	Space	1.00	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.30	40.0	30.2	0.05	1.12	7.89	9.01	1.02	3.99	5.01	—	5,554	5,554	0.23	0.05	5,576
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.56	11.6	9.39	0.01	0.48	0.17	0.61	0.46	0.04	0.47	—	1,393	1,393	0.06	0.02	1,400
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.43	6.64	5.39	0.01	0.25	0.30	0.55	0.24	0.12	0.36	—	828	828	0.03	0.01	832
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.08	1.21	0.98	< 0.005	0.05	0.05	0.10	0.04	0.02	0.07	—	137	137	0.01	< 0.005	138

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.30	40.0	30.2	0.05	1.12	7.89	9.01	1.02	3.99	5.01	—	5,554	5,554	0.23	0.05	5,576
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.56	11.6	9.39	0.01	0.48	0.17	0.61	0.46	0.04	0.47	—	1,393	1,393	0.06	0.02	1,400
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.43	6.64	5.39	0.01	0.25	0.30	0.55	0.24	0.12	0.36	—	828	828	0.03	0.01	832
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.08	1.21	0.98	< 0.005	0.05	0.05	0.10	0.04	0.02	0.07	—	137	137	0.01	< 0.005	138

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.9	9.12	88.4	0.16	0.14	13.3	13.5	0.13	3.39	3.52	44.0	16,753	16,797	5.32	0.79	17,987
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.0	9.89	71.7	0.15	0.14	13.3	13.5	0.13	3.39	3.52	44.0	15,369	15,413	5.39	0.83	16,551

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.1	10.1	77.3	0.15	0.14	13.2	13.4	0.13	3.36	3.49	44.0	15,690	15,734	5.40	0.84	16,902
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.39	1.84	14.1	0.03	0.02	2.42	2.44	0.02	0.61	0.64	7.29	2,598	2,605	0.89	0.14	2,798

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	14.6	8.91	87.8	0.16	0.12	13.3	13.5	0.11	3.39	3.50	—	16,112	16,112	0.86	0.78	16,432
Area	0.27	< 0.005	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	1.60
Energy	0.01	0.21	0.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	618	618	0.04	< 0.005	620
Water	—	—	—	—	—	—	—	—	—	—	3.73	20.6	24.4	0.38	0.01	36.7
Waste	—	—	—	—	—	—	—	—	—	—	40.3	0.00	40.3	4.03	0.00	141
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	755
Total	14.9	9.12	88.4	0.16	0.14	13.3	13.5	0.13	3.39	3.52	44.0	16,753	16,797	5.32	0.79	17,987
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.7	9.69	71.5	0.14	0.12	13.3	13.5	0.11	3.39	3.50	—	14,730	14,730	0.93	0.82	14,998
Area	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.01	0.21	0.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	618	618	0.04	< 0.005	620
Water	—	—	—	—	—	—	—	—	—	—	3.73	20.6	24.4	0.38	0.01	36.7
Waste	—	—	—	—	—	—	—	—	—	—	40.3	0.00	40.3	4.03	0.00	141
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	755

Total	13.0	9.89	71.7	0.15	0.14	13.3	13.5	0.13	3.39	3.52	44.0	15,369	15,413	5.39	0.83	16,551
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	12.8	9.90	77.0	0.15	0.12	13.2	13.4	0.11	3.36	3.47	—	15,050	15,050	0.94	0.83	15,349
Area	0.24	< 0.005	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.78	0.78	< 0.005	< 0.005	0.79
Energy	0.01	0.21	0.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	618	618	0.04	< 0.005	620
Water	—	—	—	—	—	—	—	—	—	—	3.73	20.6	24.4	0.38	0.01	36.7
Waste	—	—	—	—	—	—	—	—	—	—	40.3	0.00	40.3	4.03	0.00	141
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	755
Total	13.1	10.1	77.3	0.15	0.14	13.2	13.4	0.13	3.36	3.49	44.0	15,690	15,734	5.40	0.84	16,902
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.34	1.81	14.0	0.03	0.02	2.42	2.44	0.02	0.61	0.63	—	2,492	2,492	0.16	0.14	2,541
Area	0.04	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.13	0.13	< 0.005	< 0.005	0.13
Energy	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	102	102	0.01	< 0.005	103
Water	—	—	—	—	—	—	—	—	—	—	0.62	3.42	4.04	0.06	< 0.005	6.08
Waste	—	—	—	—	—	—	—	—	—	—	6.67	0.00	6.67	0.67	0.00	23.4
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	125
Total	2.39	1.84	14.1	0.03	0.02	2.42	2.44	0.02	0.61	0.64	7.29	2,598	2,605	0.89	0.14	2,798

