Ramona Gateway

AIR QUALITY IMPACT ANALYSIS

CITY OF PERRIS

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TABLE OF CONTENTS

APPENDICES

LIST OF EXHIBITS

LIST OF TABLES

LIST OF ABBREVIATED TERMS

%	Percent
°F	Degrees Fahrenheit
(1)	Reference
$\mu g/m^3$	Microgram per Cubic Meter
1992 CO Plan	*1992 Federal Attainment Plan for Carbon Monoxide*
1993 CEQA Handbook	*SCAQMD's CEQA Air Quality Handbook (1993)*
2016-2040 RTP/SCS	*2016-2040 Regional Transportation Plan/Sustainable Communities Strategy*
AB 2595	California Clean Air Act
ADA	Americans with Disabilities Act
AQIA	Air Quality Impact Analysis
AQMP	Air Quality Management Plan
Ave.	Avenue
BACT	Best Available Control Technology
BC	Black Carbon
Blvd.	Boulevard
Brief	*Brief of Amicus Curiae by the SCAQMD in the Friant Ranch Case*
C_2Cl_4	Perchloroethylene
C_4H_6	1,3-butadiene
C_6H_6	Benzene
C_2H_3Cl	Vinyl Chloride
C_2H_4O	Acetaldehyde
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CEQA Guidelines	Guidelines for Implementation of the California Environmental Quality Act

CH_2O	Formaldehyde
City	City of Perris
CO	Carbon Monoxide
COH	Coefficient of Haze
COHb	Carboxyhemoglobin
Cr(VI)	Chromium
CTP	Clean Truck Program
DPM	Diesel Particulate Matter
DRRP	Diesel Risk Reduction Plan
EC	Elemental Carbon
EIR	Environmental Impact Report
EMFAC	EMissions FACtor Model
EPA	Environmental Protection Agency
ETW	Equivalent Test Weight
Exwy.	Expressway
GHG	Greenhouse Gas
GVWR	Gross Vehicle Weight Rating
H_2S	Hydrogen Sulfide
HDT	Heavy Duty Trucks
HHDT	Heavy-Heavy-Duty Trucks
HI	Hazard Index
hp	Horsepower
HRA	Health Risk Assessment
HVIP	Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project
Hwy.	Highway
lbs	Pounds
lbs/day	Pounds Per Day
LDA	Light Duty Auto
LDT1/LDT2	Light-Duty Trucks
LHDT1/LHDT2	Light-Heavy-Duty Trucks
LST	Localized Significance Threshold
LST Methodology	*Final Localized Significance Threshold Methodology*
MARB/IPA	March Air Reserve Base/Inland Port Airport
MATES	Multiple Air Toxics Exposure Study
MCY	Motorcycles
MDV	Medium-Duty Vehicles
MHDT	Medium-Heavy-Duty Trucks

MICR	Maximum Individual Cancer Risk
MM	Mitigation Measures
mph	Miles Per Hour
MWELO	California Department of Water Resources' Model Water Efficient
N_2	Nitrogen
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NB	Northbound
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
O_2	Oxygen
O_3	Ozone
O_2 Deficiency	Chronic Hypoxemia
OBD-II	On-Board Diagnostic
ODC	Ozone Depleting Compounds
Pb	Lead
PM_{10}	Particulate Matter 10 microns in diameter or less
$PM_{2.5}$	Particulate Matter 2.5 microns in diameter or less
POLA	Port of Los Angeles
POLB	Port of Long Beach
ppm	Parts Per Million
Project	Ramona Gateway
PVCCSP	Perris Valley Commerce Center Specific Plan
PVCCSP EIR	*Perris Valley Commerce Center Specific Plan Environmental Impact Report SCH No. 2009081086*
RECLAIM	Regional Clean Air Incentives Market
RFG-2	Reformulated Gasoline Regulation
ROG	Reactive Organic Gases
RTA	Riverside Transit Agency
SB	Southbound
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
sf	Square Feet
SIPs	State Implementation Plans
SO_2	Sulfur Dioxide

SO_4	Sulfates
SO_X	Sulfur Oxides
SoCalGas	The Southern California Gas Company
SOON	Surplus Off-Road Opt-in for Nitrogen Oxides
SRA	Source Receptor Area
St.	Street
TA	*Ramona Gateway Traffic Analysis*
TAC	Toxic Air Contaminant
TDM	Transportation Demand Management
Title 24	California Building Code
TITLE I	Non-Attainment Provisions
TITLE II	Mobile Sources Provisions
TRU	Transport Refrigeration Unit
UFP	Ultrafine Particles
URBEMIS	URBan EMISsions
VICS	Voluntary Interindustry Commerce Solutions
VIP	On-road Heavy Duty Voucher Incentive Program
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
vph	Vehicles Per Hour

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Ramona Gateway Air Quality Impact Analysis* (AQIA) are summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the *Guidelines for Implementation of the California Environmental Quality Act* (State *CEQA Guidelines*) (1). Table ES-1 shows the findings of significance for each potential air quality impact under CEQA before and after any required mitigation measures (MM) described below.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Regional Construction Emissions	3.4	*Less Than Significant*	*n/a*
Localized Construction Emissions	3.7	*Less Than Significant*	*n/a*
Regional Operational Emissions	3.5	*Potentially Significant*	*Significant and Unavoidable*
Localized Operational Emissions	3.8	*Less Than Significant*	*n/a*
CO “Hot Spot” Analysis	3.9	*Less Than Significant*	*n/a*
Air Quality Management Plan	3.10	*Less Than Significant*	*n/a*
Sensitive Receptors	3.11	*Less Than Significant*	*n/a*
Odors	3.12	*Less Than Significant*	*n/a*
Cumulative Impacts	3.13	*Potentially Significant*	*Significant and Unavoidable*

ES.2 REGULATORY REQUIREMENTS

There are numerous requirements that development projects must comply with by law, and that were put in place by federal, State, and local regulatory agencies for the improvement of air quality.

Any operation or activity that might cause the emission of any smoke, fly ash, dust, fumes, vapors, gases, or other forms of air pollution, which can cause damage to human health, vegetation, or other forms of property, or can cause excessive soiling on any other parcel shall conform to the requirements of the South Coast Air Quality Management District (SCAQMD).

SCAQMD RULES

SCAQMD Rules that are currently applicable during construction activity for this Project are described below.

SCAQMD RULE 201

A person shall not build, erect, install, alter, or replace any equipment permit unit, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants without first obtaining written authorization for such construction from the Executive Officer. A permit to construct shall remain in effect until the permit to operate the equipment for which the application was filed as granted or denied, or the application is canceled.

SCAQMD RULE 401

A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any 1 hour that is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines.

SCAQMD RULE 402

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or 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. The provisions of this rule do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

SCAQMD RULE 403

This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent and reduce fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust and requires best available control measures to be applied to earth moving and grading activities.

SCAQMD RULE 461

This rule attempts to reduce the health risk from gasoline transfer to and from underground storage tanks and dispensing from surface fueling stations. All gas dispensing facilities must have a vapor recovery system with an efficiency of at least 98 percent (%), an emission factor not exceeding 0.15 pounds of volatile organic compounds (VOC) per 1,000 gallons of gasoline for transfer between storage tanks and dispensing facilities, and an emission factor not exceeding 0.38 pounds of VOCs per 1,000 gallons of gasoline when dispensing into customer vehicles.

SCAQMD RULE 1113

This rule serves to limit the VOC content of architectural coatings used on projects in the SCAQMD. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use on projects in the SCAQMD must comply with the current VOC standards set in this rule.

SCAQMD RULE 1301

This rule is intended to provide that pre-construction review requirements to ensure that new or relocated facilities do not interfere with progress in attainment of the National Ambient Air Quality Standards (NAAQS), while future economic growth within the SCAQMD is not unnecessarily restricted. The specific air quality goal is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors. Rule 1301 also limits emission increases of ammonia, and Ozone Depleting Compounds (ODCs) from new, modified or relocated facilities by requiring the use of Best Available Control Technology (BACT).

SCAQMD RULE 1401

This rule requires the inspection of new gas transfer and dispensing facilities by SCAQMD staff to evaluate cancer risk, which must be no more than 10 in one million over a 70-year lifespan.

SCAQMD RULE 2305

The SCAQMD adopted Rule 2305, the Warehouse Indirect Source Rule, on May 7, 2021. Owners and operators associated with warehouses 100,000 square feet (sf) or larger are required to directly reduce nitrogen oxides (NO_X) and particulate matter emissions, or to otherwise facilitate emission and exposure reductions of these pollutants in nearby communities.

Although the Project would comply with the above regulatory requirements, it should be noted that emission reductions associated with Rules 201, 401, 402, 461, 1301, 1401, and 2305 cannot be quantified in the California Emissions Estimator Model (CalEEMod) and are therefore not reflected in the emissions presented herein. Conversely, Rule 403 (Fugitive Dust) (2) and Rule 1113 (Architectural Coatings) (3) can be modeled in CalEEMod. As such, credit for Rule 403 and Rule 1113 have been taken in the analysis.

ES.3 PERRIS VALLEY COMMERCE CENTER SPECIFIC PLAN (PVCCSP) ENVIRONMENTAL IMPACT REPORT (PVCCSP EIR) MITIGATION MEASURES

The Project site is located within the PVCCSP planning area. As such, and unless otherwise noted, the Project is required to comply with the following applicable *Perris Valley Commerce Center Specific Plan Environmental Impact Report (PVCCSP EIR) SCH No. 2009081086* mitigation measures (MMs) (4).

MM Air 1

To identify potential implementing development project-specific impacts resulting from construction activities, proposed development projects that are subject to CEQA shall have construction-related air quality impacts analyzed using the latest available URBan EMISsions

(URBEMIS) model, or other analytical method determined in conjunction with the SCAQMD. The results of the construction-related air quality impacts analysis shall be included in the development project's CEQA documentation. To address potential localized impacts, the air quality analysis may incorporate SCAQMD's Localized Significance Threshold (LST) analysis or other appropriate analyses as determined in conjunction with SCAQMD. If such analyses identify potentially significant regional or local air quality impacts, the City shall require the incorporation of appropriate mitigation to reduce such impacts.

Project-specific construction-related air quality and LST analyses have been included in this AQIA to comply with this PVCCSP EIR mitigation measure. The URBEMIS model has been replaced by CalEEMod.

MM Air 2

Each individual implementing development project shall submit a traffic control plan prior to the issuance of a grading permit. The traffic control plan shall describe in detail safe detours and provide temporary traffic control during construction activities for that project. To reduce traffic congestion, the plan shall include, as necessary, appropriate, and practicable, the following: temporary traffic controls such as a flag person during all phases of construction to maintain smooth traffic flow, dedicated turn lanes for movement of construction trucks and equipment on- and off-site, scheduling of construction activities that affect traffic flow on the arterial system to off-peak hour, consolidating truck deliveries, rerouting of construction trucks away from congested streets or sensitive receptors, and/or signal synchronization to improve traffic flow.

MM Air 3

To reduce fugitive dust emissions, the development of each individual implementing development project shall comply with SCAQMD Rule 403. The developer of each implementing project shall provide the City of Perris with the SCAQMD-approved dust control plan, or other sufficient proof of compliance with Rule 403, prior to grading permit issuance. Dust control measures shall include, but are not limited to:

- requiring the application of non-toxic soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 20 days or more, assuming no rain),
- keeping disturbed/loose soil moist at all times,
- requiring trucks entering or leaving the site hauling dirt, sand, or soil, or other loose materials on public roads to be covered,
- installation of wheel washers or gravel construction entrances where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip,
- posting and enforcement of traffic speed limits of 15 miles per hour (mph) or less on all unpaved potions of the project sites,
- suspending all excavating and grading operations when wind gusts (as instantaneous gust) exceed 25 mph,

- appointment of a construction relations officer to act as a community liaison concerning on-site construction activity including resolution of issues related to Particulate Matter 10 microns in diameter or less (PM10) generation,
- sweeping streets at the end of the day if visible soil material is carried onto adjacent paved public roads and use of SCAQMD Rule 1186 and 1186.1 certified street sweepers or roadway washing trucks when sweeping streets to remove visible soil materials,
- replacement of ground cover in disturbed areas as quickly as possible.

MM Air 4

Building and grading permits shall include a restriction that limits idling of construction equipment on site to no more than five minutes.

MM Air 5

Electricity from power poles shall be used instead of temporary diesel or gasoline-powered generators to reduce the associated emissions. Approval will be required by the City of Perris' Building Division prior to issuance of grading permits.

MM Air 6

The developer of each implementing development project shall require, by contract specifications, the use of alternative fueled off-road construction equipment, the use of construction equipment that demonstrates early compliance with off-road equipment with the California Air Resources Board (CARB) in-use off-road diesel vehicle regulation (SCAQMD Rule 2449) and/or meets or exceeds Tier 3 standards with available CARB verified or Environmental Protection Agency (EPA) certified technologies. Diesel equipment shall use water emulsified diesel fuel such as $PuriNO_X$ unless it is unavailable in Riverside County at the time of project construction activities. Contract specifications shall be included in project construction documents, which shall be reviewed by the City of Perris' Building Division prior to issuance of a grading permit.

MM Air 7

During construction, ozone (O_3) precursor emissions from mobile construction equipment shall be controlled by maintaining equipment engines in good condition and in proper tune per manufacturers' specifications to the satisfaction of the City of Perris' Building Division. Equipment maintenance records and equipment design specification data sheets shall be kept on-site during construction. Compliance with this measure shall be subject to periodic inspections by the City of Perris' Building Division.

MM Air 8

Each individual implementing development project shall apply paints using either high volume low pressure (HVLP) spray equipment with a minimum transfer efficiency of at least 50% or other application techniques with equivalent or higher transfer efficiency.

MM Air 9

To reduce VOC emissions associated with architectural coating, the project designer and contractor shall reduce the use of paints and solvents by utilizing pre-coated materials (e.g., bathroom stall dividers, metal awnings), materials that do not require painting, and require coatings and solvents with a VOC content lower than required under Rule 1113 to be utilized. The construction contractor shall be required to utilize "Super-Compliant" VOC paints, which are defined in SCAQMD's Rule 1113. Construction specifications shall be included in building specifications that assure these requirements are implemented. The specifications for each implementing development project shall be reviewed by the City of Perris' Building Division for compliance with this MM prior to issuance of a building permit for that project.

MM Air 10

To identify potential implementing development project-specific impacts resulting from operational activities, proposed development projects that are subject to CEQA shall have long-term operational-related air quality impacts analyzed using the latest available URBEMIS model, or other analytical method determined by the City of Perris as lead agency in conjunction with the SCAQMD. The results of the operational-related air quality impacts analysis shall be included in the development project's CEQA documentation. To address potential localized impacts, the air quality analysis may incorporate SCAQMD's LST analysis, Carbon Monoxide (CO) Hot Spot analysis, or other appropriate analyses as determined by the City of Perris in conjunction with SCAQMD. If such analyses identify potentially significant regional or local air quality impacts, the City shall require the incorporation of appropriate mitigation to reduce such impacts.

Project-specific operational air quality, LST, and CO hotspots analyses have been included in this AQIA to comply with this PVCCSP EIR mitigation measure. The URBEMIS model has been replaced by CalEEMod.

MM Air 11

Signage shall be posted at loading docks and all entrances to loading areas prohibiting all on-site truck idling in excess of five minutes.

MM Air 12

Where transport refrigeration units (TRUs) are in use, electrical hookups will be installed at all loading and unloading stalls in order to allow TRUs with electric standby capabilities to use them.

MM Air 13

In order to promote alternative fuels, and help support "clean" truck fleets, the developer/successor-in-interest shall provide building occupants and businesses with information related to SCAQMD's Carl Moyer Program, or other state programs that restrict operations to "clean" trucks, such as 2007 or newer model year or 2010 compliant vehicles and information including, but not limited to, the health effect of diesel particulates, benefits of reduced idling time, CARB regulations, and importance of not parking in residential areas. If trucks older than 2007 model year would be used at a facility with three or more dock-high doors, the developer/successor-in-interest shall require, within one year of signing a lease, future tenants to apply in good-faith for funding for diesel truck replacement/retrofit through grant programs such as the Carl Moyer, Prop 1B, On-road Heavy Duty Voucher Incentive Program (VIP), Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP), and Surplus Off-Road Opt-in for NO_X (SOON) funding programs, as identified on SCAQMD's website (http://www.aqmd.gov). Tenants would be required to use those funds, if awarded.

Implementation of this PVCCSP EIR mitigation measure is required; however, for purposes of analysis, the estimated Project-generated emissions presented in this AQIA do not reflect emission reductions that would occur with implementation of this PVCCSP EIR mitigation measure since emissions reductions from this measure are not readily quantifiable.

MM Air 14

Each implementing development project shall designate parking spaces for high-occupancy vehicles and provide larger parking spaces to accommodate vans used for ride sharing. Proof of compliance would be required prior to the issuance of occupancy permits.

Implementation of this PVCCSP EIR mitigation measure is required; however, for purposes of analysis, the estimated Project-generated emissions presented in this AQIA do not reflect emission reductions that would occur with implementation of this PVCCSP EIR mitigation measure since emissions reductions from this measure are not readily quantifiable.

MM Air 15

To identify potential implementing development project-specific impacts resulting from the use of diesel trucks, proposed implementing development projects that include an excess of 10 dock doors for a single building, a minimum of 100 truck trips per day, 40 truck trips with TRUs per day, or TRU operations exceeding 300 hours per week, and that are subject to CEQA and are located adjacent to sensitive land uses; shall have a facility-specific Health Risk Assessment (HRA) performed to assess the diesel particulate matter (DPM) impacts from mobile-source traffic generated by that implementing development project. The proposed Project is expected to result in 242 truck trips per day and is therefore required to prepare an HRA. The results of the HRA shall be included in the CEQA documentation for each implementing development project.

A project-specific HRA has been prepared under separate cover to comply with this PVCCSP EIR mitigation measure.

MM Air 18

Prior to the approval of each implementing development project, the Riverside Transit Agency (RTA) shall be contacted to determine if the RTA has plans for the future provision of bus routing within any street that is adjacent to the implementing development project that would require bus stops at the project access points. If the RTA has future plans for the establishment of a bus route that will serve the implementing development project, road improvements adjacent to the Project sites shall be designed to accommodate future bus turnouts at locations established through consultation with the RTA. RTA shall be responsible for the construction and maintenance of the bus stop facilities. The area set aside for bus turnouts shall conform to RTA design standards, including the design of the contact between sidewalks and curb and gutter at bus stops and the use of Americans with Disabilities Act (ADA)-compliant paths to the major building entrances in the project.

The RTA was contacted regarding its plans for the future provision of bus routing adjacent to the Project site that could require bus stops at the Project boundaries. The RTA indicated that a bus stop should be provided as part of the Project near the southwest corner of Ramona Expressway and Webster Avenue, and the Project has incorporated the bus stop into the proposed Project. Therefore, the Project has complied with this PVCCSP EIR mitigation measure. However, for purposes of analysis, the estimated Project-generated emissions presented in this AQIA do not reflect emission reductions that would occur with implementation of this PVCCSP EIR mitigation measure since emissions reductions from this measure are not readily quantifiable.

MM Air 19

In order to reduce energy consumption from the individual implementing development projects, applicable plans (e.g., electrical plans, improvement maps) submitted to the City shall include the installation of energy-efficient street lighting throughout the Project sites These plans shall be reviewed and approved by the applicable City Department (e.g., City of Perris' Building Division) prior to conveyance of applicable streets.

Implementation of this PVCCSP EIR mitigation measure is required; however, for purposes of analysis, the estimated Project-generated emissions presented in this AQIA do not reflect emission reductions that would occur with implementation of this PVCCSP EIR mitigation measure since emissions reductions from this measure are not readily quantifiable.

MM Air 20

Each implementing development project shall be encouraged to implement, at a minimum, an increase in each building's energy efficiency 15% beyond Title 24, and reduce indoor water use by 25%. All reductions would be documented through a checklist to be submitted prior to issuance of building permits for the implementing development project with building plans and calculations.

Implementation of this PVCCSP EIR mitigation measure is required; however, for purposes of analysis, the estimated Project-generated emissions presented in this AQIA do not reflect emission reductions that would occur with implementation of this PVCCSP EIR mitigation measure since emissions reductions from this measure are not readily quantifiable.

ES.4 ADDITIONAL MITIGATION MEASURES

For regional emissions, the Project has the potential to exceed the numerical thresholds of significance established by the SCAQMD for emissions of VOCs and NO_X. It is important to note that over 85% of the Project's VOC emissions are derived from consumer products and vehicle usage, while over 90% of the Project's NO_X emissions are derived from vehicle usage. Many of the following measures are designed to reduce Project operational-source VOC and NO_X emissions. However, it should be noted that there is no way to meaningfully quantify these reductions. Accordingly, emissions reductions resulting from implementation of operational-source mitigation measures are not quantified within this analysis.

The following Project-specific mitigation measures (MM AQ-1 through MM AQ-13) are designed to reduce Project operational-source VOC and NO_X emissions. However, it should be noted that there is no way to quantify these reductions in the CalEEMod. Furthermore, as the City of Perris or the Project Applicant do not have regulatory authority to control tailpipe emissions, no feasible MM beyond the measures identified exist that would reduce VOC and NO_X emissions to levels that are less-than-significant, thus these emissions are considered significant and unavoidable.

MM AQ-1

Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas of the warehouse portion of the Project that identify applicable California Air Resources Board (CARB) anti-idling regulations. At a minimum, each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for drivers of diesel trucks to restrict idling to no more than five (5) minutes once the vehicle is stopped, the transmission is set to "neutral" or "park," and the parking brake is engaged; and 3) telephone numbers of the building facilities manager and the CARB to report violations. Prior to the issuance of an occupancy permit, the City shall conduct a site inspection to ensure that the signs are in place.

MM AQ-2

Prior to the issuing of each building permit, the project proponent and its contractors shall provide plans and specifications to the City of Perris Building Department that demonstrate that each project building is designed for passive heating and cooling and is designed to include natural light. Features designed to achieve this shall include the proper placement of windows, overhangs, and skylights.

MM AQ-3

Prior to the issuing of each building permit, the project proponent and its contractors shall provide plans and specifications to the City of Perris Building Department that demonstrate that electrical service is provided to each of the areas in the vicinity of the building that are to be landscaped in order that electrical equipment may be used for landscape maintenance.

MM AQ-4

Once constructed, the project proponent shall ensure that all building tenants shall utilize electric equipment for landscape maintenance to the extent feasible, through requirements in the lease agreements.

MM AQ-5

Once constructed, the project proponent shall ensure that all building tenants in the warehouse portion of the Project shall utilize only electric or natural gas service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment, through requirements in the lease agreements. Electric-powered service yard trucks (hostlers), pallet jacks and forklifts, and other onsite equipment shall also be required instead of diesel-powered equipment, if technically feasible. Yard trucks may be diesel fueled in lieu of electrically or natural gas fueled provided such yard trucks are at least compliant with California Air Resources Board (CARB) 2010 standards for on-road vehicles or CARB Tier 4 compliant for off-road vehicles.

MM AQ-6

Upon occupancy, the facility operator for the warehouse portion of the Project shall require tenants that do not already operate 2010 and newer trucks to apply in good faith for funding to replace/retrofit their trucks, such as Carl Moyer, VIP, Prop 1B, SmartWay Finance, or other similar funds. If awarded, the tenant shall be required to accept and use the funding. Tenants shall be encouraged to consider the use of alternative fueled trucks as well as new or retrofitted diesel trucks. Tenants shall also be encouraged to become SmartWay Partners, if eligible. This measure shall not apply to trucks that are not owned or operated by the facility operator or facility tenants since it would be infeasible to prohibit access to the site by any truck that is otherwise legal to operate on California roads and highways. The facility operator shall provide an annual report to the City of Perris Planning Division. The report shall: one, list each engine design; two, describe the effort made by each tenant to obtain funding to upgrade their fleet and the results of that effort; and three, describe the change in each fleet composition from the prior year.

MM AQ-7

Tenants who employ 250 or more employees on a full- or part-time basis shall comply with SCAQMD Rule 2202, On-Road Motor Vehicle Mitigation Options. The purpose of this rule is to provide employees with a menu of options to reduce employee commute vehicle emissions. Tenants with less than 250 employees or tenants with 250 or more employees who are exempt from SCAQMD Rule 2202 (as stated in the Rule) shall either (a) join with a tenant who is implementing a program in accordance with Rule 2202 or (b) implement an emission reduction program similar to Rule 2202 with annual reporting of actions and results to the City of Perris. The tenant-implemented program would include, but not be limited to the following:

- Appoint a Transportation Demand Management (TDM) coordinator who would promote the TDM program, activities and features to all employees.
- Create and maintain a “commuter club” to manage subsidies or incentives for employees who carpool, vanpool, bicycle, walk, or take transit to work.
- Inform employees of public transit and commuting services available to them (e.g., social media, signage).

- Provide on-site transit pass sales and discounted transit passes.
- Guarantee a ride home.
- Offer shuttle service to and from public transit and commercial areas/food establishments, if warranted.
- Coordinate with the Riverside Transit Agency and employers in the surrounding area to maximize the benefits of the TDM program."

Related to this measure, the Ramona Gateway Vehicle Miles Traveled (VMT) Analysis (Urban Crossroads, 2022) includes the following TDM strategies:

- Implementation of pedestrian network improvements that would provide a pedestrian access network to link areas of the Project site that would encourage people to walk instead of drive. This mode shift results in people driving less and thus a reduction in VMT. The project will provide a pedestrian access network that internally links all uses and connects to existing pedestrian facilities contiguous with the project site. The project will minimize barriers to pedestrian access and interconnectivity. There is existing sidewalk east of the Project along Webster Avenue. The Project would provide pedestrian connections on-site that would connect to the existing sidewalk along Webster Avenue. Notably a sidewalk would be provided along the south side of Ramona Expressway adjacent to the Project site, which would connect to the sidewalk along the west side of Webster Avenue. The proposed Ramona Expressway sidewalk would also connect to the sidewalk to be constructed along the east side of Nevada Avenue, adjacent to the Project site.

- The Project would further reduce its VMT impact through the implementation of a voluntary commute trip reduction (CTR) program that would discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, transit usage, walking and biking. The CTR program will provide employees assistance in using alternative modes of travel and provide incentives to encourage employee usage. CTR program would be a multi-strategy program that could include the following individual measures:
  - Carpooling encouragement
  - Ride-matching assistance
  - Preferential carpool parking
  - Flexible work schedules for carpools
  - Half-time transportation coordinator
  - New employee orientation of trip reduction and alternative travel mode options
  - Vanpool assistance
  - Bicycle end-trip facilities (parking and lockers)

MM AQ-8

Prior to the issuance of a building permit, the project proponent shall provide evidence to the City that loading docks are designed to be compatible with SmartWay trucks.