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

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

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

Off-Road Equipment	1.07	39.9	28.3	0.05	1.12	—	1.12	1.02	—	1.02	—	5,296	5,296	0.21	0.04	5,314
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	1.09	0.78	< 0.005	0.03	—	0.03	0.03	—	0.03	—	145	145	0.01	< 0.005	146
Dust From Material Movement	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.20	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	24.1
Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.11	1.85	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	258	258	0.01	0.01	262
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.46	6.46	< 0.005	< 0.005	6.55
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.07	1.07	< 0.005	< 0.005	1.08
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	14.1	12.0	0.02	0.49	—	0.49	0.45	—	0.45	—	1,719	1,719	0.07	0.01	1,725
Dust From Material Movement	—	—	—	—	—	0.83	0.83	—	0.09	0.09	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.77	0.66	< 0.005	0.03	—	0.03	0.02	—	0.02	—	94.2	94.2	< 0.005	< 0.005	94.5
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	< 0.005	< 0.005	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.14	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.6	15.6	< 0.005	< 0.005	15.7
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	1.06	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	147	147	0.01	< 0.005	150
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.38	7.38	< 0.005	< 0.005	7.49
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.22	1.22	< 0.005	< 0.005	1.24

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.4	8.11	0.01	0.42	—	0.42	0.39	—	0.39	—	1,162	1,162	0.05	0.01	1,166
Onsite truck	0.00	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	10.4	8.11	0.01	0.42	—	0.42	0.39	—	0.39	—	1,162	1,162	0.05	0.01	1,166
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	4.28	3.33	< 0.005	0.17	—	0.17	0.16	—	0.16	—	478	478	0.02	< 0.005	479
Onsite truck	0.00	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.78	0.61	< 0.005	0.03	—	0.03	0.03	—	0.03	—	79.1	79.1	< 0.005	< 0.005	79.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.36	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	49.8	49.8	< 0.005	< 0.005	50.6
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	44.5	44.5	< 0.005	0.01	46.6
Hauling	0.00	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.24	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	44.2	44.2	< 0.005	< 0.005	44.8
Vendor	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	44.6	44.6	< 0.005	0.01	46.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.7	18.7	< 0.005	< 0.005	19.0
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	18.3	18.3	< 0.005	< 0.005	19.1
Hauling	0.00	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.10	3.10	< 0.005	< 0.005	3.14
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.03	3.03	< 0.005	< 0.005	3.17
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2024) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	8.55	6.84	0.01	0.38	—	0.38	0.35	—	0.35	—	976	976	0.04	0.01	979
Paving	0.26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.23	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.7	26.7	< 0.005	< 0.005	26.8
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.43	4.43	< 0.005	< 0.005	4.44
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	0.90	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	164	164	0.01	0.01	166
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.61	4.61	< 0.005	< 0.005	4.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	0.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

3.9. Architectural Coating (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.09	0.96	< 0.005	0.07	—	0.07	0.06	—	0.06	—	134	134	0.01	< 0.005	134
Architectural Coatings	0.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.09	0.96	< 0.005	0.07	—	0.07	0.06	—	0.06	—	134	134	0.01	< 0.005	134
Architectural Coatings	0.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.22	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27.4	27.4	< 0.005	< 0.005	27.5
Architectural Coatings	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.04	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.54	4.54	< 0.005	< 0.005	4.56
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.96	9.96	< 0.005	< 0.005	10.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.85	8.85	< 0.005	< 0.005	8.96
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.87	1.87	< 0.005	< 0.005	1.90