MM AQ-9

Upon occupancy and annually thereafter, the facility operator shall provide information to all tenants, with instructions that the information shall be provided to employees and truck drivers as appropriate, regarding:

- Building energy efficiency, solid waste reduction, recycling, and water conservation.
- Vehicle GHG emissions, electric vehicle charging availability, and alternate transportation opportunities for commuting.
- Participation in the Voluntary Interindustry Commerce Solutions (VICS) “Empty Miles” program to improve goods trucking efficiencies.
- Health effects of diesel particulates, State regulations limiting truck idling time, and the benefits of minimized idling.
- The importance of minimizing traffic, noise, and air pollutant impacts to any residences in the Project vicinity.

MM AQ-10

Prior to issuance of a building permit, the project proponent shall provide the City with an onsite signage program that clearly identifies the required onsite circulation system. This shall be accomplished through posted signs and painting on driveways and internal roadways.

MM AQ-11

Prior to issuance of an occupancy permit, the City shall confirm that signs clearly identifying approved truck routes have been installed along the truck routes to and from the Project sites.

MM AQ-12

Prior to issuance of an occupancy permit, the project proponent shall install a sign on the property with telephone, email, and regular mail contact information for a designated representative of the tenant who would receive complaints about excessive noise, dust, fumes, or odors. The sign shall also identify contact data for the City for perceived Code violations. The tenant’s representative shall keep records of any complaints received and actions taken to communicate with the complainant and resolve the complaint. The tenant’s representative shall endeavor to resolve complaints within 24 hours.

MM AQ-13

Prior to issuance of a building permit, the project proponent shall provide the City with project specifications, drawings, and calculations that demonstrate that main electrical supply lines and panels have been sized to support heavy truck charging facilities when these trucks become available. The calculations shall be based on reasonable predictions from currently available truck manufacturer’s data. Electrical system upgrades that exceed reasonable costs shall not be required.

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1 INTRODUCTION

This report presents the results of the AQIA prepared by Urban Crossroads, Inc., for the proposed Ramona Gateway (Project). The purpose of this AQIA is to evaluate the potential impacts to air quality associated with construction and operation of the Project and recommend measures to mitigate impacts considered potentially significant in comparison to thresholds established by the SCAQMD.

1.1 SITE LOCATION

The proposed Ramona Gateway site is located south of Ramona Expressway (Exwy.) and between Nevada Avenue (Ave.) and Webster Ave., within the City of Perris' *Perris Valley Commerce Center Specific Plan* (PVCCSP) planning area as shown on Exhibit 1-A. March Air Reserve Base/Inland Port Airport (MARB/IPA) is located approximately 1.2 miles north of the Project site boundary.

The Project site is currently undeveloped. According to the PVCCSP, the Project site is designated for Commercial and Business/Professional Office (BPO) uses. The Commercial designation provides for retail, professional office, and service-oriented business activities which serve the entire City, as well as the surrounding neighborhoods. This zone combines the General Plan Land Use designation of Community Commercial and Commercial Neighborhood. The Business/Professional office designation provides for uses associated with business, professional or administrative services located in areas of high visibility from major roadways with convenient access for automobiles and public transit service. Small-scale warehousing and light manufacturing are also allowed. This zone combines the General Plan Land Use designations of Business Park and Professional Office (5).

The area adjacent to and south of the Project site has a Public/Semi-Public land use designation in the PVCCSP and is developed with the Val Verde High School, Val Verde Academy, and the Val Verde Regional Learning Center. The area to the north of the Project site (north of Ramona Expressway) has Commercial and Light Industrial PVCCSP land use designations. The area adjacent to and immediately north of Ramona Expressway (with a Commercial land use designation) remains undeveloped but is planned for a retail development. There are existing industrial uses to the north of the undeveloped area. The area to the west of the Project site (west of Nevada Avenue) has Commercial and Potential Basin Area PVCCSP land use designations and is currently undeveloped. I-215 is located approximately 600 feet to the west of the Project site and forms the western boundary of the City of Perris and the PVCCSP planning area. The area to the east of the Project site (east of Webster Avenue) is currently undeveloped and has a Light Industrial PVCCSP land use designation. There are existing industrial uses further to the east.

1.2 PROJECT DESCRIPTION

The Project is proposed to consist of a single 950,224-square-foot (sf) industrial building consisting of 902,713 sf of fulfillment center warehouse (95% of industrial building) and 47,511 sf of high-cube cold storage warehouse use (5% of industrial building). Additionally, the Project includes an 8-building, 37,215-sf retail component that consists of 16,500 sf of restaurant with drive thru use, a 10,200-sf restaurant without drive thru use, a 2,400-sf coffee/donut shop with drive thru, a 3,515-sf automated car wash, and a 16-vehicle fueling station convenience market/gas station. The Project is anticipated to be constructed in a single phase by the middle of 2024. The Project would also include roadway and access improvements, and utility infrastructure connections along the roadways adjacent to the project site. The Project involves a Specific Plan Amendment to change the southern portion of the current Commercial area and the entirety of BPO area to Light Industrial.

EXHIBIT 1-A: LOCATION MAP

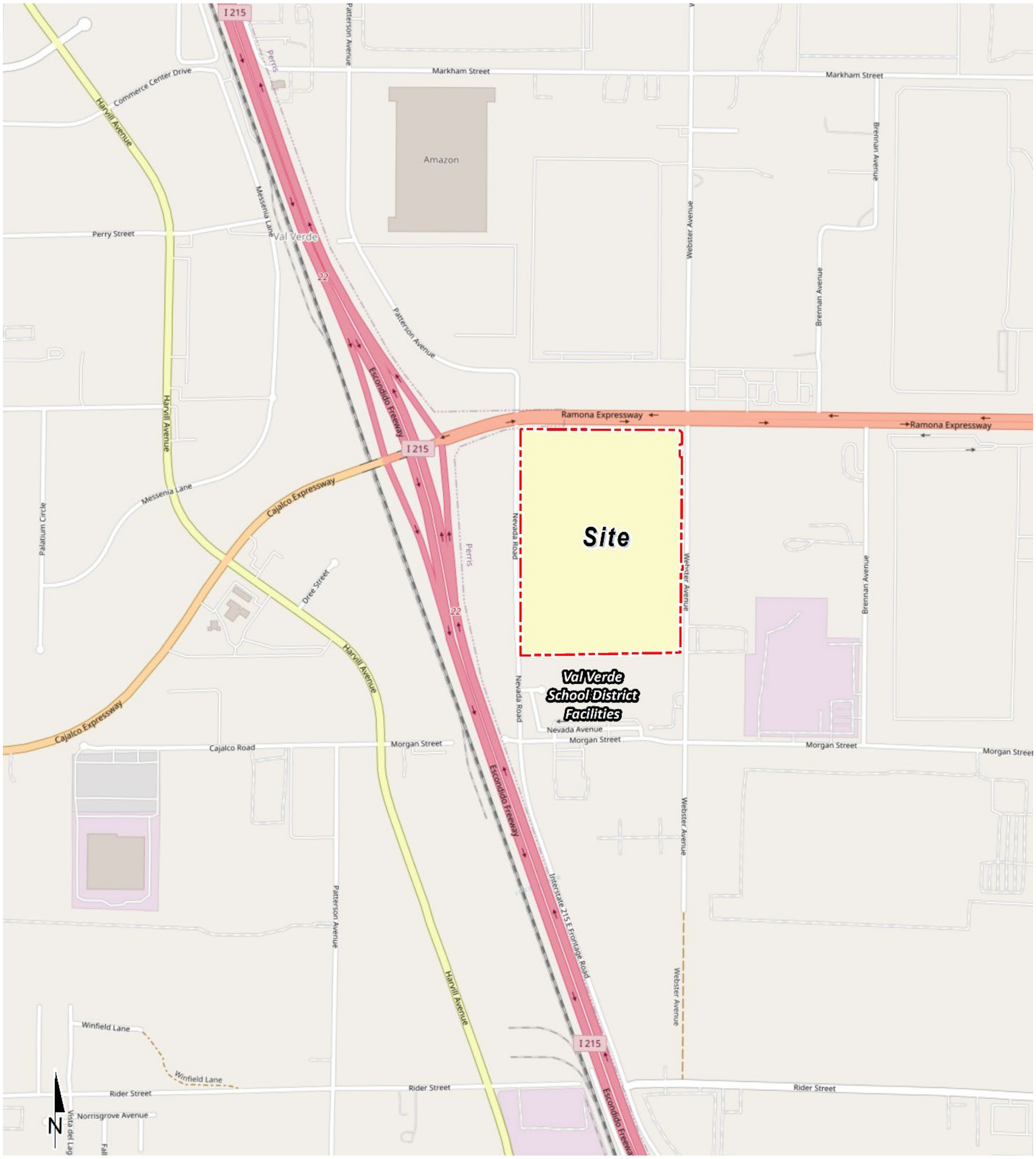
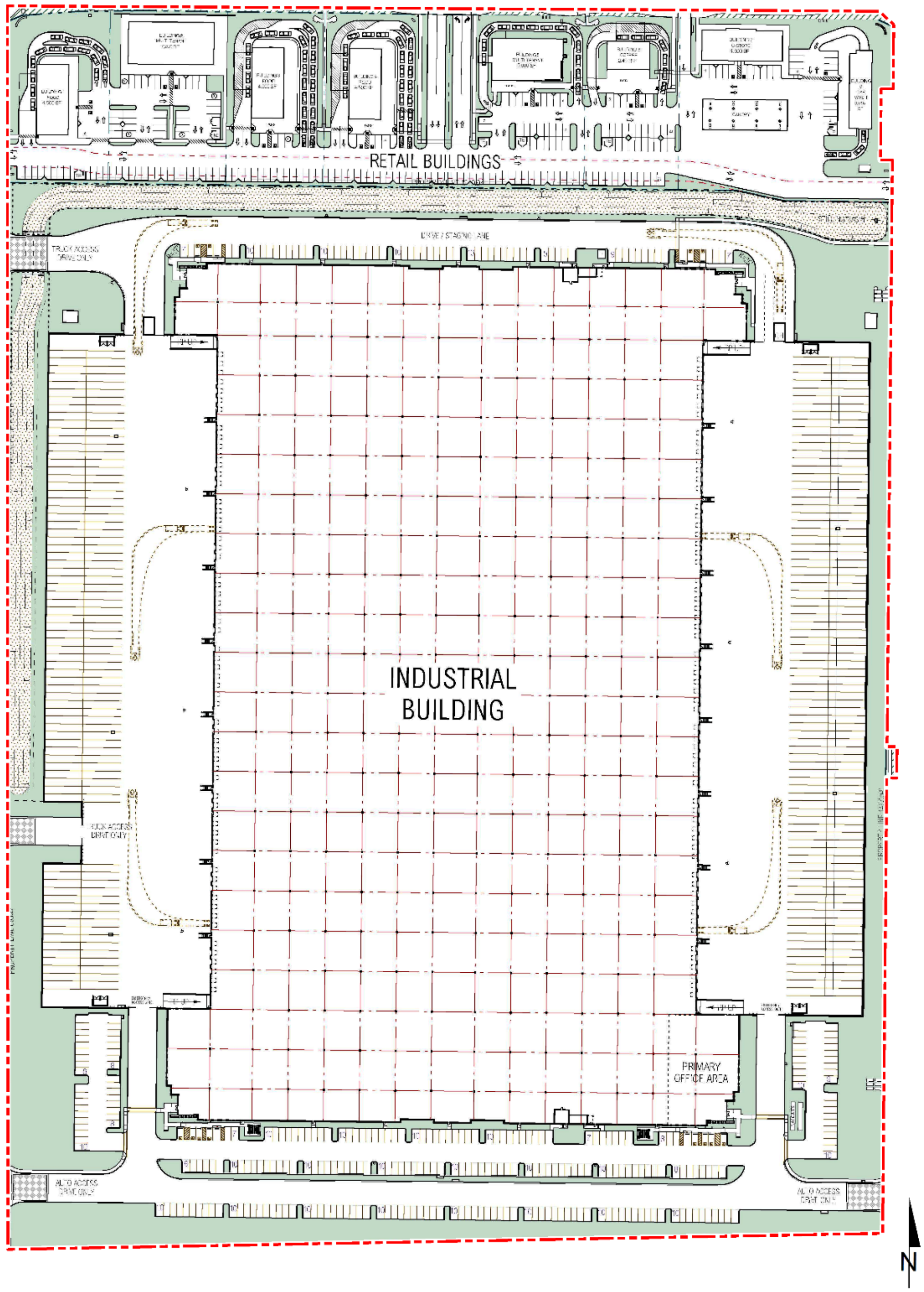


EXHIBIT 1-B: SITE PLAN



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2 AIR QUALITY SETTING

This section provides an overview of the existing air quality conditions in the Project area and region.

2.1 SOUTH COAST AIR BASIN (SCAB)

The Project site is located in the SCAB within the jurisdiction of SCAQMD (6). The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. As previously stated, the Project site is located within the SCAB, a 6,745-square-mile subregion of the SCAQMD, which includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County.

The SCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east and includes all of Orange County as well as the non-desert portions of San Bernardino, Los Angeles, and Riverside Counties.

2.2 REGIONAL CLIMATE

The regional climate has a substantial influence on air quality in the SCAB. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality.

The annual average temperatures throughout the SCAB vary from the low to middle 60s degrees Fahrenheit (°F). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Although the climate of the SCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SCAB climate. Humidity restricts visibility in the SCAB, and the conversion of sulfur dioxide (SO_2) to sulfates (SO_4) is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SCAB is 71% along the coast and 59% inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90% of the SCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SCAB with frequency being higher near the coast.

Due to its generally clear weather, about three-quarters of available sunshine is received in the SCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year there are approximately 10 hours of possible sunshine, and on the longest day of the year there are approximately 14½ hours of possible sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the SCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas" each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the SCAB is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

In the SCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire SCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as NO_X and CO from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

2.3 WIND PATTERNS AND PROJECT LOCATION

The distinctive climate of the Project area and the SCAB is determined by its terrain and geographical location. The SCAB is located in a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter.

Wind patterns across the south coastal region are characterized by westerly and southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Winds are characteristically light although the speed is somewhat greater during the dry summer months than during the rainy winter season.

2.4 CRITERIA POLLUTANTS

Criteria pollutants are pollutants that are regulated through the development of human health based and/or environmentally based criteria for setting permissible levels. Criteria pollutants, their typical sources, and health effects are identified below (7):

TABLE 2-1: CRITERIA POLLUTANTS

Criteria Pollutant	Description	Sources	Health Effects
CO	CO is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike O_3, motor vehicles operating at slow speeds are the primary source of CO in the SCAB. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen (O_2) supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with O_2 transport and competing with O_2 to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for O_2 supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (O_2 deficiency) as seen at high altitudes.
SO_2	SO_2 is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes	Coal or oil burning power plants and industries, refineries, diesel engines	A few minutes of exposure to low levels of SO_2 can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in

Criteria Pollutant	Description	Sources	Health Effects
	occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms SO_4. Collectively, these pollutants are referred to as sulfur oxides (SO_X).		resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2. Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically, or one pollutant alone is the predominant factor.
NO_X	NO_X consist of nitric oxide (NO), nitrogen dioxide (NO_2) and nitrous oxide (N_2O) and are formed when nitrogen (N_2) combines with O_2. Their lifespan in the atmosphere ranges from one to seven days for nitric oxide and nitrogen dioxide, to 170 years for nitrous oxide. NO_X is typically created during	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to NO_2 at levels found in homes with gas stoves, which are higher than

Criteria Pollutant	Description	Sources	Health Effects
	combustion processes and are major contributors to smog formation and acid deposition. NO_2 is a criteria air pollutant and may result in numerous adverse health effects; it absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility. Of the seven types of NO_X compounds, NO_2 is the most abundant in the atmosphere. As ambient concentrations of NO_2 are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO_2 than those indicated by regional monitoring station.		ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. In animals, exposure to levels of NO_2 considerably higher than ambient concentrations result in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of O_3 exposure increases when animals are exposed to a combination of O_3 and NO_2.
O_3	O_3 is a highly reactive and unstable gas that is formed when VOCs and NO_X, both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. O_3 concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.	Formed when reactive organic gases (ROG) and NO_X react in the presence of sunlight. ROG sources include any source that burns fuels, (e.g., gasoline, natural gas, wood, oil) solvents, petroleum processing and storage and pesticides.	Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible sub-groups for O_3 effects. Short-term exposure (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.

Criteria Pollutant	Description	Sources	Health Effects
			Elevated O_3 levels are associated with increased school absences. In recent years, a correlation between elevated ambient O_3 levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple outdoor sports and reside in communities with high O_3 levels. O_3 exposure under exercising conditions is known to increase the severity of the responses described above. Animal studies suggest that exposure to a combination of pollutants that includes O_3 may be more toxic than exposure to O_3 alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.
Particulate Matter	PM_{10}: A major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. Particulate matter pollution is a major cause of reduce visibility (haze) which is caused by the scattering of light and consequently the significant reduction air clarity. The size of the particles (10 microns or smaller, about 0.0004 inches or less) allows them to easily enter the lungs where they may be deposited, resulting in adverse health effects. Additionally, it should be noted that PM_{10} is	Sources of PM_{10} include road dust, windblown dust and construction. Also formed from other pollutants (acid rain, NO_X, SO_X, organics). Incomplete combustion of any fuel. $PM_{2.5}$ comes from fuel combustion in motor vehicles, equipment, and industrial sources,	A consistent correlation between elevated ambient fine particulate matter (PM_{10} and $PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by

Criteria Pollutant	Description	Sources	Health Effects
	considered a criteria air pollutant. $PM_{2.5}$: A similar air pollutant to PM_{10} consisting of tiny solid or liquid particles which are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include SO_4 formed from SO_2 release from power plants and industrial facilities and nitrates that are formed from NO_X release from power plants, automobiles, and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions. $PM_{2.5}$ is a criteria air pollutant.	residential and agricultural burning. Also formed from reaction of other pollutants (acid rain, NO_X, SO_X, organics).	fine particles and increased mortality, reduction in lifespan, and an increased mortality from lung cancer. Daily fluctuations in $PM_{2.5}$ concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long term exposure to particulate matter. The elderly, people with pre-existing respiratory or cardiovascular disease, and children appear to be more susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$.
VOC	VOCs are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form O_3 to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and	Organic chemicals are widely used as ingredients in household products. Paints, varnishes, and wax all contain organic solvents, as do many cleaning, disinfecting, cosmetic, degreasing and hobby products. Fuels are made up of organic chemicals. All of these products can release organic compounds while you are using them, and, to some	Breathing VOCs can irritate the eyes, nose, and throat, can cause difficulty breathing and nausea, and can damage the central nervous system as well as other organs. Some VOCs can cause cancer. Not all VOCs have all these health effects, though many have several.

Criteria Pollutant	Description	Sources	Health Effects
	ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms VOC and ROG (see below) interchangeably.	degree, when they are stored.	
ROG	Similar to VOC, ROGs are also precursors in forming O_3 and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and NO_X react in the presence of sunlight. ROGs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms ROG and VOC (see previous) interchangeably.	Sources similar to VOCs.	Health effects similar to VOCs.
Lead (Pb)	Pb is a heavy metal that is highly persistent in the environment and is considered a criteria pollutant. In the past, the primary source of Pb in the air was emissions from vehicles burning leaded gasoline. The major sources of Pb emissions are ore and metals processing, particularly Pb smelters, and piston-engine aircraft operating on leaded aviation gasoline. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. It should be noted that the Project does not include operational activities such as metal processing or Pb acid battery manufacturing. As such, the Project is not anticipated to generate a quantifiable amount of Pb emissions.	Metal smelters, resource recovery, leaded gasoline, deterioration of Pb paint.	Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased Pb levels are associated with increased blood pressure. Pb poisoning can cause anemia, lethargy, seizures, and death; although it appears that there are no direct effects of Pb on the respiratory system. Pb can be stored in the bone from early age environmental exposure, and elevated blood Pb levels can occur due to breakdown of bone tissue during

Criteria Pollutant	Description	Sources	Health Effects
			pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of Pb because of previous environmental Pb exposure of their mothers.
Odor	Odor means the perception experienced by a person when one or more chemical substances in the air come into contact with the human olfactory nerves (8).	Odors can come from many sources including animals, human activities, industry, natures, and vehicles.	Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, studies have shown that the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

2.5 EXISTING AIR QUALITY

Existing air quality is measured at established SCAQMD air quality monitoring stations. Monitored air quality is evaluated in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. NAAQS and California Ambient Air Quality Standards (CAAQS) currently in effect are shown in Table 2-2 (9).

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards. At the time of this AQIA, the most recent state and federal standards were updated by CARB on May 4, 2016, as presented in Table 2-2. The air quality in a region is considered to be in attainment by the state if the measured ambient air pollutant levels for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, PM_{10}, and $PM_{2.5}$ do not exceed standards. All others are not to be equaled or exceeded. It should be noted that the three-year period is presented for informational purposes and is not the basis for how the State assigns attainment status. Attainment status for a pollutant means that the SCAQMD meets the standards set by the EPA or the California EPA (CalEPA). Conversely, nonattainment means that an area has monitored air quality that does not meet the NAAQS or CAAQS standards. In order to improve air quality in nonattainment areas, CARB has implemented a State Implementation Plan (SIP). The SIP outlines the measures that the state will take to improve air quality. Once nonattainment areas meet the standards and additional redesignation requirements, the EPA will designate the area as a maintenance area (10).

TABLE 2-2: AMBIENT AIR QUALITY STANDARDS (1 OF 2)

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12.0 µg/m³	15 µg/m³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m³)		9 ppm (10 mg/m³)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m³)	
	24 Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m³ (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m³		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990 California Air Resources Board (5/4/16)

TABLE 2-2: AMBIENT AIR QUALITY STANDARDS (2 OF 2)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

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

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

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

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

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

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

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

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

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

14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990 **California Air Resources Board (5/4/16)**

2.6 REGIONAL AIR QUALITY

Air pollution contributes to a wide variety of adverse health effects. The EPA has established NAAQS for six of the most common air pollutants: CO, Pb, O_3, particulate matter (PM_{10} and $PM_{2.5}$), NO_2, and SO_2 which are known as criteria pollutants. The SCAQMD monitors levels of various criteria pollutants at 37 permanent monitoring stations and 5 single-pollutant source Pb air monitoring sites throughout the air district (11). On February 21, 2019, CARB posted the 2018 amendments to the state and national area designations. See Table 2-3 for attainment designations for the SCAB (12). Appendix 2.1 provides geographic representation of the state and federal attainment status for applicable criteria pollutants within the SCAB.

TABLE 2-3: ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SCAB

Criteria Pollutant	State Designation	Federal Designation
O_3 – 1-hour standard	Nonattainment	--
O_3 – 8-hour standard	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Unclassifiable/Attainment
NO_2	Attainment	Unclassifiable/Attainment
SO_2	Unclassifiable/Attainment	Unclassifiable/Attainment
Pb[1]	Attainment	Unclassifiable/Attainment

Note: See Appendix 2.1 for a detailed map of State/National Area Designations within the SCAB
"-" = The national 1-hour O_3 standard was revoked effective June 15, 2005.

2.7 LOCAL AIR QUALITY

The SCAQMD has designated general forecast areas and air monitoring areas (referred to as Source Receptor Areas [SRA]) throughout the district in order to provide Southern California residents about the air quality conditions. The Project site is located within the Perris Valley area (SRA 24). The Perris Valley monitoring station is located approximately 3.4 miles south of the Project site and reports air quality statistics for O_3 and PM_{10}. The Metropolitan Riverside County monitoring station which is located 14.5 miles northwest of the Project site in SRA 23, records air quality data for CO, NO_2, and $PM_{2.5}$. It should be noted that data from Metropolitan Riverside County monitoring station was utilized in lieu of the Perris Valley monitoring station only in instances where data was not available.

The most recent three (3) years of data available is shown on Table 2-4 and identifies the number of days ambient air quality standards were exceeded for the study area, which is considered to be representative of the local air quality at the Development Site. Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ for 2018 through 2020 was obtained from the SCAQMD Air Quality Data Tables (13).

[1] The Federal nonattainment designation for lead is only applicable towards the Los Angeles County portion of the SCAB.

Additionally, data for SO_2 has been omitted as attainment is regularly met in the SCAB and few monitoring stations measure SO_2 concentrations.

TABLE 2-4: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2018-2020

Pollutant	Standard	Year		
		2018	2019	2020
O_3				
Maximum Federal 1-Hour Concentration (ppm)		0.117	0.118	0.125
Maximum Federal 8-Hour Concentration (ppm)		0.103	0.095	0.106
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	31	26	34
Number of Days Exceeding State/Federal 8-Hour Standard	> 0.070 ppm	67	64	74
CO				
Maximum Federal 1-Hour Concentration	> 35 ppm	2.2	1.5	1.9
Maximum Federal 8-Hour Concentration	> 20 ppm	2.0	1.2	1.4
NO_2				
Maximum Federal 1-Hour Concentration	> 0.100 ppm	0.055	0.056	0.066
Annual Federal Standard Design Value		0.014	0.014	0.014
PM_{10}				
Maximum Federal 24-Hour Concentration (μg/m^3)	> 150 μg/m^3	64	97	77
Annual Federal Arithmetic Mean (μg/m^3)		29.7	25.3	35.9
Number of Days Exceeding Federal 24-Hour Standard	> 150 μg/m^3	0	0	0
Number of Days Exceeding State 24-Hour Standard	> 50 μg/m^3	3	4	6
$PM_{2.5}$				
Maximum Federal 24-Hour Concentration (μg/m^3)	> 35 μg/m^3	50.70	46.70	41.00
Annual Federal Arithmetic Mean (μg/m^3)	> 12 μg/m^3	12.41	11.13	12.63
Number of Days Exceeding Federal 24-Hour Standard	> 35 μg/m^3	2	4	4

ppm = Parts Per Million
μg/m^3 = Microgram per Cubic Meter
Source: Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ was obtained from SCAQMD Air Quality Data Tables.

2.8 REGULATORY BACKGROUND

2.8.1 FEDERAL REGULATIONS

The EPA is responsible for setting and enforcing the NAAQS for O_3, CO, NO_X, SO_2, PM_{10}, and Pb (14). The EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of CARB.

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance (15). The CAA also mandates that states submit and implement SIPs for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards would be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions) (16) (17). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O_3, NO_2, SO_2, PM_{10}, CO, $PM_{2.5}$, and Pb. The NAAQS were amended in July 1997 to include an additional standard for O_3 and to adopt a NAAQS for $PM_{2.5}$. Table 2-3 (previously presented) provides the NAAQS within the SCAB.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and NO_X. NO_X is a collective term that includes all forms of NO_X which are emitted as byproducts of the combustion process.

2.8.2 CALIFORNIA REGULATIONS

CARB

CARB, which became part of the CalEPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. AB 2595 mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for SO_4, visibility, hydrogen sulfide (H_2S), and vinyl chloride (C_2H_3Cl). However, at this time, H_2S and C_2H_3Cl are not measured at any monitoring stations in the SCAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS (18) (14).

Local air quality management districts, such as the SCAQMD, regulate air emissions from stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Serious non-attainment areas are required to prepare Air Quality Management Plans (AQMP) that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;

- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g., motor vehicle use generated by residential and commercial development);
- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a 5% or more annual reduction in emissions or 15% or more in a period of three years for ROGs, NO_X, CO and PM_{10}. However, air basins may use alternative emission reduction strategy that achieves a reduction of less than 5% per year under certain circumstances.

TITLE 24 ENERGY EFFICIENCY STANDARDS AND CALIFORNIA GREEN BUILDING STANDARDS

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on August 1, 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that will be effective on January 1, 2023. The CEC anticipates that the 2022 energy code will provide $1.5 billion in consumer benefits and reduce GHG emissions by 10 million metric tons (19). The Project would be required to comply with the applicable standards in place at the time building permit document submittals are made. These require, among other items (20):

NONRESIDENTIAL MANDATORY MEASURES

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking for clean air vehicles. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).

- EV charging stations. New construction shall facilitate the future installation of EV supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. The number of spaces to be provided for is contained in Table 5.106. 5.3.3 (5.106.5.3). Additionally, Table 5.106.5.4.1 specifies requirements for the installation of raceway conduit and panel power requirements for medium- and heavy-duty electric vehicle supply equipment for warehouses, grocery stores, and retail stores.
- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, uplight and glare ratings per Table 5.106.8 (5.106.8).
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1. 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reuse or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
    - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
    - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor- mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
    - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
    - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).
- Outdoor potable water uses in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent (5.304.1).

- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new building or within an addition that is project to consume more than 1,000 gallons per day (GPD) (5.303.1.1 and 5.303.1.2).
- Outdoor water uses in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).
- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

2.8.3 AQMP

Currently, the NAAQS and CAAQS are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMP to meet the state and federal ambient air quality standards (21). AQMPs are updated regularly to ensure an effective reduction in emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy. A detailed discussion on the AQMP and Project consistency with the AQMP is provided in Section 3.10.

2.9 REGIONAL AIR QUALITY IMPROVEMENT

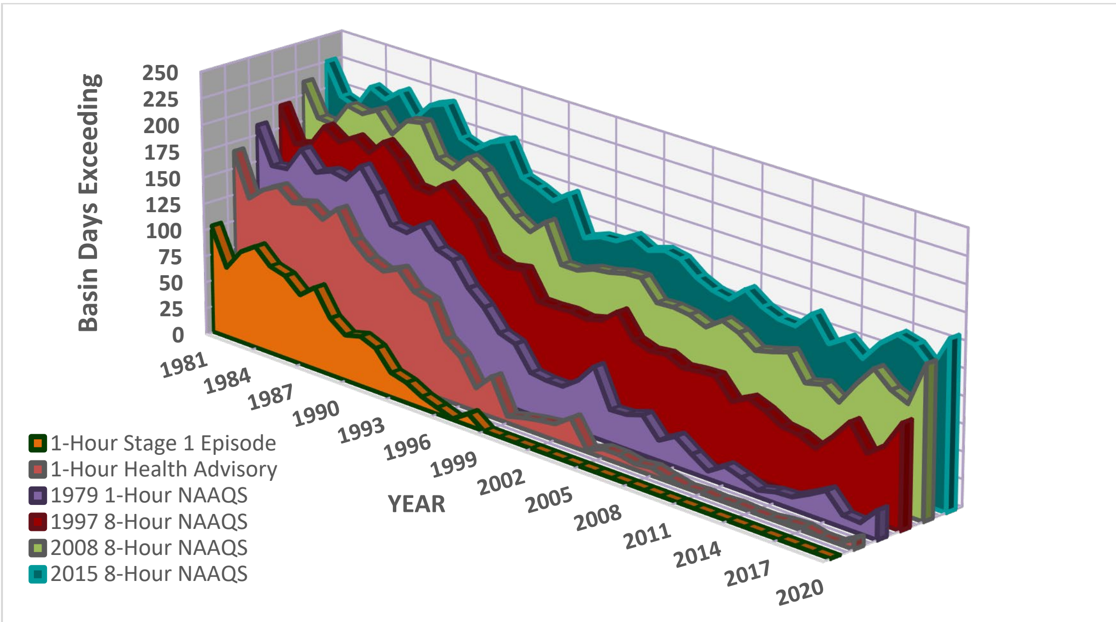
The Project is within the jurisdiction of the SCAQMD. In 1976, California adopted the Lewis Air Quality Management Act which created SCAQMD from a voluntary association of air pollution control districts in Los Angeles, Orange, Riverside, and San Bernardino counties. The geographic area of which SCAQMD consists of is known as the SCAB. SCAQMD develops comprehensive plans and regulatory programs for the region to attain federal standards by dates specified in federal law. The agency is also responsible for meeting state standards by the earliest date achievable, using reasonably available control measures.

SCAQMD rule development through the 1970s and 1980s resulted in dramatic improvement in SCAB air quality. Nearly all control programs developed through the early 1990s relied on (i) the development and application of cleaner technology; (ii) add-on emission controls, and (iii) uniform CEQA review throughout the SCAB. Industrial emission sources have been significantly reduced by this approach and vehicular emissions have been reduced by technologies implemented at the state level by CARB.

As discussed above, the SCAQMD is the lead agency charged with regulating air quality emission reductions for the entire SCAB. SCAQMD created AQMPs which represent a regional blueprint for achieving healthful air on behalf of the 16 million residents of the SCAB. AQMPs are updated regularly to ensure an effective reduction in emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

Emissions of O_3, NO_X, VOC, and CO have been decreasing in the SCAB since 1975 (22). These decreases result primarily from motor vehicle controls and reductions in evaporative emissions. Although vehicle miles traveled (VMT) in the SCAB continue to increase, NO_X and VOC levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NO_X emissions from electric utilities have also decreased due to use of cleaner fuels and renewable energy. O_3 contour maps show that the number of days exceeding the 8-hour NAAQS has generally decreased between 1980 and 2020. For 2020, there was an overall decrease in exceedance days compared with the 1980 period. However, as shown on Table 2-5, O_3 levels have increased in the past three years due to higher temperatures and stagnant weather conditions. Notwithstanding, O_3 levels in the SCAB have decreased substantially over the last 30 years with the current maximum measured concentrations being approximately one-third of concentrations within the late 70's (23).

TABLE 2-5: SCAB O_3 TREND

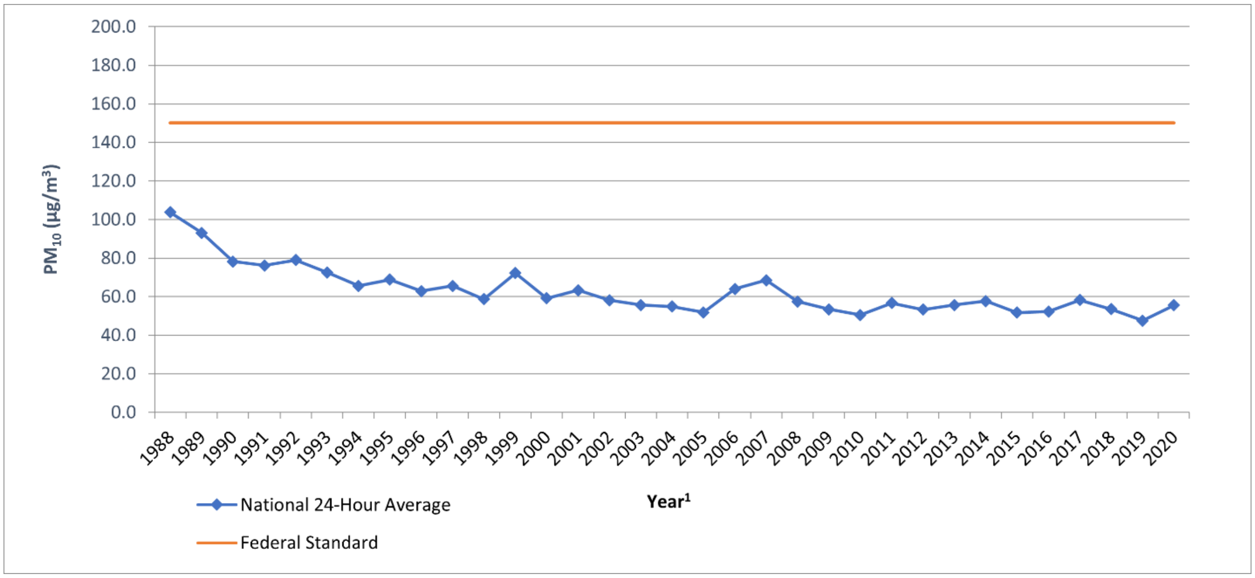


Source: 2020 SCAQMD, Historical O_3 Air Quality Trends (1976-2020)

The overall trends of PM_{10} and $PM_{2.5}$ levels in the air (not emissions) show an overall improvement since 1975. Direct emissions of PM_{10} have remained somewhat constant in the SCAB and direct emissions of $PM_{2.5}$ have decreased slightly since 1975. Area wide sources (fugitive dust from roads, dust from construction, and other sources) contribute the greatest amount of direct particulate matter emissions.

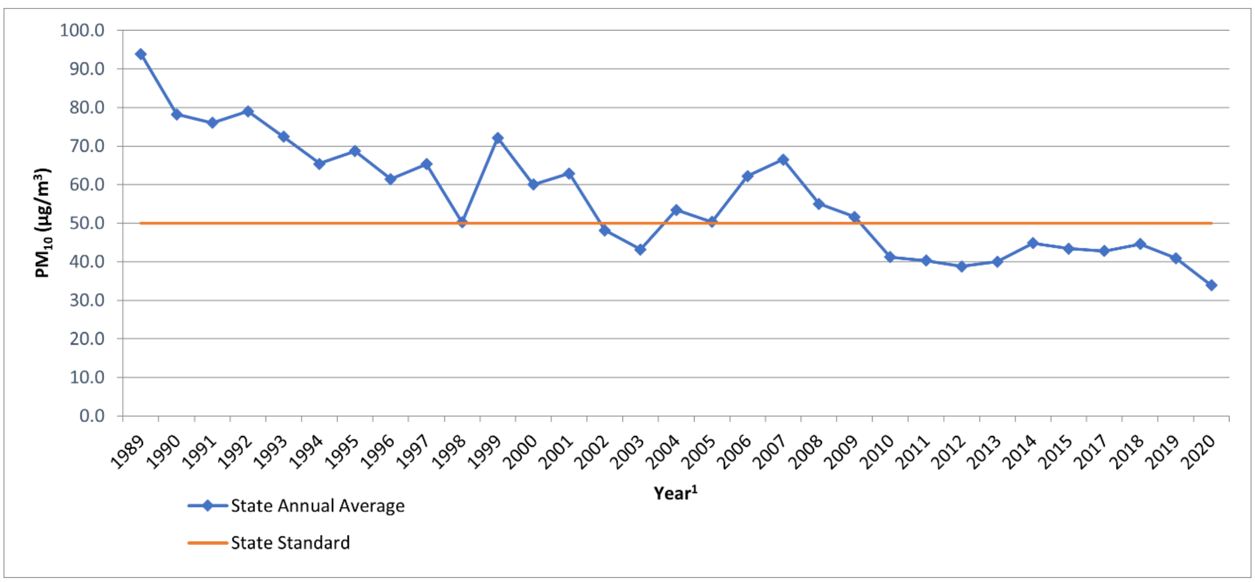
As with other pollutants, the most recent PM_{10} statistics show an overall improvement as illustrated in Tables 2-6 and 2-7. During the period for which data are available, the 24-hour national annual average concentration for PM_{10} decreased by approximately 46%, from 103.7 microgram per cubic meter (μg/m³) in 1988 to 55.5 μg/m³ in 2020 (24). Although the values are below the federal standard, it should be noted that there are days within the year where the concentrations would exceed the threshold. The 24-hour state annual average for emissions for PM_{10}, have decreased by approximately 64%, from 93.9 μg/m³ in 1989 to 33.9 μg/m³ in 2020 (24). Although data in the late 1990's show some variability, this is probably due to the advances in meteorological science rather than a change in emissions. Similar to the ambient concentrations, the calculated number of days above the 24-hour PM_{10} standards has also shown an overall drop.

TABLE 2-6: SCAB AVERAGE 24-HOUR CONCENTRATION PM_{10} TREND (BASED ON FEDERAL STANDARD)[1]



Source: 2020 CARB, iADAM: Top Four Summary: PM_{10} 24-Hour Averages (1988-2020)
[1] Some years have been omitted from the table as insufficient data (or no) data has been reported. Years with reported value of "0" have also been omitted.

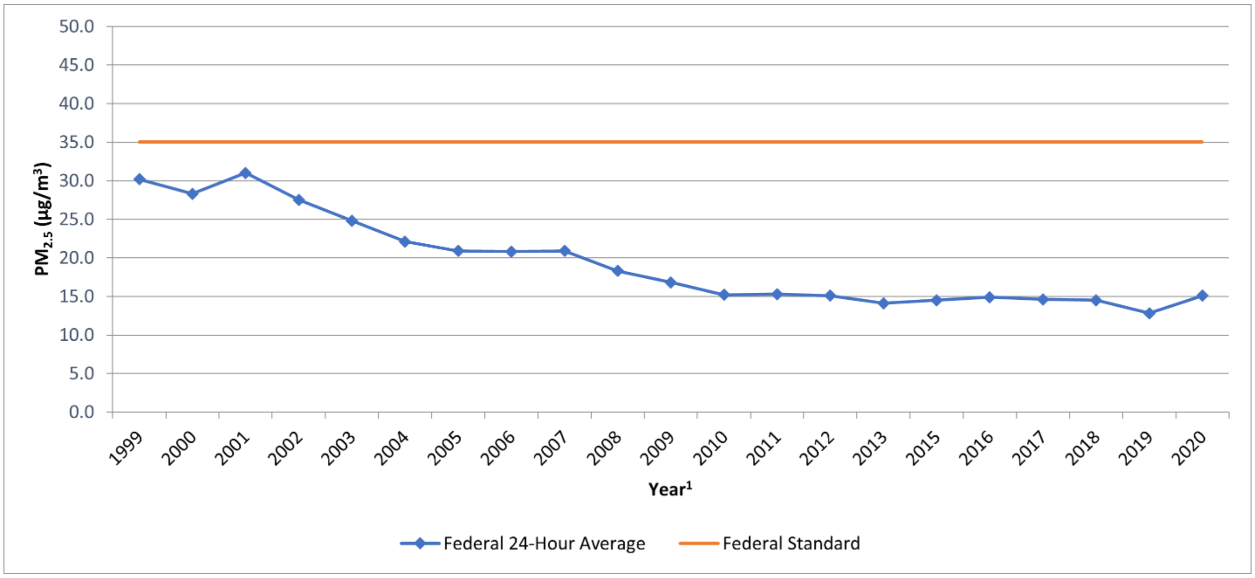
TABLE 2-7: SCAB ANNUAL AVERAGE CONCENTRATION PM_{10} TREND (BASED ON STATE STANDARD)[1]



Source: 2020 CARB, iADAM: Top Four Summary: PM_{10} 24-Hour Averages (1988-2020)
[1] Some years have been omitted from the table as insufficient data (or no) data has been reported. Years with reported value of "0" have also been omitted.

Tables 2-8 and 2-9 shows the most recent 24-hour average $PM_{2.5}$ concentrations in the SCAB from 1999 through 2020. Overall, the national and state annual average concentrations have decreased by almost 50% and 31% respectively (24). It should be noted that the SCAB is currently designated as nonattainment for the state and federal $PM_{2.5}$ standards.

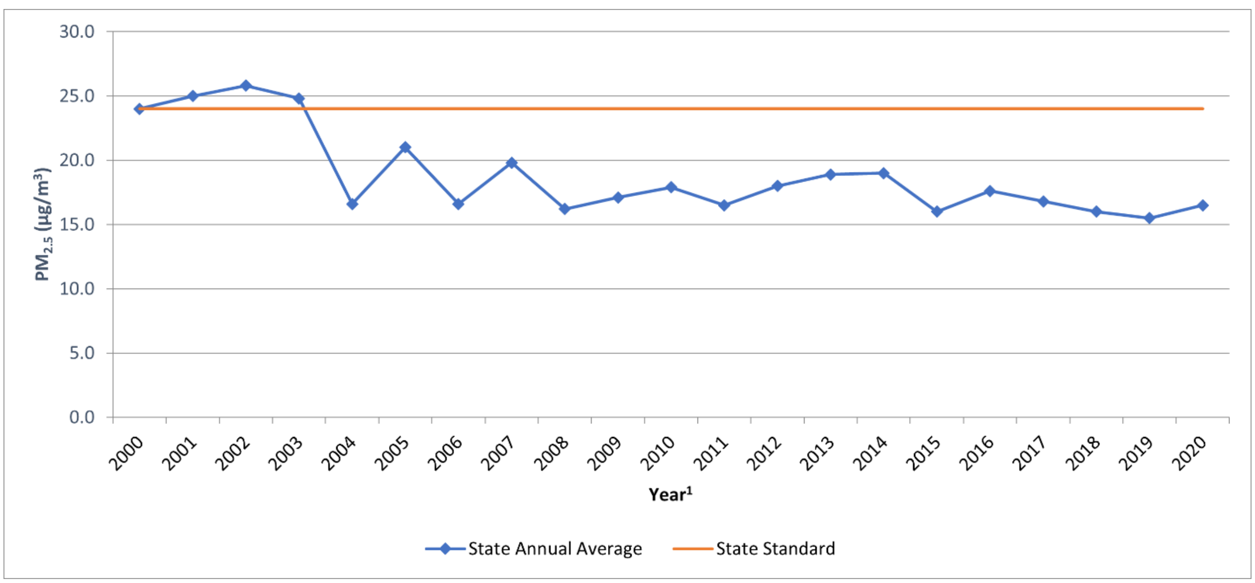
TABLE 2-8: SCAB 24-HOUR AVERAGE CONCENTRATION $PM_{2.5}$ TREND (BASED ON FEDERAL STANDARD)[1]



Source: 2020 CARB, iADAM: Top Four Summary: $PM_{2.5}$ 24-Hour Averages (1999-2020)

[1] Some years have been omitted from the table as insufficient data (or no) data has been reported. Years with reported value of "0" have also been omitted.

TABLE 2-9: SCAB ANNUAL AVERAGE CONCENTRATION $PM_{2.5}$ TREND (BASED ON STATE STANDARD)[1]



Source: 2020 CARB, iADAM: Top Four Summary: $PM_{2.5}$ 24-Hour Averages (1999-2020)

[1] Some years have been omitted from the table as insufficient data (or no) data has been reported. Years with reported value of "0" have also been omitted.

While the 2012 AQMP PM_{10} attainment demonstration and the 2015 associated supplemental SIP submission indicated that attainment of the 24-hour standard was predicted to occur by the end of 2015, it could not anticipate the effect of the ongoing drought on the measured $PM_{2.5}$.

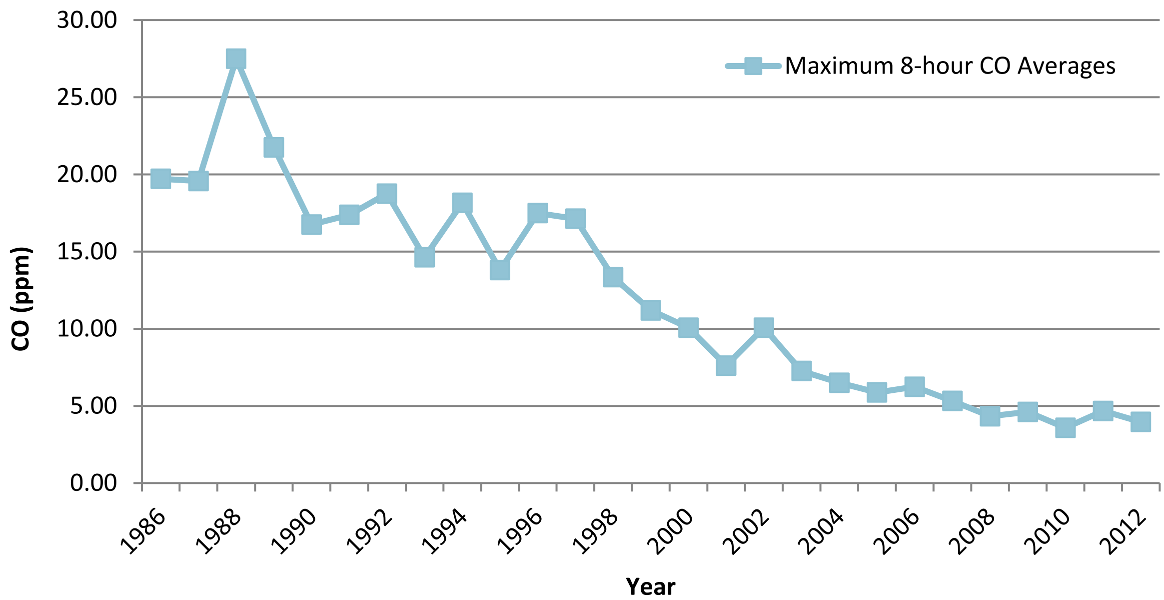
The 2006 to 2010 base period used for the 2012 attainment demonstration had near-normal rainfall. While the trend of $PM_{2.5}$-equivalent emission reductions continued through 2015, the severe drought conditions contributed to the $PM_{2.5}$ increases observed after 2012. As a result of the disrupted progress toward attainment of the federal 24-hour $PM_{2.5}$ standard, SCAQMD submitted a request and the EPA approved, in January 2016, a "bump up" to the nonattainment classification from "moderate" to "serious," with a new attainment deadline as soon as practicable, but not beyond December 31, 2019. As of March 14, 2019, the EPA approved portions of a SIP revision submitted by California to address CAA requirements for the 2006 24-hour $PM_{2.5}$ NAAQS in the Los Angeles-SCAB Serious $PM_{2.5}$ nonattainment area. The EPA also approved 2017 and 2019 motor vehicle emissions budgets for transportation conformity purposes and inter-pollutant trading ratios for use in transportation conformity analyses (25).

In March 2017, the SCAQMD released the Final 2016 AQMP. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels (26). Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS) and updated emission inventory methodologies for various source categories (21).

The 2022 AQMP is currently being developed by SCAQMD to address the EPA's strengthened ozone standard. The draft 2022 AQMP was released in May 2022 and is currently open for public comment. Development of the 2022 AQMP is in its early stages and no formal timeline for completion and adoption of the final document is currently known.

The most recent CO concentrations in the SCAB are shown in Table 2-10 (24). CO concentrations in the SCAB have decreased markedly — a total decrease of more about 80% in the peak 8-hour concentration from 1986 to 2012. It should be noted 2012 is the most recent year where 8-hour CO averages and related statistics are available in the SCAB. The number of exceedance days has also declined. The entire SCAB is now designated as attainment for both the state and national CO standards. Ongoing reductions from motor vehicle control programs should continue the downward trend in ambient CO concentrations.

TABLE 2-10: SCAB 8-HOUR AVERAGE CONCENTRATION CO TREND[1]

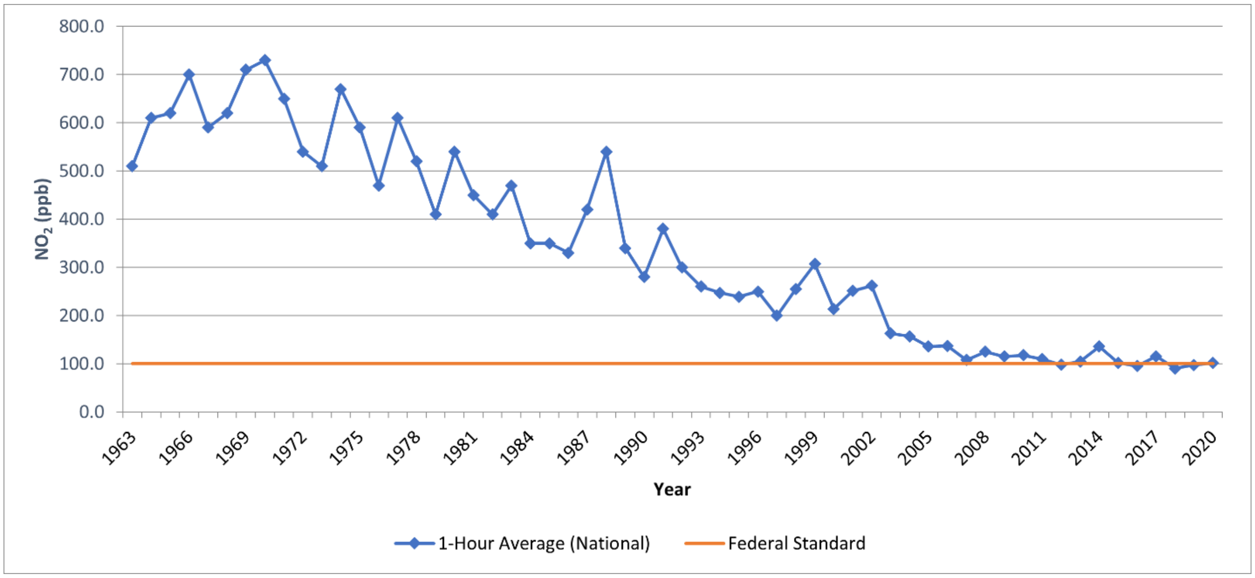


Source: 2020 CARB, iADAM: Top Four Summary: CO 8-Hour Averages (1986-2012)
[1] The most recent year where 8-hour concentration data is available is 2012.

Part of the control process of the SCAQMD's duty to greatly improve the air quality in the SCAB is the uniform CEQA review procedures required by SCAQMD's *CEQA Air Quality Handbook (1993)* (*1993 CEQA Handbook*) (27). The single threshold of significance used to assess Project direct and cumulative impacts has in fact "worked" as evidenced by the track record of the air quality in the SCAB dramatically improving over the course of the past decades. As stated by the SCAQMD, the District's thresholds of significance are based on factual and scientific data and are therefore appropriate thresholds of significance to use for this Project.