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	0.31
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	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. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	12.3	7.47	73.6	0.13	0.10	11.2	11.3	0.09	2.84	2.93	—	13,496	13,496	0.72	0.65	13,764
Automobile Care Center	2.38	1.45	14.3	0.03	0.02	2.17	2.19	0.02	0.55	0.57	—	2,617	2,617	0.14	0.13	2,669
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	0.00
Total	14.6	8.91	87.8	0.16	0.12	13.3	13.5	0.11	3.39	3.50	—	16,112	16,112	0.86	0.78	16,432
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Fast Food Restaurant with Drive Thru	10.7	8.11	59.9	0.12	0.10	11.2	11.3	0.09	2.84	2.93	—	12,338	12,338	0.78	0.68	12,563
Automobile Care Center	2.07	1.57	11.6	0.02	0.02	2.17	2.19	0.02	0.55	0.57	—	2,392	2,392	0.15	0.13	2,436
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	0.00
Total	12.7	9.69	71.5	0.14	0.12	13.3	13.5	0.11	3.39	3.50	—	14,730	14,730	0.93	0.82	14,998
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	1.96	1.51	11.8	0.02	0.02	2.02	2.04	0.02	0.51	0.53	—	2,087	2,087	0.13	0.11	2,128
Automobile Care Center	0.38	0.29	2.28	< 0.005	< 0.005	0.39	0.40	< 0.005	0.10	0.10	—	405	405	0.03	0.02	413
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	0.00
Total	2.34	1.81	14.0	0.03	0.02	2.42	2.44	0.02	0.61	0.63	—	2,492	2,492	0.16	0.14	2,541

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

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

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	268	268	0.02	< 0.005	269
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	50.3	50.3	< 0.005	< 0.005	50.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	55.6	55.6	< 0.005	< 0.005	55.8
Total	—	—	—	—	—	—	—	—	—	—	—	373	373	0.02	< 0.005	375
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	268	268	0.02	< 0.005	269
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	50.3	50.3	< 0.005	< 0.005	50.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	55.6	55.6	< 0.005	< 0.005	55.8
Total	—	—	—	—	—	—	—	—	—	—	—	373	373	0.02	< 0.005	375
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	44.3	44.3	< 0.005	< 0.005	44.5
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	8.33	8.33	< 0.005	< 0.005	8.36
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	9.21	9.21	< 0.005	< 0.005	9.24

Total	—	—	—	—	—	—	—	—	—	—	—	61.8	61.8	< 0.005	< 0.005	62.1

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	0.01	0.16	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	196	196	0.02	< 0.005	196
Automobile Care Center	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.4	49.4	< 0.005	< 0.005	49.5
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
Total	0.01	0.21	0.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	245	245	0.02	< 0.005	246
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	0.01	0.16	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	196	196	0.02	< 0.005	196
Automobile Care Center	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.4	49.4	< 0.005	< 0.005	49.5
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
Total	0.01	0.21	0.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	245	245	0.02	< 0.005	246
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Fast Food Restaurant with Drive Thru	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.4	32.4	< 0.005	< 0.005	32.5
Automobile Care Center	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.18	8.18	< 0.005	< 0.005	8.20
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
Total	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.6	40.6	< 0.005	< 0.005	40.7

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.06	< 0.005	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	1.60
Total	0.27	< 0.005	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.59	1.59	< 0.005	< 0.005	1.60
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	0.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.13	0.13	< 0.005	< 0.005	0.13
Total	0.04	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.13	0.13	< 0.005	< 0.005	0.13

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	3.08	17.8	20.9	0.32	0.01	31.1
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	0.65	2.84	3.49	0.07	< 0.005	5.64

Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	3.73	20.6	24.4	0.38	0.01	36.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	3.08	17.8	20.9	0.32	0.01	31.1
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	0.65	2.84	3.49	0.07	< 0.005	5.64
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	3.73	20.6	24.4	0.38	0.01	36.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	0.51	2.95	3.46	0.05	< 0.005	5.15
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	0.11	0.47	0.58	0.01	< 0.005	0.93
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.62	3.42	4.04	0.06	< 0.005	6.08

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	32.9	0.00	32.9	3.29	0.00	115
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	7.41	0.00	7.41	0.74	0.00	25.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	40.3	0.00	40.3	4.03	0.00	141
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	32.9	0.00	32.9	3.29	0.00	115
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	7.41	0.00	7.41	0.74	0.00	25.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	40.3	0.00	40.3	4.03	0.00	141
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	5.45	0.00	5.45	0.54	0.00	19.1

Automobile Care Center	—	—	—	—	—	—	—	—	—	—	1.23	0.00	1.23	0.12	0.00	4.29
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	6.67	0.00	6.67	0.67	0.00	23.4

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.29
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	746
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	755
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.29

Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	746
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	755
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.37
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	124
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	125

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	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

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	4/1/2024	4/12/2024	5.00	10.0	—
Grading	Grading	4/15/2024	5/10/2024	5.00	20.0	—
Building Construction	Building Construction	5/13/2024	12/6/2024	5.00	150	—
Paving	Paving	12/9/2024	12/20/2024	5.00	10.0	—
Architectural Coating	Architectural Coating	9/16/2024	12/27/2024	5.00	75.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 2	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 2	4.00	8.00	84.0	0.37

Grading	Scrapers	Diesel	Tier 2	2.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 2	2.00	8.00	84.0	0.37
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 2	4.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Tier 2	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 2	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Tier 2	2.00	6.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 2	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	3.38	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	1.46	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.68	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

Phase Name	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)
Architectural Coating	0.00	0.00	13,350	4,450	2,614

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	15.0	0.00	—
Grading	0.00	0.00	40.0	0.00	—
Paving	0.00	0.00	0.00	0.00	1.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Fast Food Restaurant with Drive Thru	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Automobile Care Center	0.00	0%
Parking Lot	1.00	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005

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
Fast Food Restaurant with Drive Thru	1,220	1,220	1,220	445,311	8,113	8,113	8,113	2,961,227
Fast Food Restaurant with Drive Thru	1,153	1,153	1,153	420,830	7,667	7,667	7,667	2,798,437
Automobile Care Center	460	460	460	167,929	3,059	3,059	3,059	1,116,695
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	13,350	4,450	2,614

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)
Fast Food Restaurant with Drive Thru	100,428	532	0.0330	0.0040	333,882
Fast Food Restaurant with Drive Thru	83,113	532	0.0330	0.0040	276,316
Automobile Care Center	34,534	532	0.0330	0.0040	154,087
Parking Lot	38,159	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)
Fast Food Restaurant with Drive Thru	880,248	695,925
Fast Food Restaurant with Drive Thru	728,481	0.00
Automobile Care Center	338,692	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Fast Food Restaurant with Drive Thru	33.4	—
Fast Food Restaurant with Drive Thru	27.6	—
Automobile Care Center	13.8	—
Parking Lot	0.00	—

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
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Automobile Care Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Automobile Care Center	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

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

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification

Land Use	3.73 total acre site. Proposed project would construct a fast food restaurant, coffee shop and car wash. A total of 80 parking spaces would be provided and approximately 43,000 sf of landscape area
Construction: Construction Phases	No demolition. Construction is anticipated to start in April/May of 2024, project would be operational in 2025. Assume overlap between building construction and architectural coating.
Construction: Off-Road Equipment	Per the project applicant, the grading phase would have 2 scrapers and 2 front loaders, and the building construction phase would have 3-4 backhoes. Default equipment is assumed for the remaining of the construction phases. Construction equipment would utilize tier 2.
Operations: Vehicle Data	Trip rates adjusted to reflect 1,220 ADT for the fast food restaurant, 1,153 ADT for the coffee shop, and 460 ADT for the car wash. Assuming 100% primary trips.