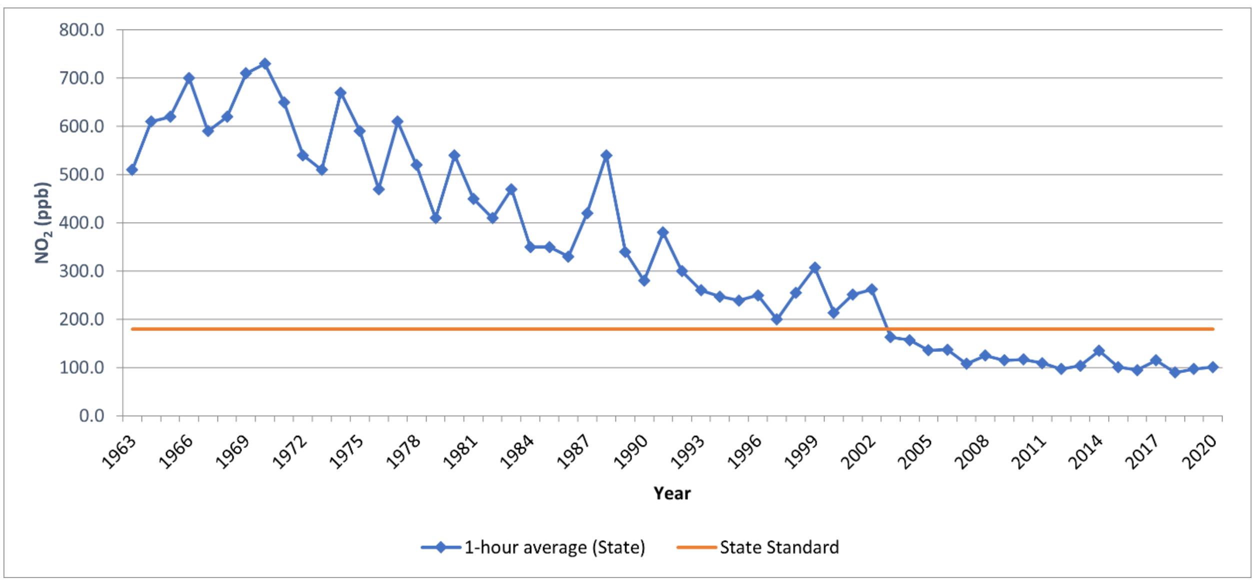
The most recent NO_2 data for the SCAB is shown in Tables 2-11 and 2-12 (24). Over the last 50 years, NO_2 values have decreased significantly; the peak 1-hour national and state averages for 2020 is approximately 80% lower than what it was during 1963. The SCAB attained the State 1-hour NO_2 standard in 1994, bringing the entire state into attainment. A new state annual average standard of 0.030 ppm was adopted by CARB in February 2007 (28). The new standard is just barely exceeded in the SCAQMD. NO_2 is formed from NO_X emissions, which also contribute to O_3. As a result, the majority of the future emission control measures would be implemented as part of the overall O_3 control strategy. Many of these control measures would target mobile sources, which account for more than three-quarters of California's NO_X emissions. These measures are expected to bring the SCAQMD into attainment of the state annual average standard.

TABLE 2-11: SCAB 1-HOUR AVERAGE CONCENTRATION NO_2 TREND (BASED ON FEDERAL STANDARD)



Source: 2020 CARB, iADAM: Top Four Summary: CO 1-Hour Averages (1963-2020)

TABLE 2-12: SCAB 1-HOUR AVERAGE CONCENTRATION NO_2 TREND (BASED ON STATE STANDARD)



Source: 2020 CARB, iADAM: Top Four Summary: CO 1-Hour Averages (1963-2020)

2.9.1 TOXIC AIR CONTAMINANTS (TAC) TRENDS

In 1984, as a result of public concern for exposure to airborne carcinogens, CARB adopted regulations to reduce the amount of TAC emissions resulting from mobile and area sources, such as cars, trucks, stationary sources, and consumer products. According to the *Ambient and Emission Trends of Toxic Air Contaminants in California* journal article (29) which was prepared for CARB, results show that between 1990-2012, ambient concentration and emission trends for the seven TACs responsible for most of the known cancer risk associated with airborne exposure in California have declined significantly (between 1990 and 2012). The seven TACs studied include those that are derived from mobile sources: diesel particulate matter (DPM), benzene (C_6H_6), and 1,3-butadiene (C_4H_6); those that are derived from stationary sources: perchloroethylene (C_2Cl_4) and hexavalent chromium (Cr(VI)); and those derived from photochemical reactions of emitted VOCs: formaldehyde (CH_2O) and acetaldehyde (C_2H_4O)[2]. The decline in ambient concentration and emission trends of these TACs are a result of various regulations CARB has implemented to address cancer risk.

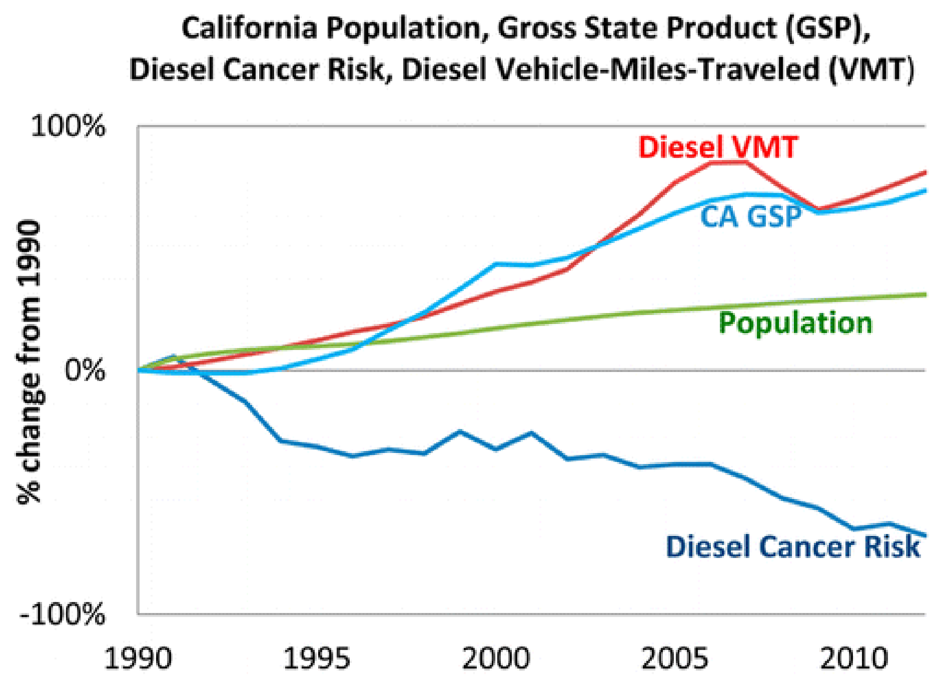
MOBILE SOURCE TACS

CARB introduced two programs that aimed at reducing mobile emissions for light and medium duty vehicles through vehicle emissions controls and cleaner fuel. In California, light-duty vehicles sold after 1996 are equipped with California's second-generation On-Board Diagnostic (OBD-II) system. The OBD-II system monitors virtually every component that can affect the emission performance of the vehicle to ensure that the vehicle remains as clean as possible over its entire life and assists repair technicians in diagnosing and fixing problems with the computerized engine controls. If a problem is detected, the OBD-II system illuminates a warning lamp on the vehicle instrument panel to alert the driver. This warning lamp typically contains the phrase "Check Engine" or "Service Engine Soon." The system would also store important information about the detected malfunction so that a repair technician can accurately find and fix the problem. CARB has recently developed similar OBD requirements for heavy-duty vehicles over 14,000 pounds (lbs). CARB's phase II Reformulated Gasoline Regulation (RFG-2), adopted in 1996, also led to a reduction of mobile source emissions. Through such regulations, benzene levels declined 88% from 1990-2012. 1,3-Butadiene concentrations also declined 85% from 1990-2012 as a result of the use of reformulated gasoline and motor vehicle regulations (29).

In 2000, CARB's Diesel Risk Reduction Plan (DRRP) recommended the replacement and retrofit of diesel-fueled engines and the use of ultra-low-sulfur (<15 ppm) diesel fuel. As a result of these measures, DPM concentrations have declined 68% since 2000, even though the state's population increased 31% and the amount of diesel vehicles miles traveled increased 81%, as shown on Exhibit 2-B. With the implementation of these diesel-related control regulations, CARB expects a DPM decline of 71% for 2000-2020.

[2] It should be noted that ambient DPM concentrations are not measured directly. Rather, a surrogate method using the coefficient of haze (COH) and elemental carbon (EC) is used to estimate DPM concentrations.

EXHIBIT 2-A: DPM AND DIESEL VEHICLE MILES TREND



Source: 2020 CARB

DIESEL REGULATIONS

CARB and the Ports of Los Angeles and Long Beach (POLA and POLB) have adopted several iterations of regulations for diesel trucks that are aimed at reducing DPM. More specifically, CARB Drayage Truck Regulation (30), CARB statewide On-road Truck and Bus Regulation (31), and the Ports of Los Angeles and Long Beach Clean Truck Program (CTP) require accelerated implementation of "clean trucks" into the statewide truck fleet (32). In other words, older more polluting trucks would be replaced with newer, cleaner trucks as a function of these regulatory requirements.

Moreover, the average statewide DPM emissions for Heavy Duty Trucks (HDT), in terms of grams of DPM generated per mile traveled, would dramatically be reduced due to the aforementioned regulatory requirements.

Diesel emissions identified in this analysis would therefore overstate future DPM emissions since not all the regulatory requirements are reflected in the modeling.

CANCER RISK TRENDS

Based on information available from CARB, overall cancer risk throughout the SCAB has had a declining trend since 1990. In 1998, following an exhaustive 10-year scientific assessment process, CARB identified particulate matter from diesel-fueled engines as a toxic air contaminant. The SCAQMD initiated a comprehensive urban toxic air pollution study called the Multiple Air Toxics Exposure Study (MATES). DPM accounts for more than 70% of the cancer risk.

In January 2018, as part of the overall effort to reduce air toxics exposure in the SCAB, SCAQMD began conducting the MATES V Program. MATES V field measurements were conducted at ten fixed sites (the same sites selected for MATES III and IV) to assess trends in air toxics levels. MATES V also included measurements of ultrafine particles (UFP) and black carbon (BC) concentrations, which can be compared to the UFP levels measured in MATES IV (33). The final report for the MATES V study was published in in August 2021. In addition to new measurements and updated modeling results, several key updates were implemented in MATES V. First, MATES V estimates cancer risks by taking into account multiple exposure pathways, which includes inhalation and non-inhalation pathways. This approach is consistent with how cancer risks are estimated in South Coast AQMD's programs such as permitting, Air Toxics Hot Spots (AB2588), and CEQA. Previous MATES studies quantified the cancer risks based on the inhalation pathway only. Second, along with cancer risk estimates, MATES V includes information on the chronic non-cancer risks from inhalation and non-inhalation pathways for the first time. Cancer risks and chronic non-cancer risks from MATES II through IV measurements have been re-examined using current Office of Environmental Health Hazard Assessment (OEHHA) and CalEPA risk assessment methodologies and modern statistical methods to examine the trends over time (34).

MATES-V calculated cancer risks based on monitoring data collected at ten fixed sites within the SCAB. None of the fixed monitoring sites are within the local area of the Project site. However, MATES-V has extrapolated the excess cancer risk levels throughout the SCAB by modeling the specific grids. The Project is located within a quadrant of the geographic grid of the MATES-V model which predicted a cancer risk of 308 in one million for the area containing the Project site. The air toxic cancer risk in the Project area is higher than 15% of the SCAQMD population. DPM is included in this cancer risk along with all other TAC sources. As in previous MATES iterations, diesel PM is the largest contributor to overall air toxics cancer risk. However, the average levels of diesel PM in MATES V are 53% lower at the 10 monitoring sites compared to MATES IV. Cumulative Project generated TACs are limited to DPM.

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3 PROJECT AIR QUALITY IMPACT

3.1 INTRODUCTION

This study quantifies air quality emissions generated by construction and operation of the Project and addresses whether the Project conflicts with implementation of the SCAQMD's AQMP and Lead Agency planning regulations. The analysis of Project-generated air emissions determines whether the Project would result in a cumulatively considerable net increase of any criteria pollutant for which the SCAB is in non-attainment under an applicable NAAQS and CAAQS. Additionally, the Project has been evaluated to determine whether the Project would expose sensitive receptors to substantial pollutant concentrations and the impacts of odors. The significance of these potential impacts is described in the following sections.

3.2 STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related air quality impacts are taken from the *State CEQA Guidelines* (14 CCR §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to air quality if it would (1):

- 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 region is in non-attainment under an applicable federal or state ambient air quality standard.
- Expose sensitive receptors to substantial pollutant concentrations.
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The SCAQMD has developed regional significance thresholds for criteria pollutants, as summarized at Table 3-1 (35). The SCAQMD's *CEQA Air Quality Significance Thresholds* (April 2019) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

TABLE 3-1: MAXIMUM DAILY REGIONAL EMISSIONS THRESHOLDS

Pollutant	Regional Construction Threshold	Regional Operational Thresholds
NO_X	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_X	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Pb	3 lbs/day	3 lbs/day

lbs/day = Pounds Per Day

3.3 MODELS EMPLOYED TO ANALYZE AIR QUALITY

3.3.1 CALEEMOD

Land uses such as the Project affect air quality through construction-source and operational-source emissions.

In May 2022 California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including the SCAQMD, released the latest version of CalEEMod version 2022.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (36). Accordingly, the latest version of CalEEMod has been used for this Project to determine construction and operational air quality emissions. Output from the model runs for both construction and operational activity are provided in Appendix 3.1.

3.4 CONSTRUCTION EMISSIONS

Construction activities associated with the Project will result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Construction related emissions are expected from the following construction activities:

- Site Preparation
- Grading
- Building/Vertical Construction
- Paving
- Architectural Coating
- Landscaping/Tenant Improvements

GRADING ACTIVITIES

Dust is typically a major concern during grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions". Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). CalEEMod was utilized to calculate fugitive dust emissions resulting from this phase of activity. This analysis assumes that earthwork activities are expected to balance on site and no import or export of soils would be required.

OFF-SITE UTILITY AND INFRASTRUCTURE IMPROVEMENTS

In addition, to support the Project development, a new off-site gas line will be installed on Ramona Expressway east to Brennan Avenue. The underground utilities will be installed within the existing public right-of-way (ROW) with construction activities moving linearly along a proposed alignment. It is expected that the off-site construction activities would not take place at one location for the entire duration of construction. It is anticipated that off-site utility and infrastructure improvements would occur concurrent with other utility instillation activities. Impacts associated with these expected activities are not expected to exceed the emissions identified for Project-related construction activities. As such, no impacts beyond what has already been identified in this report are expected to occur.

ON-ROAD TRIPS

Construction generates on-road vehicle emissions from vehicle usage for workers and vendors commuting to and from the site. The number of workers and vendor trips are presented below in Table 3-2. It should be noted that for Vendor Trips, specifically, CalEEMod only assigns Vendor Trips to the Building Construction phase. Vendor trips would likely occur during all phases of construction. As such, the CalEEMod defaults for Vendor Trips have been adjusted based on a ratio of the total vendor trips to the number of days of each subphase of activity.

TABLE 3-2: CONSTRUCTION TRIP ASSUMPTIONS

Construction Activity	Worker Trips Per Day	Vendor Trips Per Day
Site Preparation	28	20
Grading	33	93
Building/Vertical Construction	813	179
Architectural Coating	325	0
Paving	30	27
Landscaping/Tenant Improvements	813	0

3.4.1 CONSTRUCTION DURATION

For purposes of analysis, construction of the Project (retail and industrial components) is expected to last approximately 12 months, commencing in July 2023 and being completed in July 2024. The construction schedule utilized in the analysis, shown in Table 3-3, represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent[3]. The duration of construction activity and associated equipment was based on information provided by the Project Applicant and represents a reasonable approximation of the expected construction fleet as required per the *State CEQA Guidelines* (1).

3.4.2 CONSTRUCTION EQUIPMENT

Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 3-4 will operate up to a total of eight (8) hours per day, or more than two-thirds of

[3] As shown in the CalEEMod User's Guide Version 2020.4.0, Section 4.3 "Off-Road Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

the period during which construction activities are allowed pursuant to the code City's Municipal Code, Section 7.34.060 (Appendix 3.1) (37).

TABLE 3-3: CONSTRUCTION DURATION

Construction Activity	Start Date	End Date	Days
Site Preparation	07/03/2023	07/21/2023	15
Grading	07/22/2023	10/27/2023	70
Building/Vertical Construction	10/28/2023	05/03/2024	135
Architectural Coating	03/18/2024	05/10/2024	40
Paving	05/04/2024	05/31/2024	20
Landscaping/Tenant Improvements	05/11/2024	07/05/2024	40

TABLE 3-4: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Construction Activity	Equipment[1]	Amount	Hours Per Day
Site Preparation	Crawler Tractors	6	8
	Rubber Tired Dozers	5	8
Grading	Crawler Tractors	3	8
	Excavators	3	8
	Graders	2	8
	Rubber Tired Dozers	2	8
	Scrapers	3	8
Building/Vertical Construction	Cranes	2	8
	Forklifts	6	8
	Generator Sets	2	8
	Tractors/Loaders/Backhoes	6	8
	Welders	2	8
Architectural Coating	Air Compressors	2	8
Paving	Pavers	4	8
	Paving Equipment	4	8
	Rollers	4	8
Landscaping/Tenant Improvements	Cranes	2	8
	Forklifts	6	8
	Generator Sets	2	8
	Tractors/Loaders/Backhoes	6	8
	Welders	2	8

[1] In order to account for fugitive dust emissions, Crawler Tractors were used in lieu of Tractors/Loaders/Backhoes during the site preparation and grading phases.

3.4.3 CONSTRUCTION EMISSIONS SUMMARY

IMPACTS WITHOUT MITIGATION

CalEEMod calculates maximum daily emissions for summer and winter periods. The estimated maximum daily construction emissions without mitigation are summarized on Table 3-5. Detailed construction model outputs are presented in Appendix 3.1. Under the assumed scenarios, emissions resulting from the Project construction will not exceed criteria pollutant thresholds established by the SCAQMD for emissions of any criteria pollutant.

TABLE 3-5: OVERALL CONSTRUCTION EMISSIONS SUMMARY – WITHOUT MITIGATION

Year	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer (Smog Season)						
2023	8.09	77.20	64.30	0.12	13.90	8.34
2024	38.40	45.00	128.00	0.10	17.70	5.06
Winter						
2023	7.32	72.80	86.60	0.12	13.40	5.31
2024	38.10	39.80	105.00	0.10	17.70	5.06
Maximum Daily Emissions	**38.40**	**77.20**	**128.00**	**0.12**	**17.70**	**8.34**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Source: CalEEMod construction-source (unmitigated) emissions are presented in Appendix 3.1.

3.5 OPERATIONAL EMISSIONS

Operational activities associated with the Project will result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Operational emissions are expected from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- TRU Source Emissions
- On-Site Cargo Handling Equipment Emissions
- Gasoline Dispensing Emissions

3.5.1 AREA SOURCE EMISSIONS

ARCHITECTURAL COATINGS

Over a period of time the buildings that are part of this Project will require maintenance and will therefore produce emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings. The emissions associated with architectural coatings were calculated using CalEEMod.

CONSUMER PRODUCTS

Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on defaults provided within CalEEMod.

LANDSCAPE MAINTENANCE EQUIPMENT

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. The emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod.

3.5.2 ENERGY SOURCE EMISSIONS

COMBUSTION EMISSIONS ASSOCIATED WITH NATURAL GAS AND ELECTRICITY

Electricity and natural gas are used by almost every project. Criteria pollutant emissions are emitted through the generation of electricity and consumption of natural gas. However, because electrical generating facilities for the Project area are located either outside the region (state) or offset through the use of pollution credits (RECLAIM) for generation within the SCAB, criteria pollutant emissions from offsite generation of electricity are generally excluded from the evaluation of significance and only natural gas use is considered. Based on information provided by the Project Applicant, only the commercial portion of the Project would utilize natural gas. The emissions associated with natural gas use were calculated using CalEEMod.

3.5.3 MOBILE SOURCE EMISSIONS

The Project related operational air quality emissions derive primarily from vehicle trips generated by the Project, including employee trips to and from the site, truck trips associated with the proposed uses, and retail customers. Trip characteristics available from the *Ramona Gateway Traffic Analysis* (TA) were utilized in this analysis (38). Per the *Ramona Gateway Traffic Analysis*, the proposed Project expected to generate approximately 8,372 total trips per day which include 7,994 passenger car trips per day and 378 truck trips per day. It should be noted that the majority of trips, approximately 76%, were generated by the retail component of the Project.

APPROACH FOR ANALYSIS OF THE PROJECT

To determine emissions from passenger car vehicles, the CalEEMod defaults were utilized for trip length and trip purpose for the proposed commercial and industrial land uses. For the proposed commercial uses, the CalEEMod default fleet mix was used. For the proposed industrial uses, it is important to note that although the *Ramona Gateway Traffic Analysis* does not breakdown passenger cars by type, this analysis assumes that passenger cars include Light-Duty-Auto vehicles (LDA), Light-Duty-Trucks (LDT1[4] & LDT2[5]), Medium-Duty-Vehicles (MDV), and Motorcycles (MCY) vehicle types. In order to account for emissions generated by passenger cars, the fleet mix in Table 3-6 was utilized.

TABLE 3-6: PASSENGER CAR FLEET MIX – INDUSTRIAL USE

Land Use	% Vehicle Type				
	LDA	LDT1	LDT2	MDV	MCY
Fulfillment Center Warehouse (95%) High-Cube Cold Storage Warehouse (5%)	54.02%	4.38%	21.48%	17.54%	2.58%

Note: The Project-specific passenger car fleet mix used in this analysis is based on a proportional split utilizing the default CalEEMod percentages assigned to LDA, LDT1, LDT2, and MDV vehicle types.

To determine emissions from trucks for the proposed industrial use, the analysis incorporated the SCAQMD recommended truck trip length of 40 miles[6] and an assumption of 100% primary trips for the proposed industrial land uses. In order to be consistent with the *Ramona Gateway Traffic Analysis*, trucks are broken down by truck type. The truck fleet mix is estimated by rationing the trip rates for each truck type based on information provided in the *Ramona Gateway Traffic Analysis*. Heavy trucks are broken down by truck type (or axle type) and are categorized as either Light-Heavy-Duty Trucks (LHDT1[7] & LHDT2 [8])/2-axle, Medium-Heavy-Duty Trucks (MHDT)/3-axle, and HHDT/4+-axle. In order to account for emissions generated by trucks, the fleet mix in Table 3-7 was utilized.

TABLE 3-7: TRUCK FLEET MIX – INDUSTRIAL USE

Land Use	% Vehicle Type			
	LHDT1	LHDT2	MHDT	HHDT
Fulfillment Center Warehouse (95%)	8.44%	2.34%	10.79%	78.43%
High-Cube Cold Storage Warehouse (5%)	26.09%	7.24%	11.11%	55.56%

[4] Vehicles under the LDT1 category have a gross vehicle weight rating (GVWR) of less than 6,000 lbs. and equivalent test weight (ETW) of less than or equal to 3,750 lbs.

[5] Vehicles under the LDT2 category have a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs.

[6] The average trip length for heavy trucks were based on the SCAQMD documents for the implementation of the Facility-Based Mobile Source Measures (FBMSMs) adopted in the 2016 AQMP. SCAQMD's "Preliminary Warehouse Emission Calculations" cites 39.9-mile trip length for heavy-heavy trucks (41). As a conservative measure, a trip length of 40 miles has been utilized for all trucks for the purpose of this analysis (39)

[7] Vehicles under the LHDT1 category have a GVWR of 8,501 to 10,000 lbs.

[8] Vehicles under the LHDT2 category have a GVWR of 10,001 to 14,000 lbs.

Note: Project-specific truck fleet mix is based on the number of trips generated by each truck type (LHDT1, LHDT2, MHDT, and HHDT) relative to the total number of truck trips.

FUGITIVE DUST RELATED TO VEHICULAR TRAVEL

Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of break and tire wear particulates. The emissions estimate for travel on paved roads were calculated using CalEEMod.

3.5.4 TRU SOURCE EMISSIONS

In order to account for the possibility of refrigerated uses, trucks associated with the cold-storage land use are assumed to also have TRUs. Therefore, for modeling purposes 36 two-way truck trips have the potential to include TRUs (approximately 10% of all trucks accessing the site). TRUs are accounted for during on-site and off-site travel. The TRU calculations are based on the 2017 Off-road Emissions model, version 1.0.1 (Orion), developed by the CARB. Orion does not provide emission rates per hour or mile as with the on-road emission model and only provides emission inventories. Emission results are produced in tons per day while all activity, fuel consumption and horsepower hours were reported at annual levels. The emission inventory is based on specific assumptions including the average horsepower rating of specific types of equipment and the hours of operation annually. These assumptions are not always consistent with assumptions used in the modeling of project level emissions. Therefore, the emissions inventory was converted into emission rates to accurately calculate emissions from TRU operation associated with project level details. This was accomplished by converting the annual horsepower hours to daily operational characteristics and converting the daily emission levels into hourly emission rates based on the total emission of each criteria pollutant by equipment type and the average daily hours of operation.

3.5.5 ON-SITE CARGO HANDLING EQUIPMENT EMISSIONS

It is common for industrial buildings to require the operation of exterior cargo handling equipment in the building's truck court areas. For this particular Project, on-site modeled operational equipment includes up to four (4) 200 horsepower (hp), diesel-powered[9] tractors/loaders/backhoes meeting at least CARB Tier 4 Interim standards and operating at 4 hours a day[10] for 365 days of the year.

3.5.6 GASOLINE DISPENSING EMISSIONS

Operational VOC emissions have been analyzed using CalEEMod analysis software and methodology and are based on the default assumptions for a convenience store with fueling positions use. The operational VOC emissions estimates associated with this use was previously shown in Table 3-8.

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9 This analysis considers a worst-case scenario in which cargo handling equipment is diesel-powered, but non-diesel equipment such as natural gas or electric may be used instead.

10 Based on Table II-3, Port and Rail Cargo Handling Equipment Demographics by Type, from CARB's Technology Assessment: Mobile Cargo Handling Equipment document, a single piece of equipment could operate up to 2 hours per day (Total Average Annual Activity divided by Total Number Pieces of Equipment). As such, the analysis conservatively assumes that the tractor/loader/backhoe would operate up to 4 hours per day.

The storage, transfer and dispensing of gasoline is not expected to generate significant VOC emissions. The enhanced vapor recovery systems required by SCAQMD Rule 461 would substantially reduce VOC emissions and mitigate any potential for the proposed gas station to exceed the daily emissions thresholds set by SCAQMD.

For example, SCAQMD Rule 461 sets a maximum limit of 0.15 pounds of VOC per 1,000 gallons from the storage, transfer and dispensing of gasoline and 0.38 pounds of VOC per 1,000 gallons from the dispensing of gasoline into vehicle fuel tanks for a total of 0.53 pounds of VOC per 1,000 gallons of gasoline. Per information from the Project Applicant, 1,200,000 gallons of gasoline will be dispensed per year or 3,288 gallons/day. By dividing the throughput per day by 1,000 and then multiplying by 0.53, it was determined that the Project would result in 1.74 pounds of additional VOC emissions per day from gasoline dispensing.

3.5.7 OPERATIONAL EMISSIONS SUMMARY

Operational-source emissions are summarized on Table 3-8. As indicated, the Project would exceed regional thresholds of significance established by the SCAQMD for emissions of VOCs and NO_X. Over 85% of operational-source VOC emissions would be generated from the use of consumer products and mobile activities, and mobile source emissions alone would exceed the regional significance threshold for VOCs. Similarly, over 90% of operational-source NO_X emissions would be generated from the mobile activities. As previously stated, the Project is required to comply with the applicable PVCCSP EIR mitigation measures identified in Section ES.3 and additional Project-specific mitigation measures identified in Section ES.4. In particular, PVCCSP EIR mitigation measures MM Air 8 and MM Air 9 would reduce VOC emissions resulting from the application of architectural coatings. It should be noted that no additional feasible mitigation measures, beyond the measures identified in Section ES.2 and ES.4, exist that would further reduce these emissions to levels that are less-than-significant.

Although the Project would implement the mitigation measures listed in section ES.2 and ES.4, it should be noted that there is no way to definitively quantify these reductions in CalEEMod. As such, no reductions are shown as a conservative measure (i.e., impacts are overstated). Neither the Project applicant nor the Lead Agency (City) can substantively or materially affect reductions in Project mobile-source emissions beyond the regulatory requirements and mitigation measures identified herein. Thus, these emissions are considered significant and unavoidable.

TABLE 3-8: SUMMARY OF PEAK OPERATIONAL EMISSIONS

Source	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer (Smog Season)						
Area Source	60.40	0.71	84.20	0.01	0.11	0.15
Energy Source	0.11	1.99	1.67	0.01	0.15	0.15
Mobile Source	80.50	77.80	304.00	1.06	28.90	6.46
TRU Source	0.17	1.86	2.37	4.50E-04	0.02	0.02

Source	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
On-Site Equipment Source	0.16	3.37	6.79	0.01	0.03	0.03
Gasoline Dispensing	1.74	0	0	0	0	0
Total Maximum Daily Emissions	**143.08**	**85.73**	**399.03**	**1.09**	**29.21**	**6.81**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**NO**	**NO**	**NO**	**NO**
Winter						
Area Source	46.60	0.00	0.00	0.00	0.00	0.00
Energy Source	0.11	1.99	1.67	0.01	0.15	0.15
Mobile Source	77.70	82.10	261.00	1.02	28.90	6.46
TRU Source	0.17	1.86	2.37	4.50E-04	0.02	0.02
On-Site Equipment Source	0.16	3.37	6.79	0.01	0.03	0.03
Gasoline Dispensing	1.74	0	0	0	0	0
Total Maximum Daily Emissions	**126.48**	**89.32**	**271.83**	**1.04**	**29.10**	**6.66**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**NO**	**NO**	**NO**	**NO**

Source: CalEEMod operation-source emissions are presented in Appendix 3.1.

3.6 LOCALIZED SIGNIFICANCE

BACKGROUND ON LST DEVELOPMENT

The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (LST Methodology). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as LSTs.

The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4[11]. LSTs represent the maximum emissions from a project that would not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses.

LSTs were developed in response to environmental justice and health concerns raised by the public regarding exposure of individuals to criteria pollutants in local communities. To address

[11] The purpose of SCAQMD's Environmental Justice program is to ensure that everyone has the right to equal protection from air pollution and fair access to the decision-making process that works to improve the quality of air within their communities. Further, the SCAQMD defines Environmental Justice as "…equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution."

the issue of localized significance, the SCAQMD adopted LSTs that show whether a project would cause or contribute to localized air quality impacts and thereby cause or contribute to potential localized adverse health effects. The analysis makes use of methodology included in the *LST Methodology* (39).

APPLICABILITY OF LSTS FOR THE PROJECT

For this Project, the appropriate SRA for the LST analysis is the SCAQMD Perris Valley (SRA 24). LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size.

In order to determine the appropriate methodology for determining localized impacts that could occur as a result of Project-related construction, the following process is undertaken:

- Identify the maximum daily on-site emissions that will occur during construction activity:
  - The maximum daily on-site emissions could be based on information provided by the Project Applicant; or
  - The SCAQMD's *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds* and CalEEMod User's Guide *Appendix A: Calculation Details for CalEEMod* can be used to determine the maximum site acreage that is actively disturbed based on the construction equipment fleet and equipment hours as estimated in CalEEMod (40) (41).
- If the total acreage disturbed is less than or equal to 5 acres per day, then the SCAQMD's screening look-up tables are utilized to determine if a Project has the potential to result in a significant impact. The look-up tables establish a maximum daily emissions threshold in lbs/day that can be compared to CalEEMod outputs.
- If the total acreage disturbed is greater than 5 acres per day, then LST impacts may still be conservatively evaluated using the LST look-up tables for a 5-acre disturbance area. Use of the 5-acre disturbance area thresholds can be used to show that even if the daily emissions from all construction activity were emitted within a 5-acre area, and therefore concentrated over a smaller area which would result in greater site adjacent concentrations, the impacts would still be less than significant if the applicable 5-acre thresholds are utilized.
- The *LST Methodology* presents mass emission rates for each SRA, project sizes of 1, 2, and 5 acres, and nearest receptor distances of 25, 50, 100, 200, and 500 meters. For project sizes between the values given, or with receptors at distances between the given receptors, the methodology uses linear interpolation to determine the thresholds.

EMISSIONS CONSIDERED

Based on SCAQMD's *LST Methodology*, emissions for concern during construction activities are on-site NO_X, CO, $PM_{2.5}$, and PM_{10}. The *LST Methodology* clearly states that "off-site mobile emissions from the Project should not be included in the emissions compared to LSTs (42)." As such, for purposes of the construction LST analysis, only emissions included in the CalEEMod "on-site" emissions outputs were considered.

MAXIMUM DAILY DISTURBED-ACREAGE

As a conservative measure, it is assumed that a maximum of 20 acres per day can be actively disturbed during construction of the site. In CalEEMod, the Total Acres Graded (TAG) field represents the cumulative distance traversed on the property by the grading equipment. In order to properly grade a piece of land, multiple passes with grading equipment may be required. So even though the lot size is a fixed number of acres, the TAG could be an order of magnitude higher than the footprint of the lot (41). TAG is a function of the maximum acreage disturbed per day times the number of days of the subphase of construction. As such, the TAG field in CalEEMod has been revised to 300 acres (20 acres per day x 15 days) for site preparation and 1,400 acres (20 acres per day x 70 days) for grading[12].

RECEPTORS

As previously stated, LSTs represent the maximum emissions from a project that would not cause or contribute to an exceedance of the most stringent applicable NAAQS and CAAQS at the nearest residence or sensitive receptor. Receptor locations are off-site locations where individuals may be exposed to emissions from Project activities.

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, and individuals with pre-existing respiratory or cardiovascular illness. Structures that house these persons or places where they gather are defined as "sensitive receptors". These structures typically include uses such as residences, hotels, and hospitals where an individual can remain for 24 hours. Consistent with the LST Methodology, the nearest land use where an individual could remain for 24 hours to the Project site has been used to determine construction and operational air quality impacts for emissions of PM_{10} and $PM_{2.5}$, since PM_{10} and $PM_{2.5}$ thresholds are based on a 24-hour averaging time[13].

LSTs apply, even for non-sensitive land uses, consistent with *LST Methodology* and SCAQMD guidance. Per the *LST Methodology*, commercial, educational, and industrial facilities are not included in the definition of sensitive receptor because employees and patrons do not typically remain onsite for a full 24 hours but are typically onsite for 8 hours or less. However, *LST Methodology* explicitly states that "*LSTs based on shorter averaging periods, such as the NO_2 and CO LSTs, could also be applied to receptors such as industrial or commercial facilities since it is reasonable to assume that a worker at these sites could be present for periods of one to eight hours* (42)." Therefore, any adjacent land use where an individual could remain for 1 or 8-hours, that is located at a closer distance to the Project site than the receptor used for PM_{10} and $PM_{2.5}$ analysis, must be considered to determine construction and operational LST air impacts for emissions of NO_2 and CO since these pollutants have an averaging time of 1 and 8-hours.

[12] CalEEMod does not provide a "Total Acres Graded" field for Demolition, Building Construction, Paving, or Architectural Coating activities.

[13] It should be noted that a school use is not included in SCAQMD's specific definition of sensisitve land uses for LST purposes, since the LST definition includes locations where an individual has a likelihood to remain for 24-hours per day. School receptors are considered for localized emissions of NO2 and CO – which have averaging times of 1 and 8-hours as noted above.

RECEPTORS

Receptors relative to the Project area are described below and shown on Exhibit 3-A. Localized air quality impacts were evaluated at receptor land uses nearest the Project site.

R1: Location R1 represents the existing residence at 4063 North Webster Avenue, approximately 355 feet/108 meters northeast of the Project site.

R2: Location R2 represents the Chevron Gas Station at 796 Ramona Expressway, approximately 36 feet/11 meters northeast of the Project site.

R3: Location R3 represents the existing residence at 3772 Brennan Avenue, approximately 659 feet/201 meters east of the Project site.

R4: Location R4 represents the Leonard's Services at 3701 Webster Avenue, east of the Project site across Webster Avenue (less than 25 meters).

R5: Location R5 represents the Val Verde Regional Learning Center at 3710 Webster Avenue, adjacent to the south of the Project site (less than 25 meters).

R6: Location R6 represents the Val Verde Academy at 972 Morgan Street, adjacent to the south of the Project site (less than 25 meters).

R7: Location R7 represents the existing residence 19542 Patterson Avenue, approximately 1,338 feet/408 meters southwest of the Project site.

R8: Location R8 represents the existing residence at 3802 Brennan Avenue, approximately 661 feet/202 meters east of the Project site.

The SCAQMD recommends that the nearest sensitive receptor be considered when determining the Project's potential to cause an individual a cumulatively significant impact. The nearest land use where an individual could remain for 24 hours to the Project site has been used to determine localized construction and operational air quality impacts for emissions of PM_{10} and $PM_{2.5}$ (since PM_{10} and $PM_{2.5}$ thresholds are based on a 24-hour averaging time). The nearest receptor used for evaluation of localized impacts of PM_{10} and $PM_{2.5}$ is represented by location R1 which represents the existing residence at 4063 North Webster Ave., approximately 355 feet/108 meters northeast of the Project site. As such, for evaluation of localized PM_{10} and $PM_{2.5}$, a 108-meter distance will be used.

As previously stated, and consistent with *LST Methodology*, the nearest commercial, educational, or industrial use to the Project site is used to determine construction and operational LST air impacts for emissions of NO_X and CO as the averaging periods for these pollutants are shorter (8 hours or less) and it is reasonable to assumed that an individual could be present at these sites for periods of one to 8 hours. The nearest receptor used for evaluation of localized impacts of NO_X and CO is represented by locations R5 and R6 which represents the Val Verde Regional Learning Center and the Val Verde Academy located adjacent to the Project site.

It should be noted that the *LST Methodology* explicitly states that "*It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters* (43)." As such a 25-meter receptor distance will be used for evaluation of localized NO_X and CO.

EXHIBIT 3-A: SENSITIVE RECEPTOR LOCATIONS

3.7 CONSTRUCTION-SOURCE EMISSIONS LST ANALYSIS

3.7.1 LOCALIZED THRESHOLDS FOR CONSTRUCTION ACTIVITY

Although the total acreage disturbed is more than 5 acres per day for construction activities, the *LST Methodology* provides look-up tables for sites with an area with daily disturbance of 5 acres or less. For projects that exceed 5 acres, the 5-acre LST look-up tables can be used as a screening tool to determine which pollutants require additional detailed analysis. This approach is conservative as it assumes that all on-site emissions associated with the Project would occur within a concentrated 5-acre area. This screening method would therefore over-predict potential localized impacts, because by assuming that on-site construction activities are occurring over a smaller area, the resulting concentrations of air pollutants are more highly concentrated once they reach the smaller site boundary than they would be for activities if they were spread out over a larger surface area. On a larger site, the same amount of air pollutants generated would disperse over a larger surface area and would result in a lower concentration once emissions reach the Project-site boundary. As such, LSTs for a 5-acre site during construction are used as a screening tool to determine if further detailed analysis is required. The thresholds used in for the construction-source LST analysis are presented below in Table 3-9.

TABLE 3-9: MAXIMUM DAILY LOCALIZED CONSTRUCTION EMISSIONS THRESHOLDS

Construction Activity	Construction Localized Thresholds			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Site Preparation	270 lbs/day	2,232 lbs/day	62 lbs/day	17 lbs/day
Grading				
Building/Vertical Construction				
Architectural Coating				
Paving				
Landscaping/Tenant Improvements				

Source: Localized Thresholds presented in this table are based on the SCAQMD Final LST Methodology, July 2008

3.7.2 CONSTRUCTION-SOURCE LOCALIZED EMISSIONS

IMPACTS WITHOUT MITIGATION

Table 3-10 identifies the localized impacts at the nearest receptor location in the vicinity of the Project. Without mitigation, localized construction emissions would not exceed the applicable SCAQMD LSTs for emissions of any criterial pollutant. Outputs from the model runs for unmitigated construction LSTs are provided in Appendix 3.1.

TABLE 3-10: LOCALIZED CONSTRUCTION-SOURCE EMISSIONS – WITHOUT MITIGATION

On-Site Emissions	Emissions (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Site Preparation				
Maximum Daily Emissions	**76.30**	**61.60**	**13.41**	**8.20**
SCAQMD Localized Threshold	270	2,232	62	17
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
Grading				
Maximum Daily Emissions	**69.10**	**55.50**	**8.22**	**4.95**
SCAQMD Localized Threshold	270	2,232	62	17
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
Building/Vertical Construction				
Maximum Daily Emissions	**25.60**	**28.60**	**1.19**	**1.10**
SCAQMD Localized Threshold	270	2,232	62	17
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
Architectural Coating				
Maximum Daily Emissions	**2.42**	**3.06**	**0.08**	**0.08**
SCAQMD Localized Threshold	270	2,232	62	17
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
Paving				
Maximum Daily Emissions	**15.60**	**20.10**	**0.78**	**0.72**
SCAQMD Localized Threshold	270	2,232	62	17
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
Landscaping/Tenant Improvements				
Maximum Daily Emissions	**24.30**	**28.50**	**1.08**	**0.99**
SCAQMD Localized Threshold	270	2,232	62	17
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

Source: CalEEMod unmitigated localized construction-source emissions are presented in Appendix 3.1.

3.8 OPERATIONAL-SOURCE EMISSIONS LST ANALYSIS

The Project is located on an approximately 50.0-acre parcel. As noted previously, the *LST Methodology* provides look-up tables for sites with an area with daily disturbance of 5 acres or less. For projects that exceed 5 acres, the 5-acre LST look-up tables can be used as a screening tool to determine whether pollutants require additional detailed analysis. This approach is conservative as it assumes that all on-site emissions associated with the project would occur within a concentrated 5-acre area. This screening method would therefore over-predict potential localized impacts, because by assuming that on-site operational activities are occurring over a smaller area, the resulting concentrations of air pollutants are more highly concentrated once they reach the smaller site boundary than they would be for activities if they were spread out over a larger surface area. On a larger site, the same amount of air pollutants generated would disperse over a larger surface area and would result in a lower concentration once emissions reach the project-site boundary. As such, LSTs for a 5-acre site during operations are used as a screening tool to determine if further detailed analysis is required.

The LST analysis generally includes on-site sources (area, energy, mobile, and on-site cargo handling equipment – are previously discussed in Section 3.5 of this report). However, it should be noted that the CalEEMod outputs do not separate on-site and off-site emissions from mobile sources. As such, in an effort to establish a maximum potential impact scenario for analytic purposes, the emissions shown on Table 3-12 represent all on-site Project-related stationary (area) sources and 5% of the Project-related mobile sources. Considering that the trip length used in CalEEMod for the Project is approximately 22.3 miles for passenger cars and 40.0 miles for all trucks, 5% of this total would represent an on-site travel distance of approximately 1.1 mile/4,382 feet for passenger cars and 2 miles/10,560 feet for trucks. It should be noted that the longest on-site distance is roughly 1.0 mile for both trucks and passenger cars. As such, the 5% assumption is conservative and would tend to overstate the actual impact because it is not likely that a passenger car would drive 0.8 mile on the site or that a truck would drive 2 miles on the site. Modeling based on these assumptions demonstrates that even within broad encompassing parameters, Project operational-source emissions would not exceed applicable LSTs.

3.8.1 LOCALIZED THRESHOLDS FOR OPERATIONAL ACTIVITY

As previously stated, LSTs for a 5-acre site during operations are used as a screening tool to determine if further detailed analysis is required.

TABLE 3-11: MAXIMUM DAILY LOCALIZED OPERATIONAL EMISSIONS THRESHOLDS

Operational Localized Thresholds			
NO_X	CO	PM_{10}	$PM_{2.5}$
270 lbs/day	2,232 lbs/day	15 lbs/day	4 lbs/day

Source: Localized Thresholds presented in this table are based on the SCAQMD Final LST Methodology, July 2008

3.8.2 OPERATIONAL-SOURCE LOCALIZED EMISSIONS

IMPACTS WITHOUT MITIGATION

As shown on Table 3-12 operational emissions would not exceed the LST thresholds for the nearest sensitive receptor. Therefore, the Project would have a less than significant localized impact during operational activity.

TABLE 3-12: LOCALIZED SIGNIFICANCE SUMMARY OF OPERATIONS – WITHOUT MITIGATION

On-Site Emissions	Emissions (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions	**20.58**	**174.39**	**2.80**	**0.77**
SCAQMD Localized Threshold	270	2,232	15	4
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

Source: CalEEMod localized operational-source emissions are presented in Appendix 3.2.

3.9 CO "HOT SPOT" ANALYSIS

As discussed below, the Project would not result in potentially adverse CO concentrations or "hot spots." Further, detailed modeling of Project-specific CO "hot spots" is not needed to reach this conclusion. An adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur.

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment.

To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO "hot spot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards, as shown on Table 3-13.

TABLE 3-13: CO MODEL RESULTS

Intersection Location	CO Concentrations (ppm)		
	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire Blvd./Veteran Ave.	4.6	3.5	4.2
Sunset Blvd./Highland Ave.	4	4.5	3.9
La Cienega Blvd./Century Blvd.	3.7	3.1	5.8
Long Beach Blvd./Imperial Hwy.	3	3.1	9.3

Blvd. = Boulevard
Highway = Hwy.
Source: 2003 AQMP, Appendix V: Modeling and Attainment Demonstrations
Notes: Federal 1-hour standard is 35 ppm and the deferral 8-hour standard is 9.0 ppm.

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (*1992 CO Plan*), peak CO concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 9.3 ppm 8-hr CO concentration measured at the Long Beach Blvd. and Imperial Hwy. intersection (highest CO generating intersection within the “hot spot” analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 8.6 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared (44). In contrast, an adverse CO concentration, known as a “hot spot”, would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

The ambient 1-hr and 8-hr CO concentration within the Project study area is estimated to be 1.9 ppm and 1.4 ppm, respectively (data from Perris Valley station for 2020). Therefore, even if the traffic volumes for the proposed Project were double or even triple of the traffic volumes generated at the Long Beach Blvd. and Imperial Hwy. intersection, coupled with the on-going improvements in ambient air quality, the Project would not be capable of resulting in a CO “hot spot” at any study area intersections.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (vph)—or 24,000 vph where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (45). Traffic volumes generating the CO concentrations for the “hot spot” analysis is shown on Table 3-14. The busiest intersection evaluated was that at Wilshire Blvd. and Veteran Ave., which has a daily traffic volume of approximately 100,000 vph and AM/PM traffic volumes of 8,062 vph and 7,719 vph respectively (44). The *2003 AQMP* estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm)[14].

TABLE 3-14: TRAFFIC VOLUMES

Intersection Location	Peak Traffic Volumes (vph)				
	Eastbound (AM/PM)	Westbound (AM/PM)	Southbound (AM/PM)	Northbound (AM/PM)	Total (AM/PM)
Wilshire Blvd./Veteran Ave.	4,954/2,069	1,830/3,317	721/1,400	560/933	8,062/7,719
Sunset Blvd./Highland Ave.	1,417/1,764	1,342/1,540	2,304/1,832	1,551/2,238	6,614/5,374
La Cienega Blvd./Century Blvd.	2,540/2,243	1,890/2,728	1,384/2,029	821/1,674	6,634/8,674
Long Beach Blvd./Imperial Hwy.	1,217/2,020	1,760/1,400	479/944	756/1,150	4,212/5,514

Source: 2003 AQMP

As summarized on Table 3-15 below, the intersection of Interstate 215 (I-215) Northbound Ramps and Ramona Expressway (Exwy.) would have the highest AM traffic volumes of 5,069 vph. The intersection of Perris Blvd. and Ramona Exwy. would have the highest PM traffic volumes of

[14] Based on the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm)

6,029 vph. As such, total traffic volumes at the intersections considered are less than the traffic volumes identified in the *2003 AQMP*. As such, the Project considered herein along with background and cumulative development would not produce the volume of traffic required to generate a CO "hot spot" either in the context of the 2003 Los Angeles hot spot study or based on representative BAAQMD CO threshold considerations. Therefore, CO "hot spots" are not an environmental impact of concern for the Project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant.

TABLE 3-15: PEAK HOUR TRAFFIC VOLUMES

Intersection Location	Peak Traffic Volumes (vph)				
	Northbound (AM/PM)	Southbound (AM/PM)	Eastbound (AM/PM)	Westbound (AM/PM)	Total (AM/PM)
I-215 NB Ramps/Ramona Exwy.	1,119/1,184	0/0	2,367/2,629	1,583/1,488	5,069/5,301
Nevada Av./Ramona Exwy.	0/0	331/493	2,099/2,252	2,173/2,114	4,603/4,859
Webster Av./Ramona Exwy.	338/268	278/243	1,670/2,030	2,093/2,124	4,379/4,665
Perris Bl./Ramona Exwy.	1,112/974	639/1,478	1,075/1,973	1,973/1,604	4,799/6,029

Rd. = Road
Source: *Ramona Gateway (DPR20-00004) Traffic Analysis* (Urban Crossroads, Inc., 2022)

3.10 AQMP

The Project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743 square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the SCAG, county transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMPs to meet the state and federal ambient air quality standards. AQMPs are updated regularly to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In March 2017, the SCAQMD released the *Final 2016 AQMP* (*2016 AQMP*). The *2016 AQMP* continues to evaluate current integrated strategies and control measures to meet the NAAQS and CAAQS, as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels (46). Similar to the 2012 AQMP, the *2016 AQMP* incorporates scientific and technological information and planning assumptions, including the *2016-2040 RTP/SCS*, a planning document that supports the integration of land use and transportation to help the region meet the federal

CAA requirements (21). The Project's consistency with the AQMP will be determined using the *2016 AQMP* as discussed below.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the *1993 CEQA Handbook* (47). These indicators are discussed below:

3.10.1 CONSISTENCY CRITERION NO. 1

The proposed Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

Construction Impacts – Consistency Criterion 1

Consistency Criterion No. 1 refers to violations of the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if localized or regional significance thresholds were exceeded. As evaluated, the Project's localized and regional construction-source emissions would not exceed applicable regional significance threshold and LST thresholds. As such, a less than significant impact is expected.

Operational Impacts – Consistency Criterion 1

Although the proposed Project would exceed the applicable regional thresholds for operational activity, the operational emissions generated by the proposed Project would be less than those generated under the no Project alternative (i.e., the existing PVCCSP land use designations). Based on the development standards and review of allowed uses for the PVCCSP BPO and Commercial land use designations, it is estimated that the existing PVCCSP land use designations allow for up to 256,115 sf of commercial land uses and up to 605,804 sf of light industrial, business park, office, and medical care clinic land uses. Table 3-16 below presents the emissions from CalEEMod 2022 for the existing PVCCSP land use designations. CalEEMod model outputs for the existing PVCCSP land use designations are presented in Appendix 3.3.

TABLE 3-16: OPERATIONAL EMISSIONS – EXISTING PVCCSP LAND USE DESIGNATIONS

Source	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer (Smog Season)						
Area Source	27.00	0.32	37.50	0.01	0.05	0.07
Energy Source	1.17	21.30	17.90	0.13	1.62	1.62
Mobile Source	452.00	189.00	1,696.00	3.92	131.00	25.60
Total Maximum Daily Emissions	**480.17**	**210.62**	**1,751.40**	**4.06**	**132.67**	**27.29**
Winter						
Area Source	20.9	0	0	0	0	0

Source	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Energy Source	1.17	21.30	17.90	0.13	1.62	1.62
Mobile Source	437.00	202.00	1,426.00	3.68	131.00	25.60
Total Maximum Daily Emissions	**459.07**	**223.30**	**1,443.90**	**3.81**	**132.62**	**27.22**

As shown in Table 3-17 below, the operational emissions resulting from the existing PVCCSP land use designations would be higher than the operational emissions generated by the proposed Project, primarily due to mobile source emissions associated with the additional vehicle trips.

TABLE 3-17: COMPARISON OF EXISTING PVCCSP LAND USE DESIGNATION AND PROPOSED PROJECT OPERATIONAL EMISSIONS

Scenario	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer (Smog Season)						
Proposed Project	143.08	85.73	399.03	1.09	29.21	6.81
PVCCSP Development Alternative	480.17	210.62	1,751.40	4.06	132.67	27.29
% Difference	-236%	-146%	-339%	-272%	-354%	-301%
Winter						
Proposed Project	126.48	89.32	271.83	1.04	29.10	6.66
PVCCSP Development Alternative	459.07	223.30	1,443.90	3.81	132.62	27.22
% Difference	-263%	-150%	-431%	-266%	-356%	-309%

As shown above, implementation of the proposed Project would result in a net decrease in long-term operational emissions, as compared to the existing PVCCSP land use designations, which is the basis for the current 2016 AQMP. Additionally, the proposed Project would not exceed the applicable regional significance thresholds during construction activity and would not exceed localized significance thresholds during construction or operation of the Project. Therefore, the Project would not conflict with the AQMP according to this criterion.

On the basis of the preceding discussion, the Project is determined to be consistent with the first criterion.

3.10.2 Consistency Criterion No. 2

The Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

The *2016 AQMP* demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in City of Perris General Plan is considered to be consistent with the AQMP***.***

Construction Impacts – Consistency Criterion 2

Peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities. As such, when considering that no emissions thresholds will be exceeded, a less than significant impact would result.

Operational Impacts – Consistency Criterion 2

As previously stated, according to the PVCCSP, the Project site is designated as a Commercial and Business/Professional Office uses. The Commercial designation provides for retail, professional office, and service-oriented business activities which serve the entire City, as well as the surrounding neighborhoods. This zone combines the General Plan Land Use designation of Community Commercial and Commercial Neighborhood. The Business/Professional office designation provides for uses associated with business, professional or administrative services located in areas of high visibility from major roadways with convenient access for automobiles and public transit service. Small-scale warehousing and light manufacturing are also allowed. This zone combines the General Plan Land Use designations of Business Park and Professional Office (5).

The Project is proposed to consist of a single building consisting of 902,713-sf fulfillment center warehouse (95% of industrial building) and 47,511 sf of high-cube cold storage warehouse use (5% of industrial building). Additionally, the Project consists of 16,500 sf of restaurant with drive thru use, a 10,200-sf restaurant without drive thru use, a 2,400-sf coffee/donut shop with drive thru, a 3,515-sf automated car wash, and a 16-vehicle fueling station convenience market/gas station, which is consistent with the City's designation and intensity. As previously stated, the Project involves a Specific Plan Amendment to change the southern portion of the current Commercial area and the entirety of BPO area to Light Industrial, the change results in a reduction in employment and therefore would not conflict with the goals and objectives of the AQMP.

On the basis of the preceding discussion, the Project is determined to be consistent with the second criterion.

AQMP CONSISTENCY CONCLUSION

The Project would be consistent with AQMP Criterion No.1 and No.2. As a result, the Project would not conflict with or obstruct implementation of the AQMP. As such, a less than significant impact would result.

3.11 POTENTIAL IMPACTS TO SENSITIVE RECEPTORS

The potential impact of Project-generated air pollutant emissions at sensitive receptors has also been considered. Results of the LST analysis indicate that the Project will not exceed the SCAQMD localized significance thresholds during construction. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations during Project construction.

Additionally, the Project will not exceed the SCAQMD localized significance thresholds during operational activity. Further Project traffic would not create or result in a CO "hotspot." Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations as the result of Project operations.

3.11.1 FRIANT RANCH CASE

In December 2018, in the case of *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, the California Supreme Court held that an EIR air quality analysis must meaningfully connect the identified air quality impacts to the human health consequences of those impacts, or meaningfully explain why that analysis cannot be provided.

As discussed in briefs filed in the Friant Ranch case, correlating a project's criteria air pollutant emissions to specific health impacts is challenging. The SCAQMD, which has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, and thus it is uniquely situated to express an opinion on how lead agencies should correlate air quality impacts with specific health outcomes (48) noted that it may be "difficult to quantify health impacts for criteria pollutants." SCAQMD used O_3 as an example of why it is impracticable to determine specific health outcomes from criteria pollutants for all but very large, regional-scale projects. First, forming O_3 "takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources." (SCAQMD, 2015a, p. 11) Second, "it takes a large amount of additional precursor emissions (NO_X and VOCs) to cause a modeled increase in ambient ozone levels over an entire region," with a 2012 study showing that "reducing NO_X by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion." (SCAQMD, 2015a, pp. 12-14)

SCAQMD concluded that it "does not currently know of a way to accurately quantify ozone-related health impacts caused by NO_X or VOC emissions from relatively small projects." (SCAQMD, 2015a, pp. 12-14) The San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) ties the difficulty of correlating the emission of criteria pollutants to health impacts to how ozone and particulate matter are formed, stating that "[b]ecause of the complexity of ozone formation, a specific tonnage amount of NO_X or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area." (SJVUAPCD, 2015, p. 4) Similarly, the tonnage of PM "emitted does not always equate to the local PM concentration because it can be transported long distances by wind," and "[s]econdary PM, like ozone, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as sulfur dioxides (SO_X) and NO_X," meaning that "the tonnage of PM-forming precursor emissions in an area does not necessarily result in an equivalent concentration of secondary PM in that area." (SJVUAPCD, 2015, p. 5) The disconnect between the amount of precursor pollutants and the concentration of ozone or PM formed makes it difficult to determine potential health impacts, which are related to the concentration of ozone and particulate matter experienced by the receptor rather than levels of NO_X, SO_X, and VOCs produced by a source.

Most local agencies lack the data to do their own assessment of potential health impacts from criteria air pollutant emissions, as would be required to establish customized, locally specific thresholds of significance based on potential health impacts from an individual development project. The use of national or "generic" data to fill the gap of missing local data would not yield accurate results because such data does not capture local air patterns, local background conditions, or local population characteristics, all of which play a role in how a population experiences air pollution. Because it is impracticable to accurately isolate the exact cause of a human disease (for example, the role a particular air pollutant plays compared to the role of other allergens and genetics in cause asthma), existing scientific tools cannot accurately estimate health impacts of the Project's air emissions without undue speculation. Instead, readers are directed to the Project's air quality impact analysis above, which provides extensive information concerning the quantifiable and non-quantifiable health risks related to the Project's construction and long-term operation.

The LST analysis above determined that the Project would not result in emissions exceeding SCAQMD's LSTs. Additionally, it should be noted that the proposed Project is significantly smaller than the project evaluated in the Friant Ranch case, and consequently would be more difficult to analyze impacts. Therefore, the proposed Project would not be expected to exceed the most stringent applicable federal or state ambient air quality standards for emissions of CO, NO_X, PM_{10}, and $PM_{2.5.}$

As the Project's emissions will comply with federal, state, and local air quality standards, the proposed Project's emissions are not sufficiently high enough to use a regional modeling program to correlate health effects on a basin-wide level and would not provide a reliable indicator of health effects if modeled.

3.12 ODORS

The potential for the Project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants
- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The Project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed Project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. While restaurants may result in some odors from the cooking process, these odors are not typically considered objectionable. With respect to operation of the gas station, gas pumping activities are also expected to generate odors associated with gasoline fumes. The gas pumps and underground storage tanks would include CARB-required vapor recovery systems that would control VOC vapor releases during refueling and would minimize driver and employee exposure to gasoline odors and fumes. Thus, gasoline odors are not expected to adversely affect adjacent land uses. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the solid waste regulations. The proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project construction and operations would be less than significant and no mitigation is required (49).

3.13 CUMULATIVE IMPACTS

As previously shown in Table 2-3, the CAAQS designate the Project site as nonattainment for O_3 PM_{10}, and $PM_{2.5}$ while the NAAQS designates the Project site as nonattainment for O_3 and $PM_{2.5}$.

The SCAQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (50). In this report the SCAQMD clearly states (Page D-3):

> *"…the SCAQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for TAC emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.*
>
> *Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."*

Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which SCAB is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

CONSTRUCTION IMPACTS

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that proposed Project construction-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, proposed Project construction-source emissions would be considered less than significant on a project-specific and cumulative basis.

OPERATIONAL IMPACTS

The proposed Project has the potential to result in cumulative impacts associated with on-going operations for emissions of VOCs and NO_X. Therefore, the proposed Project would have the potential to result in a cumulatively considerable significant impact with respect to operational activity.

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4 REFERENCES

1. **Association of Environmental Professionals.** *Guidelines for Implementation of the California Environmental Quality Act.* As Amended in 2018.
2. **South Coast Air Quality Management District.** RULE 403. FUGITIVE DUST. [Online] https://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-403.pdf?sfvrsn=4.
3. —. RULE 1113. Architectural Coatings. [Online] http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/r1113.pdf.
4. **City of Perris.** *Perris Valley Commerce Center Specific Plan Final Environmental Impact Report.* Perris : s.n., 2011.
5. —. *Perris Valley Commerce Center Specific Plan.* 2022.
6. **South Coast Air Quality Management District.** Southern California Air Basins. [Online] https://www.arb.ca.gov/msprog/onroad/porttruck/maps/scabc7map.pdf.
7. —. *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning.* 2005.
8. **St. Croix Sensory, Inc.** *The "Gray Line" Between Odor Nuisance and Health Effects.* 2000.
9. **California Air Resources Board.** Ambient Air Quality Standards (AAQS). [Online] 2016. http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.
10. **United State Environmental Protection Agency.** Frequent Questions about General Conformity . *EPA.* [Online] https://www.epa.gov/general-conformity/frequent-questions-about-general-conformity#8.
11. **South Coast Air Quality Management District.** Annual Air Quality Monitoring Network Plan. [Online] July 2018. http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-monitoring-network-plan/annual-air-quality-monitoring-network-plan-v2.pdf?sfvrsn=2.
12. **Air Resources Board.** State and National Ambient Air Quality Standards. [Online] https://www.arb.ca.gov/regact/2019/stateareadesignations/appc.pdf?_ga=2.169398369.1537615702.1554741141-1192937971.1505156621.
13. **South Coast Air Quality Management District.** Air Quality Data Tables. [Online] https://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year.
14. **United States Environmental Protection Agency.** National Ambient Air Quality Standards (NAAQS). [Online] 1990. https://www.epa.gov/environmental-topics/air-topics.
15. —. Air Pollution and the Clean Air Act. [Online] http://www.epa.gov/air/caa/.
16. —. 1990 Clean Air Act Amendment Summary: Title I. [Online] https://www.epa.gov/clean-air-act-overview/1990-clean-air-act-amendment-summary-title-i.
17. —. 1990 Clean Air Act Amendment Summary: Title II. [Online] https://www.epa.gov/clean-air-act-overview/1990-clean-air-act-amendment-summary-title-ii.
18. **California Air Resources Board.** California Ambient Air Quality Standards (CAAQS). [Online] 2009. [Cited: April 16, 2018.] http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm.
19. **California Energy Commission.** Energy Commission Adopts Updated Building Standards to Improve Efficiency, Reduce Emissions from Homes and Businesses. [Online] August 11, 2021. https://www.energy.ca.gov/news/2021-08/energy-commission-adopts-updated-building-standards-improve-efficiency-reduce-0.

20. **California Department of General Services.** 2022 CALGreen Code. *CALGreen.* [Online] https://codes.iccsafe.org/content/CAGBC2022P1.

21. **Southern California Association of Governments.** 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy. [Online] April 2016. http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS.pdf.

22. **California Air Resources Board.** *The California Almanac of Emissions and Air Quality.* 2013.

23. **South Coast Air Quality Management District.** South Coast Air Basin Ozone Trend. [Online] https://www.aqmd.gov/home/air-quality/historical-air-quality-data/historic-ozone-air-quality-trends.

24. **California Air Resources Board.** iADAM: Air Quality Data Statistics. *California Air Resources Board.* [Online] https://arb.ca.gov/adam/topfour/topfour1.php.

25. **United States Environmental Protection Agency.** Approval and Promulgation of Implementation Plans; California; South Coast Serious Area Plan for the 2006 PM2.5. [Online] 2019. https://www.federalregister.gov/documents/2019/02/12/2019-01922/approval-and-promulgation-of-implementation-plans-california-south-coast-serious-area-plan-for-the.

26. **South Coast Air Quality Management District.** Final 2016 Air Quality Management Plan. *South Coast Air Quality Management District.* [Online] March 2017. http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf.

27. —. *CEQA Air Quality Handbook (1993).* 1993.

28. **California Air Resources Board.** Nitrogen Dioxide- Overview. [Online] http://www.arb.ca.gov/research/aaqs/caaqs/no2-1/no2-1.htm.

29. **Ralph Propper, Patrick Wong, Son Bui, Jeff Austin, William Vance, Alvaro Alvarado, Bart Croes, and Dongmin Luo.** Ambient and Emission Trends of Toxic Air Contaminants in California. *American Chemical Society: Environmental Science & Technology.* 2015.

30. **California Air Resources Board.** ARB's Drayage Truck Regulatory Activities. [Online] http://www.arb.ca.gov/msprog/onroad/porttruck/porttruck.htm.

31. **Air Resources Board.** Truck and Bus Regulation. *On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation.* [Online] http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm.

32. **The Port of Los Angeles.** Clean Truck Program. [Online] http://www.portoflosangeles.org/ctp/idx_ctp.asp.

33. **South Coast Air Quality Management District.** Transfer Funds, Appropriate Funding, Execute Purchase Orders, Execute Contrat and Authorize Release of RFQs for the Fifth Multiple Air Toxics Exposure Study. *South Coast Air Quality Management District.* [Online] 2017. http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2017/2017-jul7-009.pdf?sfvrsn=7.

34. —. Executive Summary. *MATES V Draft Report.* [Online] 2021. http://www.aqmd.gov/docs/default-source/planning/mates-v/draft-mates-v-executive-summary_v2.pdf?sfvrsn=6.

35. —. SCAQMD Air Quality Significance Thresholds. [Online] http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2.

36. **California Air Pollution Control Officers Association (CAPCOA).** California Emissions Estimator Model (CalEEMod). [Online] May 2022. www.caleemod.com.

37. **City of Perris.** *Municipal Code, Chapter 7.34 Noise Control.*

38. **Urban Crossroads, Inc.** *Ramona Gateway Traffic Analysis.* 2022.
39. **Lake Environmental.** US EPA Models. *Lake Environmental.* [Online] http://www.weblakes.com/download/us_epa.html.
40. **South Coast Air Quality Management District.** Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. [Online] http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf.
41. **California Air Pollution Control Officers Association (CAPCOA).** Appendix A: Calculation Details for CalEEMod. *CalEEMod.* [Online] October 2017. http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6.
42. **South Coast Air Quality Management District.** *Localized Significance Thresholds Methodology.* s.l. : South Coast Air Quality Managment District, 2008.
43. —. *Localized Significance Thresholds Methodology.* s.l. : South Coast Air Quality Managment District, 2003.
44. —. 2003 Air Quality Management Plan. [Online] 2003. https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/2003-aqmp.
45. **Bay Area Air Quality Management District.** [Online] http://www.baaqmd.gov/.
46. **South Coast Air Quality Management District.** Final 2016 Air Quality Management Plan (AQMP). [Online] March 2017. http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=11.
47. —. *CEQA Air Quality Handbook (1993).* 1993.
48. —. Sierra Club, Revive the San Joaquin and League of Women Voters of Fresno, Plaintiffs and Appellants, v. County of Fresno, Defendant and Respondent and, Friant Ranchm L.P. Real Party in Interest and Respondent. [Online] 2015. https://www.courts.ca.gov/documents/9-s219783-ac-south-coast-air-quality-mgt-dist-041315.pdf.
49. —. RULE 402 NUISANCE. [Online] http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-402.pdf.
50. **Goss, Tracy A and Kroeger, Amy.** White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution. [Online] South Coast Air Quality Management District, 2003. http://www.aqmd.gov/rules/ciwg/final_white_paper.pdf.

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5 CERTIFICATIONS

The contents of this air study report represent an accurate depiction of the environmental impacts associated with the proposed Ramona Gateway. The information contained in this air quality impact assessment report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at hqureshi@urbanxroads.com

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Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – CARB • August 2007
AB2588 Regulatory Standards – Trinity Consultants • November 2006
Air Dispersion Modeling – Lakes Environmental • June 2006

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APPENDIX 2.1:

STATE/FEDERAL ATTAINMENT STATUS OF CRITERIA POLLUTANTS

APPENDIX C

MAPS AND TABLES OF AREA DESIGNATIONS FOR STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

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APPENDIX C

MAPS AND TABLES OF AREA DESIGNATIONS FOR STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

This attachment fulfills the requirement of Health and Safety Code section 40718 for CARB to publish maps that identify areas where one or more violations of any State ambient air quality standard (State standard) or national ambient air quality standard (national standard) have been measured. The national standards are those promulgated under section 109 of the federal Clean Air Act (42 U.S.C. 7409).

This attachment is divided into three parts. The first part comprises a table showing the levels, averaging times, and measurement methods for each of the State and national standards. This is followed by a section containing maps and tables showing the area designations for each pollutant for which there is a State standard in the California Code of Regulations, title 17, section 70200. The last section contains maps and tables showing the most current area designations for the national standards.

Ambient Air Quality Standards

(Updated 5/4/16)

Pollutant	Averaging Time	California Standards [1] Concentration [3]	California Standards [1] Method [4]	National Standards [2] Primary [3,5]	National Standards [2] Secondary [3,6]	National Standards [2] Method [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12.0 µg/m³	15 µg/m³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m³)		9 ppm (10 mg/m³)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m³)	
	24 Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m³ (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m³		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

See footnotes on next page ...

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

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

4. Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

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

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

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

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

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

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

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

14. In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

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Area Designations for the State Ambient Air Quality Standards

The following maps and tables show the area designations for each pollutant with a State standard set forth in the California Code of Regulations, title 17, section 60200. Each area is identified as attainment, nonattainment, nonattainment-transitional, or unclassified for each pollutant, as shown below:

Attainment	A
Nonattainment	N
Nonattainment-Transitional	NA-T
Unclassified	U

In general, CARB designates areas by air basin for pollutants with a regional impact and by county for pollutants with a more local impact. However, when there are areas within an air basin or county with distinctly different air quality deriving from sources and conditions not affecting the entire air basin or county, CARB may designate a smaller area. Generally, when boundaries of the designated area differ from the air basin or county boundaries, the description of the specific area is referenced at the bottom of the summary table.

FIGURE 1


2018
Area Designations for State
Ambient Air Quality Standards
OZONE
N
0 50 100 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Trinity
Humboldt
Lassen
Tehema
SACRAMENTO VALLEY
Plumas
SUTTER BUTTES
Butte
Glenn
Mendocino
Sierra
MOUNTAIN COUNTIES
Nevada
Colusa
Yuba
LAKE COUNTY
Lake
Sutter
Placer
LAKE TAHOE
Yolo
El Dorado
Alpine
Sonoma
Napa
Sac
Amador
SAN FRANCISCO BAY AREA
Marin
Solano
Calaveras
San Joaquin
Contra Costa
Tuolumne
Mono
San Francisco
Alameda
Mariposa
GREAT BASIN VALLEYS
San Mateo
Stanislaus
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
San Bernardino
Los Angeles
MOJAVE DESERT
Ventura
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
SALTON SEA
Unclassified
Attainment
Nonattainment-Transitional
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 1

California Ambient Air Quality Standards
Area Designations for Ozone (1)

	N	NA-T	U	A		N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN					NORTHEAST PLATEAU AIR BASIN				X
Alpine County			X		SACRAMENTO VALLEY AIR BASIN				
Inyo County	X				Colusa and Glenn Counties				X
Mono County	X				Sutter/Yuba Counties				
LAKE COUNTY AIR BASIN				X	Sutter Buttes	X			
LAKE TAHOE AIR BASIN				X	Remainder of Sutter County				X
MOJAVE DESERT AIR BASIN	X				Yuba County				X
MOUNTAIN COUNTIES AIR BASIN					Yolo/Solano Counties		X		
Amador County	X				Remainder of Air Basin	X			
Calaveras County	X				SALTON SEA AIR BASIN	X			
El Dorado County (portion)	X				SAN DIEGO AIR BASIN	X			
Mariposa County	X				SAN FRANCISCO BAY AREA AIR BASIN	X			
Nevada County	X				SAN JOAQUIN VALLEY AIR BASIN	X			
Placer County (portion)	X				SOUTH CENTRAL COAST AIR BASIN				
Plumas County			X		San Luis Obispo County	X			
Sierra County			X		Santa Barbara County		X		
Tuolumne County	X				Ventura County	X			
NORTH CENTRAL COAST AIR BASIN		X			SOUTH COAST AIR BASIN	X			
NORTH COAST AIR BASIN				X					

(1) AB 3048 (Olberg) and AB 2525 (Miller) signed into law in 1996, made changes to Health and Safety Code, section 40925.5. One of the changes allows nonattainment districts to become nonattainment-transitional for ozone by operation of law.

FIGURE 2


2018
Area Designations for State
Ambient Air Quality Standards
PM10
N
0 50 100 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehema
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
LAKE COUNTY
Nevada
Colusa
Yuba
Placer
Lake
LAKE TAHOE
Sutter
Yolo
El Dorado
Alpine
Sonoma
Napa
Sac
Amador
Yosemite NP
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
San Francisco
Alameda
Stanislaus
GREAT BASIN VALLEYS
San Mateo
Santa Clara
Mariposa
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
NORTH CENTRAL COAST
Fresno
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
MOJAVE DESERT
Santa Barbara
SOUTH CENTRAL COAST
Ventura
Los Angeles
San Bernardino
SOUTH COAST
Orange
Riverside
San Diego
Imperial
SAN DIEGO COUNTY
SALTON SEA
Unclassified
Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 2

California Ambient Air Quality Standards
Area Designation for Suspended Particulate Matter (PM10)

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN	X			NORTH CENTRAL COAST AIR BASIN	X		
LAKE COUNTY AIR BASIN			X	NORTH COAST AIR BASIN			
LAKE TAHOE AIR BASIN	X			Del Norte, Sonoma (portion) and Trinity Counties			X
MOJAVE DESERT AIR BASIN	X			Remainder of Air Basin	X		
MOUNTAIN COUNTIES AIR BASIN				NORTHEAST PLATEAU AIR BASIN			
Amador County		X		Siskiyou County			X
Calaveras County	X			Remainder of Air Basin		X	
El Dorado County (portion)	X			SACRAMENTO VALLEY AIR BASIN			
Mariposa County				Shasta County			X
- Yosemite National Park	X			Remainder of Air Basin	X		
- Remainder of County		X		SALTON SEA AIR BASIN	X		
Nevada County	X			SAN DIEGO AIR BASIN	X		
Placer County (portion)	X			SAN FRANCISCO BAY AREA AIR BASIN	X		
Plumas County	X			SAN JOAQUIN VALLEY AIR BASIN	X		
Sierra County	X			SOUTH CENTRAL COAST AIR BASIN	X		
Tuolumne County		X		SOUTH COAST AIR BASIN	X		

FIGURE 3

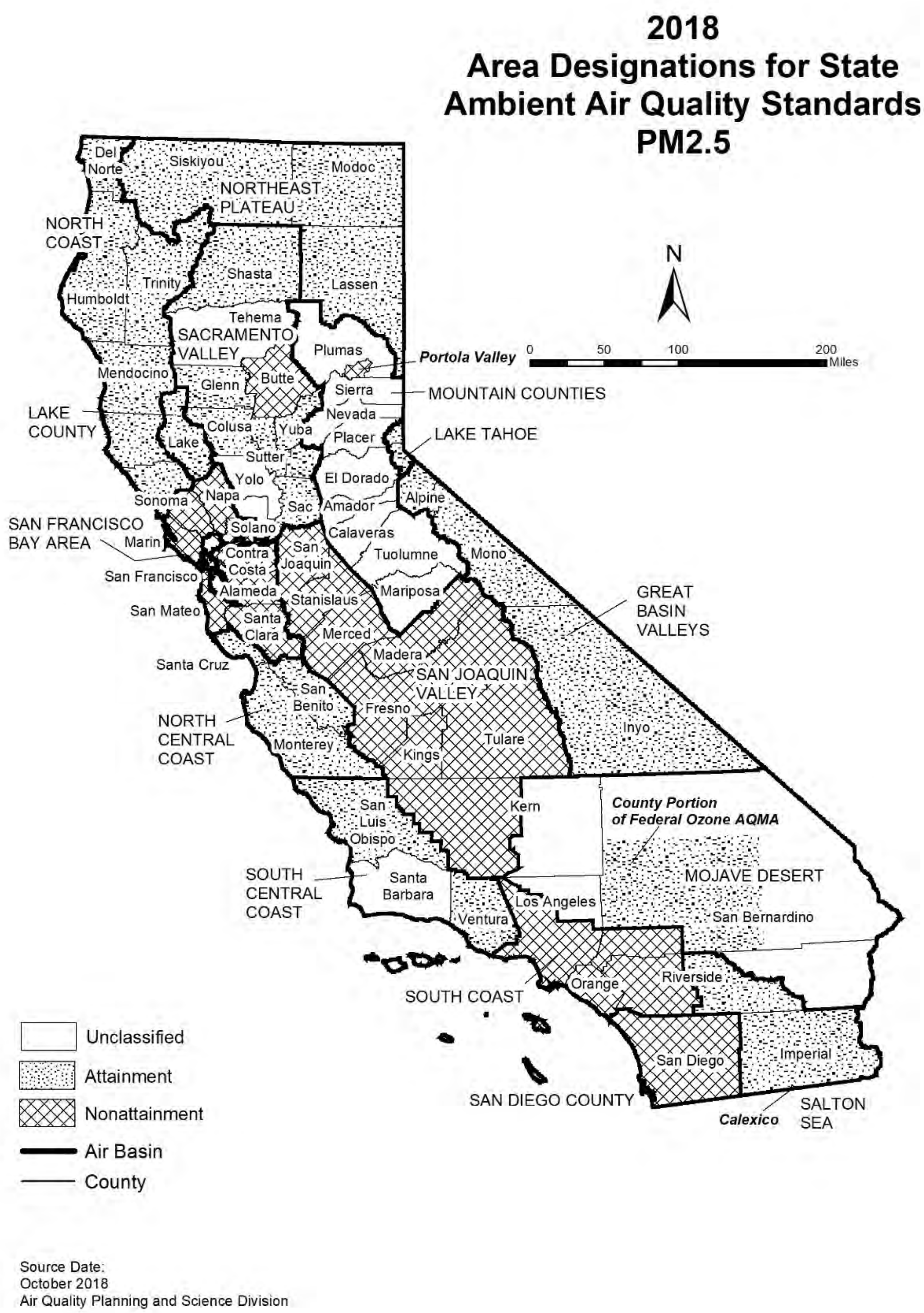

2018
Area Designations for State
Ambient Air Quality Standards
PM2.5
N
0 50 100 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehema
SACRAMENTO VALLEY
Plumas
Portola Valley
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
LAKE COUNTY
Colusa
Yuba
Lake
Placer
LAKE TAHOE
Sutter
Yolo
El Dorado
Sonoma
Napa
Sac
Amador
Alpine
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
San Francisco
Alameda
Stanislaus
Mariposa
GREAT BASIN VALLEYS
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
County Portion of Federal Ozone AQMA
MOJAVE DESERT
SOUTH CENTRAL COAST
Santa Barbara
Los Angeles
Ventura
San Bernardino
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Calexico
SALTON SEA
Unclassified
Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 3

California Ambient Air Quality Standards
Area Designations for Fine Particulate Matter (PM2.5)

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN			X	SALTON SEA AIR BASIN			
LAKE COUNTY AIR BASIN			X	Imperial County			
LAKE TAHOE AIR BASIN			X	- City of Calexico (3)	X		
MOJAVE DESERT AIR BASIN				Remainder of Air Basin			X
San Bernardino County				SAN DIEGO AIR BASIN	X		
- County portion of federal Southeast Desert Modified AQMA for Ozone (1)			X	SAN FRANCISCO BAY AREA AIR BASIN	X		
				SAN JOAQUIN VALLEY AIR BASIN	X		
Remainder of Air Basin		X		SOUTH CENTRAL COAST AIR BASIN			
MOUNTAIN COUNTIES AIR BASIN				San Luis Obispo County			X
Plumas County				Santa Barbara County		X	
- Portola Valley (2)	X			Ventura County			X
Remainder of Air Basin		X		SOUTH COAST AIR BASIN	X		
NORTH CENTRAL COAST AIR BASIN			X				
NORTH COAST AIR BASIN			X				
NORTHEAST PLATEAU AIR BASIN			X				
SACRAMENTO VALLEY AIR BASIN							
Butte County	X						
Colusa County			X				
Glenn County			X				
Placer County (portion)			X				
Sacramento County			X				
Shasta County			X				
Sutter and Yuba Counties			X				
Remainder of Air Basin		X					

(1) California Code of Regulations, title 17, section 60200(b)

(2) California Code of Regulations, title 17, section 60200(c)

(3) California Code of Regulations, title 17, section 60200(a)

FIGURE 4


2018
Area Designations for State
Ambient Air Quality Standards
CARBON MONOXIDE
N
0
50
100
200
Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehema
SACRAMENTO VALLEY
Plumas
LAKE COUNTY
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
Colusa
Yuba
Placer
LAKE TAHOE
Lake
Sutter
Yolo
El Dorado
Sonoma
Napa
Sac
Amador
Alpine
Solano
Marin
Calaveras
SAN FRANCISCO BAY AREA
Contra Costa
San Joaquin
Tuolumne
Mono
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
GREAT BASIN VALLEYS
Madera
Santa Cruz
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Monterey
Kings
Tulare
Inyo
San Luis Obispo
Kern
MOJAVE DESERT
Santa Barbara
SOUTH CENTRAL COAST
Ventura
Los Angeles
San Bernardino
Orange
Riverside
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
SALTON SEA
Unclassified
Attainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 4

California Ambient Air Quality Standards
Area Designation for Carbon Monoxide*

	N	NA-T	U	A		N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN					SACRAMENTO VALLEY AIR BASIN				
Alpine County			X		Butte County				X
Inyo County				X	Colusa County			X	
Mono County				X	Glenn County			X	
LAKE COUNTY AIR BASIN				X	Placer County (portion)				X
LAKE TAHOE AIR BASIN				X	Sacramento County				X
MOJAVE DESERT AIR BASIN					Shasta County			X	
Kern County (portion)			X		Solano County (portion)				X
Los Angeles County (portion)				X	Sutter County				X
Riverside County (portion)			X		Tehama County			X	
San Bernardino County (portion)				X	Yolo County				X
MOUNTAIN COUNTIES AIR BASIN					Yuba County			X	
Amador County			X		SALTON SEA AIR BASIN				X
Calaveras County			X		SAN DIEGO AIR BASIN				X
El Dorado County (portion)			X		SAN FRANCISCO BAY AREA AIR BASIN				X
Mariposa County			X		SAN JOAQUIN VALLEY AIR BASIN				
Nevada County			X		Fresno County				X
Placer County (portion)			X		Kern County (portion)				X
Plumas County				X	Kings County			X	
Sierra County			X		Madera County			X	
Tuolumne County				X	Merced County			X	
NORTH CENTRAL COAST AIR BASIN					San Joaquin County				X
Monterey County				X	Stanislaus County				X
San Benito County			X		Tulare County				X
Santa Cruz County			X		SOUTH CENTRAL COAST AIR BASIN				X
NORTH COAST AIR BASIN					SOUTH COAST AIR BASIN				X
Del Norte County			X						
Humboldt County				X					
Mendocino County				X					
Sonoma County (portion)			X						
Trinity County			X						
NORTHEAST PLATEAU AIR BASIN			X						

* The area designated for carbon monoxide is a county or portion of a county

FIGURE 5


2018
Area Designations for State
Ambient Air Quality Standards
NITROGEN DIOXIDE
N
0 50 100 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehema
SACRAMENTO VALLEY
Plumas
Butte
Mendocino
Glenn
Sierra
MOUNTAIN COUNTIES
Nevada
Colusa
LAKE COUNTY
Yuba
Lake
Sutter
Placer
LAKE TAHOE
El Dorado
Yolo
Napa
Sac
Alpine
Sonoma
Amador
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
San Francisco
Alameda
Mariposa
GREAT BASIN VALLEYS
San Mateo
Santa Clara
Stanislaus
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Inyo
Monterey
Tulare
Kings
San Luis Obispo
Kern
MOJAVE DESERT
Santa Barbara
SOUTH CENTRAL COAST
Los Angeles
San Bernardino
Ventura
Orange
Riverside
SOUTH COAST
CA 60 (Portion)
San Diego
Imperial
SAN DIEGO COUNTY
SALTON SEA
Los Angeles
San Bernardino
CA 60 (Portion)
Riverside
Orange
Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 5

California Ambient Air Quality Standards
Area Designation for Nitrogen Dioxide

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN			X	SACRAMENTO VALLEY AIR BASIN			X
LAKE COUNTY AIR BASIN			X	SALTON SEA AIR BASIN			X
LAKE TAHOE AIR BASIN			X	SAN DIEGO AIR BASIN			X
MOJAVE DESERT AIR BASIN			X	SAN FRANCISCO BAY AREA AIR BASIN			X
MOUNTAIN COUNTIES AIR BASIN			X	SAN JOAQUIN VALLEY AIR BASIN			X
NORTH CENTRAL COAST AIR BASIN			X	SOUTH CENTRAL COAST AIR BASIN			X
NORTH COAST AIR BASIN			X	SOUTH COAST AIR BASIN			
NORTHEAST PLATEAU AIR BASIN			X	CA 60 Near-road Portion of San Bernardino, Riverside, and Los Angeles Counties	X		
				Remainder of Air Basin			X

FIGURE 6


2018
Area Designations for State
Ambient Air Quality Standards
SULFUR DIOXIDE
N
0
50
100
200
Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehema
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
LAKE COUNTY
Colusa
Yuba
Nevada
Lake
Sutter
Placer
LAKE TAHOE
Yolo
El Dorado
Sonoma
Napa
Sac
Amador
Alpine
SAN FRANCISCO BAY AREA
Marin
Solano
Calaveras
Contra Costa
San Joaquin
Tuolumne
Mono
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
GREAT BASIN VALLEYS
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
NORTH CENTRAL COAST
Fresno
Inyo
Monterey
Tulare
Kings
San Luis Obispo
Kern
MOJAVE DESERT
SOUTH CENTRAL COAST
Santa Barbara
Ventura
Los Angeles
San Bernardino
Orange
Riverside
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
SALTON SEA
Attainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 6

California Ambient Air Quality Standards
Area Designation for Sulfur Dioxide*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SACRAMENTO VALLEY AIR BASIN		X
LAKE COUNTY AIR BASIN		X	SALTON SEA AIR BASIN		X
LAKE TAHOE AIR BASIN		X	SAN DIEGO AIR BASIN		X
MOJAVE DESERT AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X	SOUTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X			

* The area designated for sulfur dioxide is a county or portion of a county

FIGURE 7

Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 7

California Ambient Air Quality Standards
Area Designation for Sulfates

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN			X	SACRAMENTO VALLEY AIR BASIN			X
LAKE COUNTY AIR BASIN			X	SALTON SEA AIR BASIN			X
LAKE TAHOE AIR BASIN			X	SAN DIEGO AIR BASIN			X
MOJAVE DESERT AIR BASIN			X	SAN FRANCISCO BAY AREA AIR BASIN			X
MOUNTAIN COUNTIES AIR BASIN			X	SAN JOAQUIN VALLEY AIR BASIN			X
NORTH CENTRAL COAST AIR BASIN			X	SOUTH CENTRAL COAST AIR BASIN			X
NORTH COAST AIR BASIN			X	SOUTH COAST AIR BASIN			X
NORTHEAST PLATEAU AIR BASIN			X				

FIGURE 8

Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 8

California Ambient Air Quality Standards
Area Designations for Lead (particulate)*

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN			X	SALTON SEA AIR BASIN			X
LAKE COUNTY AIR BASIN			X	SAN DIEGO AIR BASIN			X
LAKE TAHOE AIR BASIN			X	SAN FRANCISCO BAY AREA AIR BASIN			X
MOJAVE DESERT AIR BASIN			X	SAN JOAQUIN VALLEY AIR BASIN			X
MOUNTAIN COUNTIES AIR BASIN			X	SOUTH CENTRAL COAST AIR BASIN			X
NORTH CENTRAL COAST AIR BASIN			X	SOUTH COAST AIR BASIN			X
NORTH COAST AIR BASIN			X				
NORTHEAST PLATEAU AIR BASIN			X				
SACRAMENTO VALLEY AIR BASIN			X				

* The area designated for lead is a county or portion of a county. Since all areas in the State are in attainment for this standard, air basins are indicated here for simplicity.

FIGURE 9

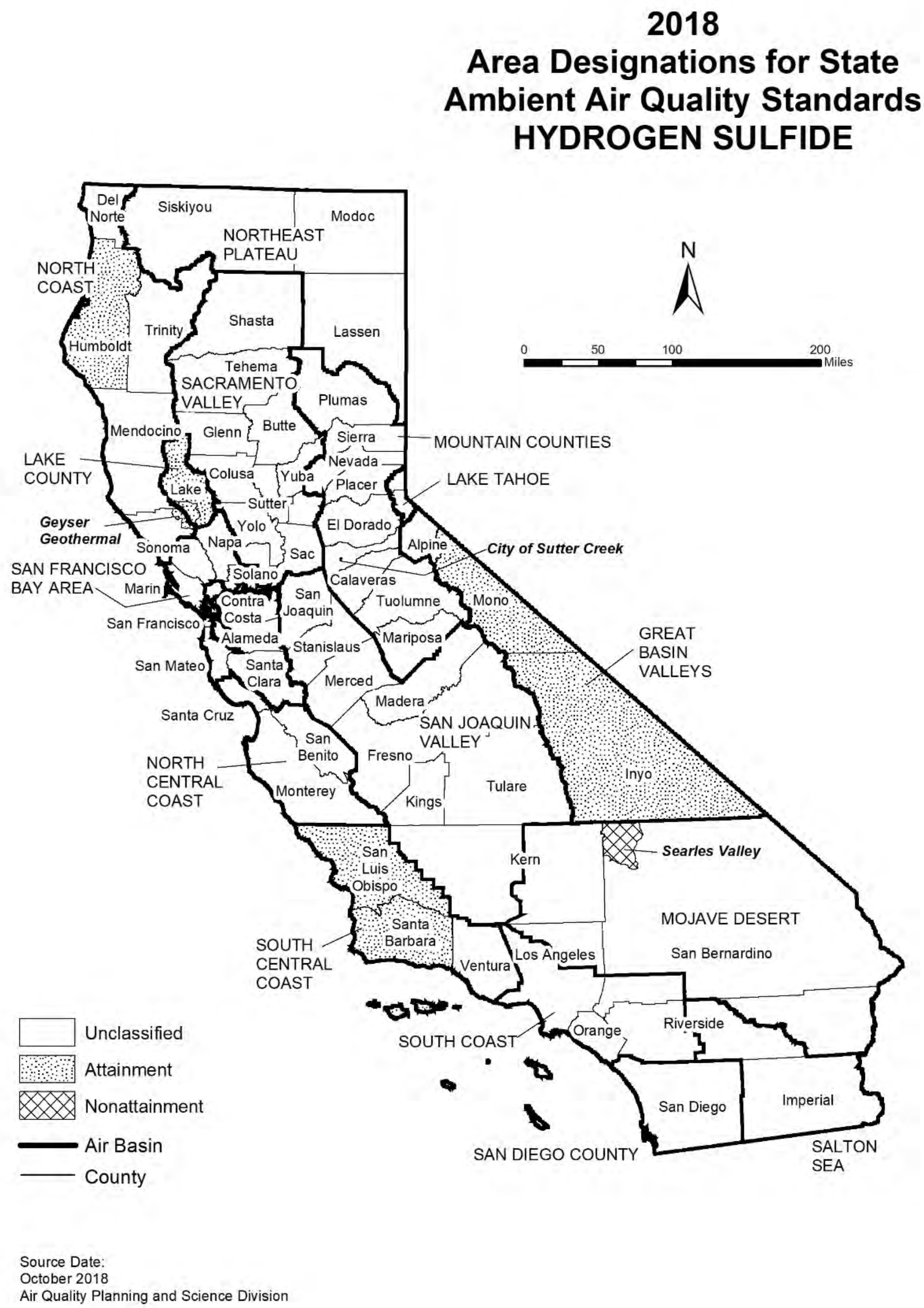

2018
Area Designations for State
Ambient Air Quality Standards
HYDROGEN SULFIDE
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehema
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
LAKE COUNTY
Colusa
Yuba
Nevada
Placer
LAKE TAHOE
Lake
Sutter
Geyser Geothermal
Yolo
El Dorado
Sonoma
Napa
Sac
Alpine
City of Sutter Creek
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
San Francisco
Alameda
Stanislaus
Mariposa
GREAT BASIN VALLEYS
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Monterey
Kings
Tulare
Inyo
San Luis Obispo
Kern
Searles Valley
MOJAVE DESERT
Santa Barbara
SOUTH CENTRAL COAST
Ventura
Los Angeles
San Bernardino
SOUTH COAST
Orange
Riverside
San Diego
Imperial
SAN DIEGO COUNTY
SALTON SEA
N
0 50 100 200 Miles
Unclassified
Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 9

California Ambient Air Quality Standards
Area Designation for Hydrogen Sulfide*

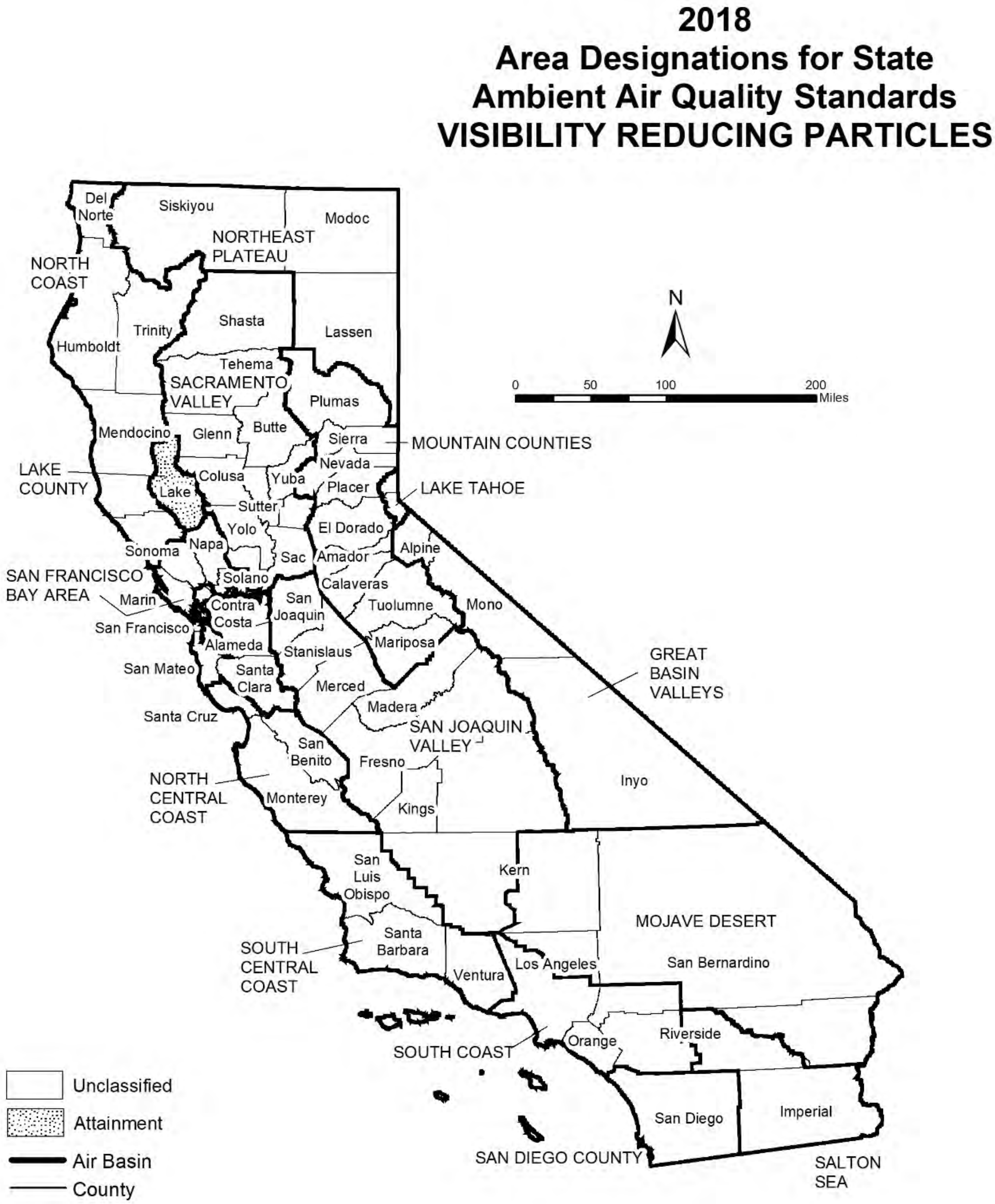
	N	NA-T	U	A		N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN					NORTH CENTRAL COAST AIR BASIN			X	
Alpine County			X		NORTH COAST AIR BASIN				
Inyo County				X	Del Norte County			X	
Mono County				X	Humboldt County				X
LAKE COUNTY AIR BASIN				X	Mendocino County			X	
LAKE TAHOE AIR BASIN			X		Sonoma County (portion)				
MOJAVE DESERT AIR BASIN					- Geyser Geothermal Area (2)				X
Kern County (portion)			X		- Remainder of County			X	
Los Angeles County (portion)			X		Trinity County			X	
Riverside County (portion)			X		NORTHEAST PLATEAU AIR BASIN			X	
San Bernardino County (portion)					SACRAMENTO VALLEY AIR BASIN			X	
- Searles Valley Planning Area (1)	X				SALTON SEA AIR BASIN			X	
- Remainder of County			X		SAN DIEGO AIR BASIN			X	
MOUNTAIN COUNTIES AIR BASIN					SAN FRANCISCO BAY AREA AIR BASIN			X	
Amador County					SAN JOAQUIN VALLEY AIR BASIN			X	
- City of Sutter Creek	X				SOUTH CENTRAL COAST AIR BASIN				
- Remainder of County			X		San Luis Obispo County				X
Calaveras County			X		Santa Barbara County				X
El Dorado County (portion)			X		Ventura County			X	
Mariposa County			X		SOUTH COAST AIR BASIN			X	
Nevada County			X						
Placer County (portion)			X						
Plumas County			X						
Sierra County			X						
Tuolumne County			X						

* The area designated for hydrogen sulfide is a county or portion of a county

(1) 52 Federal Register 29384 (August 7, 1987)

(2) California Code of Regulations, title 17, section 60200(d)

FIGURE 10



Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 10

California Ambient Air Quality Standards
Area Designation for Visibility Reducing Particles

	N	NA-T	U	A		N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN			X		SACRAMENTO VALLEY AIR BASIN			X	
LAKE COUNTY AIR BASIN				X	SALTON SEA AIR BASIN			X	
LAKE TAHOE AIR BASIN			X		SAN DIEGO AIR BASIN			X	
MOJAVE DESERT AIR BASIN			X		SAN FRANCISCO BAY AREA AIR BASIN			X	
MOUNTAIN COUNTIES AIR BASIN			X		SAN JOAQUIN VALLEY AIR BASIN			X	
NORTH CENTRAL COAST AIR BASIN			X		SOUTH CENTRAL COAST AIR BASIN			X	
NORTH COAST AIR BASIN			X		SOUTH COAST AIR BASIN			X	
NORTHEAST PLATEAU AIR BASIN			X						

Area Designations for the National Ambient Air Quality Standards

The following maps and tables show the area designations for each pollutant with a national ambient air quality standard. Additional information about the federal area designations is available on the U.S. EPA website:

https://www.epa.gov/green-book

Over the last several years, U.S. EPA has been reviewing the levels of the various national standards. The agency has already promulgated new standard levels for some pollutants and is considering revising the levels for others. Information about the status of these reviews is available on the U.S. EPA website:

https://www.epa.gov/criteria-air-pollutants

<u>Designation Categories</u>

Suspended Particulate Matter (PM_{10}). The U.S. EPA uses three categories to designate areas with respect to PM_{10}:

- Attainment
- Nonattainment
- Unclassifiable

Ozone, Fine Suspended Particulate Matter ($PM_{2.5}$), Carbon Monoxide (CO), and Nitrogen Dioxide (NO_2). The U.S. EPA uses two categories to designate areas with respect to these standards:

- Nonattainment
- Unclassifiable/Attainment

The national 1-hour ozone standard was revoked effective June 15, 2005, and the area designations map reflects the 2015 national 8-hour ozone standard of 0.070 ppm. Original designations were finalized on August 3, 2018.

On December 14, 2012, the U.S. EPA established a new national annual primary $PM_{2.5}$ standard of 12.0 $\mu g/m^3$. New area designations reflecting this revised standard became final in December 2014. The current designation map reflects the most recently revised (2012) annual average standard of 12.0 $\mu g/m^3$ as well as the 24-hour standard of 35 $\mu g/m^3$, revised in 2006.

On January 22, 2010, the U.S. EPA established a new national 1-hour NO_2 standard of 100 parts per billion (ppb) and retained the annual average standard of 53 ppb. Designations for the primary NO_2 standard became effective on February 29, 2012. All areas of California meet this standard.

Sulfur Dioxide (SO_2). The U.S. EPA uses three categories to designate areas with respect to the 24-hour and annual average sulfur dioxide standards. These designation categories are:

- Nonattainment,
- Unclassifiable, and
- Attainment/Unclassifiable.

On June 2, 2010, the U.S. EPA established a new primary 1-hour SO_2 standard of 75 parts per billion (ppb). At the same time, U.S. EPA revoked the 24-hour and annual average standards. Area designations for the 1-hour SO_2 standard were finalized on December 21, 2017 and are reflected in the area designations map.

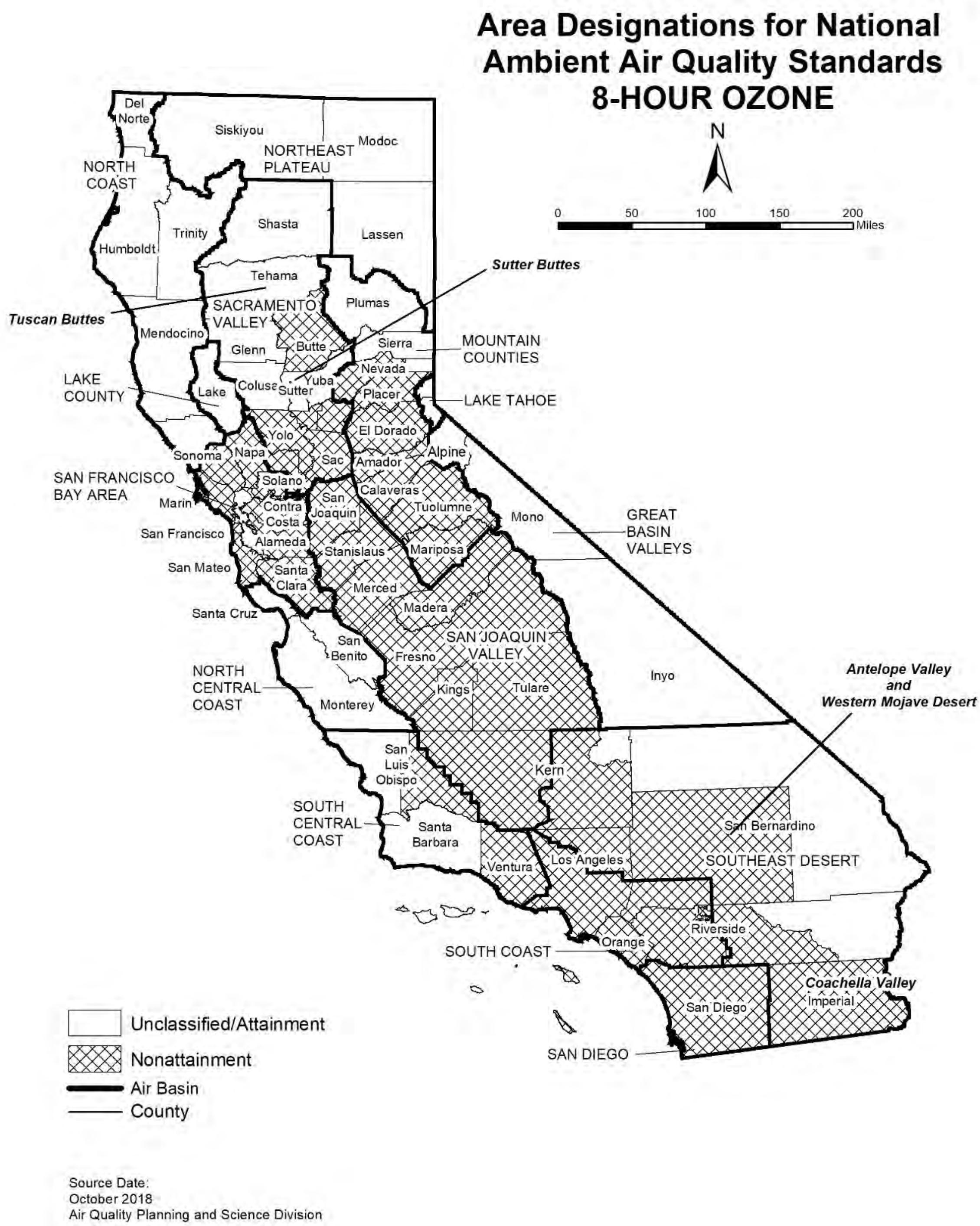
Lead (particulate). The U.S. EPA promulgated a new rolling 3-month average lead standard in October 2008 of 0.15 µg/m^3. Designations were made for this standard in November 2010.

Designation Areas

From time to time, the boundaries of the California air basins have been changed to facilitate the planning process. CARB generally initiates these changes, and they are not always reflected in the U.S. EPA's area designations. For purposes of consistency, the maps in this attachment reflect area designation boundaries and nomenclature as promulgated by the U.S. EPA. In some cases, these may not be the same as those adopted by CARB. For example, the national area designations reflect the former Southeast Desert Air Basin. In accordance with Health and Safety Code section 39606.1, CARB redefined this area in 1996 to be the Mojave Desert Air Basin and Salton Sea Air Basin. The definitions and boundaries for all areas designated for the national standards can be found in Title 40, Code of Federal Regulations (CFR), Chapter I, Subchapter C, Part 81.305. They are available on the web at:

https://ecfr.io/Title-40/se40.20.81_1305

FIGURE 11



Area Designations for National
Ambient Air Quality Standards
8-HOUR OZONE
N
0
50
100
150
200
Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehama
Sutter Buttes
Tuscan Buttes
SACRAMENTO VALLEY
Plumas
Mendocino
Butte
Glenn
Sierra
MOUNTAIN COUNTIES
Nevada
LAKE COUNTY
Colusa
Yuba
Sutter
Lake
Placer
LAKE TAHOE
El Dorado
Yolo
Sonoma
Napa
Sac
Amador
Alpine
SAN FRANCISCO BAY AREA
Solano
Marin
San Joaquin
Calaveras
Contra Costa
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
Fresno
Inyo
Antelope Valley and Western Mojave Desert
NORTH CENTRAL COAST
Kings
Tulare
Monterey
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
San Bernardino
Ventura
Los Angeles
SOUTHEAST DESERT
Riverside
Orange
SOUTH COAST
Coachella Valley
San Diego
Imperial
SAN DIEGO
Unclassified/Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 11

National Ambient Air Quality Standards
Area Designations for 8-Hour Ozone*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SACRAMENTO VALLEY AIR BASIN (cont.)		
LAKE COUNTY AIR BASIN		X	Yolo County (2)	X	
LAKE TAHOE AIR BASIN		X	Yuba County		X
MOUNTAIN COUNTIES AIR BASIN			SAN DIEGO COUNTY	X	
Amador County	X		SAN FRANCISCO BAY AREA AIR BASIN	X	
Calaveras County	X		SAN JOAQUIN VALLEY AIR BASIN	X	
El Dorado County (portion) (2)	X		SOUTH CENTRAL COAST AIR BASIN (1)		
Mariposa County	X		San Luis Obispo County		
Nevada County			- Eastern San Luis Obispo County	X	
- Western Nevada County	X		- Remainder of County		X
- Remainder of County		X	Santa Barbara County		X
Placer County (portion) (2)	X		Ventura County		
Plumas County		X	- Area excluding Anacapa and San Nicolas Islands	X	
Sierra County		X	- Channel Islands (1)		X
Tuolumne County	X		SOUTH COAST AIR BASIN (1)	X	
NORTH CENTRAL COAST AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		
NORTH COAST AIR BASIN		X	Kern County (portion)	X	
NORTHEAST PLATEAU AIR BASIN		X	- Indian Wells Valley		X
SACRAMENTO VALLEY AIR BASIN			Imperial County	X	
Butte County	X		Los Angeles County (portion)	X	
Colusa County		X	Riverside County (portion)		
Glenn County		X	- Coachella Valley	X	
Sacramento Metro Area (2)	X		- Non-AQMA portion		X
Shasta County		X	San Bernardino County		
Sutter County			- Western portion (AQMA)	X	
- Sutter Buttes	X		- Eastern portion (non-AQMA)		X
- Southern portion of Sutter County (2)	X				
- Remainder of Sutter County		X			
Tehama County					
- Tuscan Buttes	X				
- Remainder of Tehama County		X			

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

NOTE: This map and table reflect the 2015 8-hour ozone standard of 0.070 ppm.

(1) South Central Coast Air Basin Channel Islands:
Santa Barbara County includes Santa Cruz, San Miguel, Santa Rosa, and Santa Barbara Islands.
Ventura County includes Anacapa and San Nicolas Islands.
South Coast Air Basin:
Los Angeles County includes San Clemente and Santa Catalina Islands.

(2) For this purpose, the Sacramento Metro Area comprises all of Sacramento and Yolo Counties, the Sacramento Valley Air Basin portion of Solano County, the southern portion of Sutter County, and the Sacramento Valley and Mountain Counties Air Basins portions of Placer and El Dorado counties.

FIGURE 12

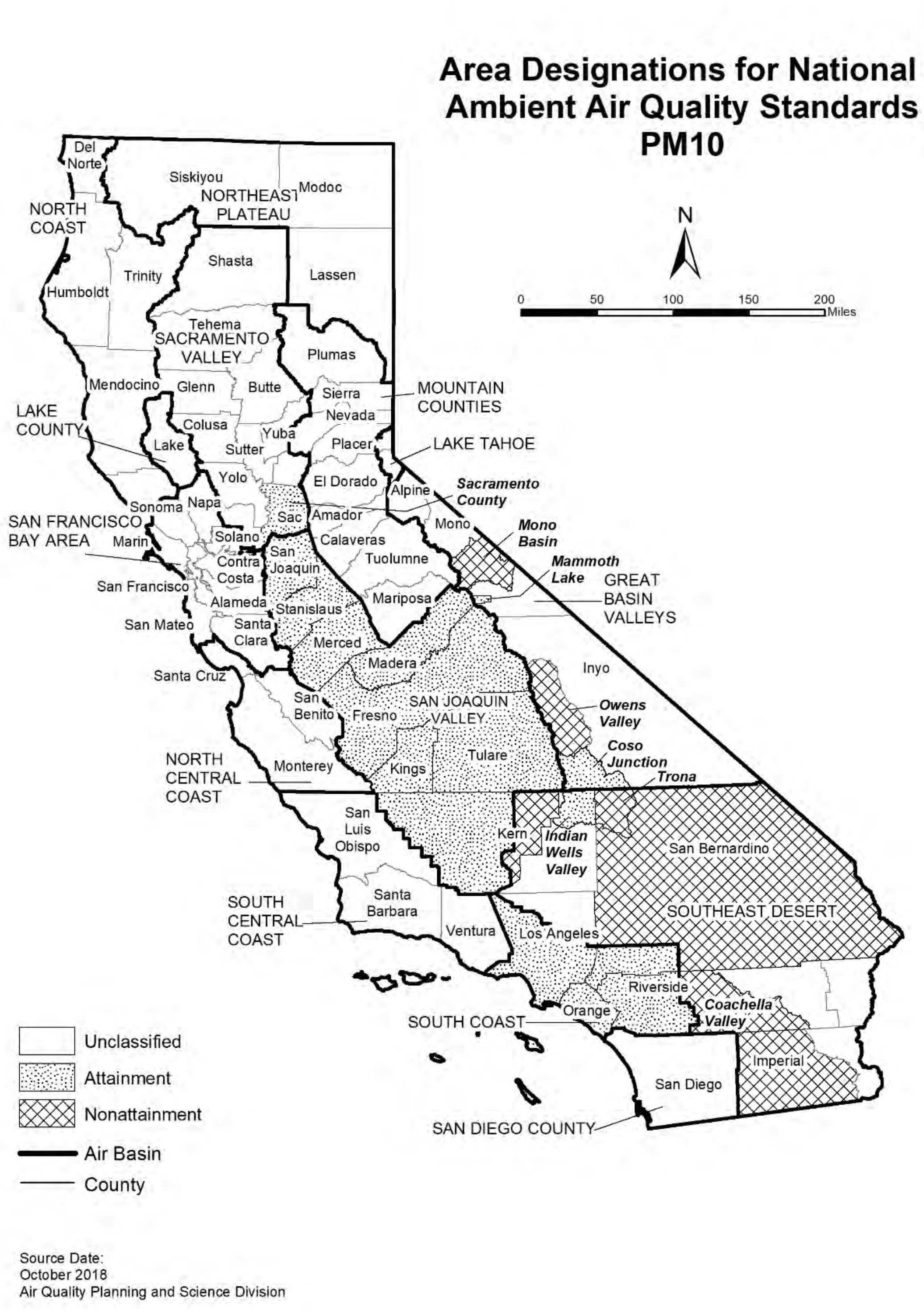

Area Designations for National Ambient Air Quality Standards PM10
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
NORTHEAST PLATEAU
Modoc
NORTH COAST
Shasta
Lassen
Trinity
Humboldt
Tehema
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
Nevada
MOUNTAIN COUNTIES
LAKE COUNTY
Colusa
Yuba
Lake
Sutter
Placer
LAKE TAHOE
Yolo
El Dorado
Alpine
Sacramento County
Sonoma
Napa
Sac
Amador
Mono
SAN FRANCISCO BAY AREA
Marin
Solano
Calaveras
Mono Basin
San Joaquin
Contra Costa
Tuolumne
Mammoth Lake
San Francisco
GREAT BASIN VALLEYS
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Inyo
Santa Cruz
San Benito
SAN JOAQUIN VALLEY
Fresno
Owens Valley
NORTH CENTRAL COAST
Monterey
Tulare
Coso Junction
Kings
Trona
San Luis Obispo
Kern
Indian Wells Valley
San Bernardino
SOUTHEAST DESERT
SOUTH CENTRAL COAST
Santa Barbara
Ventura
Los Angeles
Riverside
Coachella Valley
SOUTH COAST
Orange
Imperial
San Diego
SAN DIEGO COUNTY
Unclassified
Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 12

National Ambient Air Quality Standards
Area Designations for Suspended Particulate Matter (PM10)*

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN				SAN DIEGO COUNTY		X	
Alpine County		X		SAN FRANCISCO BAY AREA AIR BASIN		X	
Inyo County				SAN JOAQUIN VALLEY AIR BASIN			X
- Owens Valley Planning Area	X			SOUTH CENTRAL COAST AIR BASIN		X	
- Coso Junction			X	SOUTH COAST AIR BASIN			X
- Remainder of County		X		SOUTHEAST DESERT AIR BASIN			
Mono County				Eastern Kern County			
- Mammoth Lake Planning Area			X	- Indian Wells Valley			X
- Mono Lake Basin	X			- Portion within San Joaquin Valley Planning Area	X		
- Remainder of County		X		- Remainder of County		X	
LAKE COUNTY AIR BASIN		X		Imperial County			
LAKE TAHOE AIR BASIN		X		- Imperial Valley Planning Area	X		
MOUNTAIN COUNTIES AIR BASIN				- Remainder of County		X	
Placer County (portion) (2)		X		Los Angeles County (portion)		X	
Remainder of Air Basin		X		Riverside County (portion)			
NORTH CENTRAL COAST AIR BASIN		X		- Coachella Valley (3)	X		
NORTH COAST AIR BASIN		X		- Non-AQMA portion		X	
NORTHEAST PLATEAU AIR BASIN		X		San Bernardino County			
SACRAMENTO VALLEY AIR BASIN				- Trona	X		
Butte County		X		- Remainder of County	X		
Colusa County		X					
Glenn County		X					
Placer County (portion) (2)		X					
Sacramento County (1)			X				
Shasta County		X					
Solano County (portion)		X					
Sutter County		X					
Tehama County		X					
Yolo County		X					
Yuba County		X					

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.
(1) Air quality in Sacramento County meets the national PM10 standards. The request for redesignation to attainment was approved by U.S. EPA in September 2013.
(2) U.S. EPA designation puts the Sacramento Valley Air Basin portion of Placer County in the Mountain Counties Air Basin.
(3) Air quality in Coachella Valley meets the national PM10 standards. A request for redesignation to attainment has been submitted to U.S. EPA.

FIGURE 13

Area Designations for National Ambient Air Quality Standards PM2.5
N
0
50
100
150
200
Miles
NORTH COAST
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
Humboldt
Trinity
Shasta
Lassen
Tehama
SACRAMENTO VALLEY
Plumas
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Mendocino
Nevada
LAKE COUNTY
Colusa
Yuba
Placer
Lake
Sutter
LAKE TAHOE
Yolo
El Dorado
Sonoma
Napa
Sacramento
Alpine
Amador
Solano
Calaveras
SAN FRANCISCO BAY AREA
Marin
Tuolumne
Contra Costa
San Joaquin
Mono
GREAT BASIN VALLEYS
Alameda
Stanislaus
Mariposa
San Mateo
Merced
Madera
Santa Clara
Santa Cruz
Fresno
NORTH CENTRAL COAST
San Benito
SAN JOAQUIN VALLEY
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
San Bernardino
SOUTH CENTRAL COAST
Santa Barbara
SOUTHEAST DESERT
Ventura
Los Angeles
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 13

National Ambient Air Quality Standards
Area Designations for Fine Particulate Matter (PM2.5)*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SAN DIEGO COUNTY		X
LAKE COUNTY AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN (2)	X	
LAKE TAHOE AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN	X	
MOUNTAIN COUNTIES AIR BASIN			SOUTH CENTRAL COAST AIR BASIN		X
Plumas County			SOUTH COAST AIR BASIN (3)	X	
- Portola Valley Portion of Plumas	X		SOUTHEAST DESERT AIR BASIN		
- Remainder of Plumas County		X	Imperial County (portion) (4)	X	
Remainder of Air Basin		X	Remainder of Air Basin		X
NORTH CENTRAL COAST AIR BASIN		X			
NORTH COAST AIR BASIN		X			
NORTHEAST PLATEAU AIR BASIN		X			
SACRAMENTO VALLEY AIR BASIN					
Sacramento Metro Area (1)	X				
Sutter County		X			
Yuba County (portion)		X			
Remainder of Air Basin		X			

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305. This map reflects the 2006 24-hour PM2.5 standard as well as the 1997 and 2012 PM2.5 annual standards.

(1) For this purpose, Sacramento Metro Area comprises all of Sacramento and portions of El Dorado, Placer, Solano, and Yolo Counties. Air quality in this area meets the national PM2.5 standards. A Determination of Attainment for the 2006 24-hour PM2.5 standard was made by U.S. EPA in June 2017.

(2) Air quality in this area meets the national PM2.5 standards. A Determination of Attainment for the 2006 24-hour PM2.5 standard was made by U.S. EPA in June 2017.

(3) Those lands of the Santa Rosa Band of Cahulla Mission Indians in Riverside County are designated Unclassifiable/Attainment.

(4) That portion of Imperial County encompassing the urban and surrounding areas of Brawley, Calexico, El Centro, Heber, Holtville, Imperial, Seeley, and Westmorland. Air quality in this area meets the national PM2.5 standards. A Determination of Attainment for the 2006 24-hour PM2.5 standard was made by U.S. EPA in June 2017.

FIGURE 14


Area Designations for National Ambient Air Quality Standards
CARBON MONOXIDE
N
0
50
100
150
200
Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Lassen
Trinity
Humboldt
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
Colusa
Yuba
Lake
Sutter
Placer
LAKE TAHOE
LAKE COUNTY
Yolo
El Dorado
Napa
Alpine
Sonoma
Sac
Amador
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
SOUTH CENTRAL COAST
SOUTHEAST DESERT
Santa Barbara
Ventura
Los Angeles
San Bernardino
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 14

National Ambient Air Quality Standards
Area Designations for Carbon Monoxide*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SACRAMENTO VALLEY AIR BASIN		X
LAKE COUNTY AIR BASIN		X	SAN DIEGO COUNTY		X
LAKE TAHOE AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X	SOUTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		X

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

FIGURE 15

Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 15

National Ambient Air Quality Standards
Area Designations for Nitrogen Dioxide*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SACRAMENTO VALLEY AIR BASIN		X
LAKE COUNTY AIR BASIN		X	SAN DIEGO COUNTY		X
LAKE TAHOE AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X	SOUTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		X

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

FIGURE 16

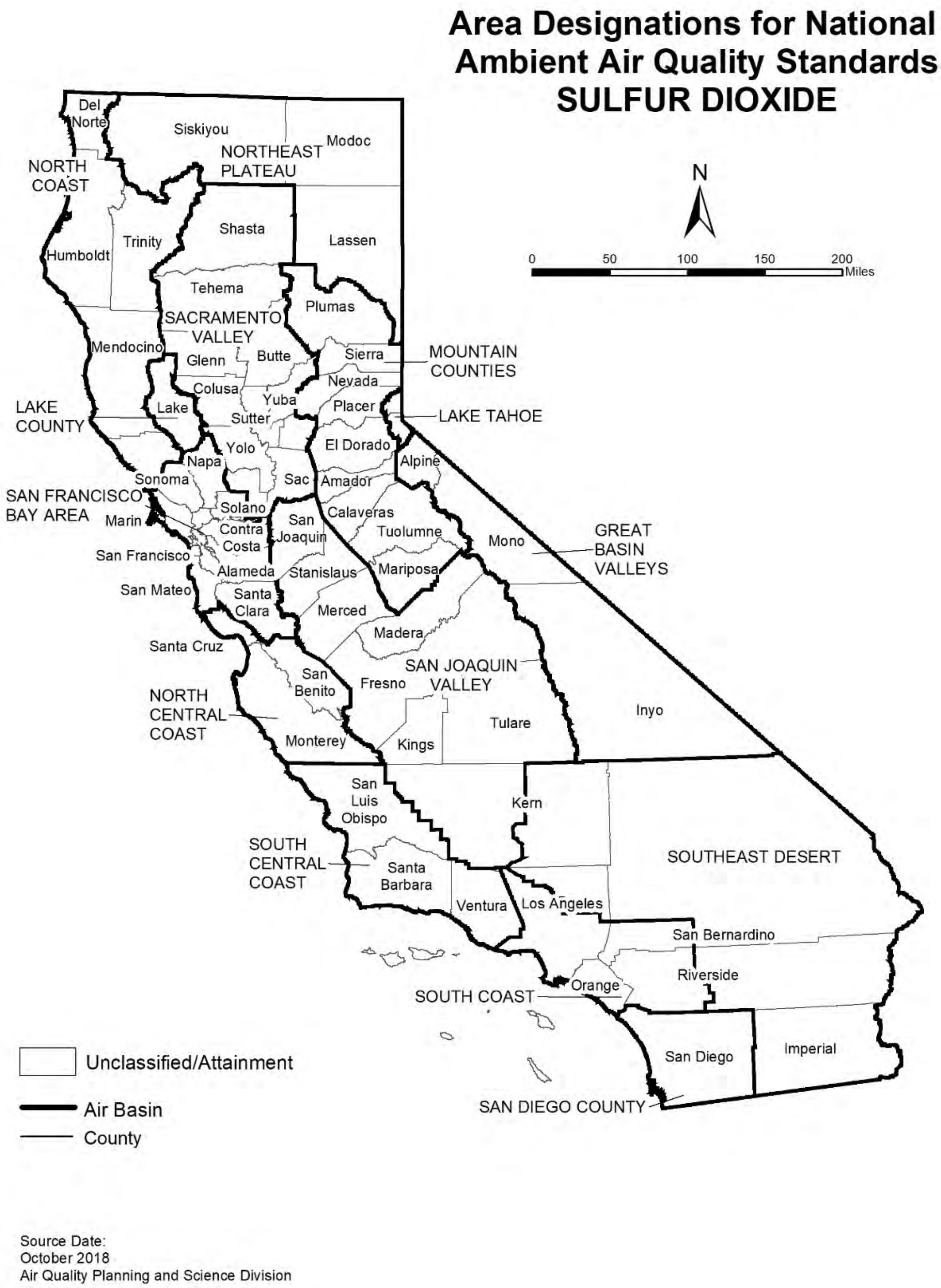

Area Designations for National Ambient Air Quality Standards SULFUR DIOXIDE
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Lassen
Trinity
Humboldt
Tehema
Plumas
SACRAMENTO VALLEY
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Colusa
Nevada
Yuba
Placer
LAKE TAHOE
LAKE COUNTY
Lake
Sutter
Yolo
El Dorado
Napa
Alpine
Sonoma
Sac
Amador
SAN FRANCISCO BAY AREA
Marin
Solano
Calaveras
Contra Costa
San Joaquin
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
SAN JOAQUIN VALLEY
San Benito
Fresno
Inyo
NORTH CENTRAL COAST
Tulare
Monterey
Kings
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
SOUTHEAST DESERT
Ventura
Los Angeles
San Bernardino
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Air Basin
County
Source Date: October 2018 Air Quality Planning and Science Division

TABLE 16

National Ambient Air Quality Standards Area Designations for Sulfur Dioxide*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		
LAKE COUNTY AIR BASIN		X	San Luis Obispo County		X
LAKE TAHOE AIR BASIN		X	Santa Barbara County		X
MOUNTAIN COUNTIES AIR BASIN		X	Ventura County		X
NORTH CENTRAL COAST AIR BASIN		X	Channel Islands (1)		X
NORTH COAST AIR BASIN		X	SOUTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		
SACRAMENTO VALLEY AIR BASIN		X	Imperial County		X
SAN DIEGO COUNTY		X	Remainder of Air Basin		X
SAN FRANCISCO BAY AREA AIR BASIN		X			
SAN JOAQUIN VALLEY AIR BASIN					
Fresno County		X			
Kern County (portion)		X			
Kings County		X			
Madera County		X			
Merced County		X			
San Joaquin County		X			
Stanislaus County		X			
Tulare County		X			

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

NOTE: This map and table reflect the 2010 1-hour SO_2 standard of 75 ppb.

(1) South Central Coast Air Basin Channel Islands:

Santa Barbara County includes Santa Cruz, San Miguel, Santa Rosa, and Santa Barbara Islands.

Ventura County includes Anacapa and San Nicolas Islands.

Note that the San Clemente and Santa Catalina Islands are considered part of Los Angeles County, and therefore, are included as part of the South Coast Air Basin.

FIGURE 17


Area Designations for National Ambient Air Quality Standards
LEAD
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Lassen
Trinity
Humboldt
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Colusa
Nevada
Lake
Sutter
Yuba
Placer
LAKE TAHOE
LAKE COUNTY
Yolo
El Dorado
Napa
Alpine
Sonoma
Sac
Amador
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
San Joaquin
Contra Costa
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
SOUTH CENTRAL COAST
SOUTHEAST DESERT
Santa Barbara
Ventura
Los Angeles
San Bernardino
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 17

National Ambient Air Quality Standards
Area Designations for Lead (particulate)

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SAN DIEGO COUNTY		X
LAKE COUNTY AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN		X
LAKE TAHOE AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X	SOUTH COAST AIR BASIN		
NORTH COAST AIR BASIN		X	Los Angeles County (portion) (1)	X	
NORTHEAST PLATEAU AIR BASIN		X	Remainder of Air Basin		X
SACRAMENTO VALLEY AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		X

(1) Portion of County in Air Basin, not including Channel Islands

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APPENDIX 3.1:

CALEEMOD EMISSIONS MODEL OUTPUTS

Ramona Gateway Commerce Center Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Ramona Gateway Commerce Center
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	9.00
Location	33.842043561435375, -117.2466820493357
County	Riverside-South Coast
City	Perris
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5580
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

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
Refrigerated Warehouse-No Rail	47.5	1000sqft	1.09	47,510	293,594	—	—	—
Unrefrigerated Warehouse-No Rail	903	1000sqft	20.7	902,710	0.00	—	—	—

Other Asphalt Surfaces	596	1000sqft	13.7	0.00	0.00	—	—	—
Parking Lot	875	Space	6.08	0.00	0.00	—	—	—
Fast Food Restaurant w/o Drive Thru	10.2	1000sqft	0.23	10,200	0.00	—	—	—
Fast Food Restaurant with Drive Thru	18.9	1000sqft	0.43	18,900	0.00	—	—	—
Automobile Care Center	3.52	1000sqft	0.08	3,520	0.00	—	—	—
Convenience Market with Gas Pumps	16.0	Pump	0.11	4,600	0.00	—	—	—
User Defined Industrial	950	User Defined Unit	0.00	950,224	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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.2	38.4	77.2	128	0.12	4.07	16.4	17.7	3.74	4.60	8.34	—	27,557	27,557	1.04	1.44	80.6	28,093
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.85	38.1	72.8	105	0.12	3.34	16.4	17.7	3.08	3.91	5.31	—	26,234	26,234	1.06	1.45	2.09	26,694

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.09	6.01	21.9	33.5	0.04	0.97	4.59	5.04	0.89	1.09	1.88	—	7,789	7,789	0.32	0.39	9.67	7,921
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.56	1.10	4.00	6.11	0.01	0.18	0.84	0.92	0.16	0.20	0.34	—	1,290	1,290	0.05	0.06	1.60	1,311

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	9.63	8.09	77.2	64.3	0.12	4.07	9.88	13.9	3.74	4.60	8.34	—	14,444	14,444	0.53	0.54	10.2	14,629
2024	10.2	38.4	45.0	128	0.10	1.87	16.4	17.7	1.72	3.91	5.06	—	27,557	27,557	1.04	1.44	80.6	28,093
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	8.75	7.32	72.8	86.6	0.12	3.34	12.2	13.4	3.08	2.91	5.31	—	21,860	21,860	0.86	1.28	1.73	22,265
2024	9.85	38.1	39.8	105	0.10	1.24	16.4	17.7	1.15	3.91	5.06	—	26,234	26,234	1.06	1.45	2.09	26,694
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	3.09	2.62	21.9	25.3	0.04	0.97	3.12	4.09	0.89	0.99	1.88	—	5,973	5,973	0.23	0.27	4.58	6,065
2024	3.03	6.01	13.2	33.5	0.03	0.45	4.59	5.04	0.42	1.09	1.51	—	7,789	7,789	0.32	0.39	9.67	7,921
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.56	0.48	4.00	4.61	0.01	0.18	0.57	0.75	0.16	0.18	0.34	—	989	989	0.04	0.05	0.76	1,004
2024	0.55	1.10	2.41	6.11	0.01	0.08	0.84	0.92	0.08	0.20	0.28	—	1,290	1,290	0.05	0.06	1.60	1,311

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	99.6	141	83.9	397	1.09	1.54	27.7	29.2	1.52	5.27	6.79	1,112	122,922	124,034	117	11.1	2,157	132,415
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	81.9	125	87.5	269	1.05	1.43	27.7	29.1	1.37	5.27	6.64	1,112	118,492	119,604	117	11.2	1,787	127,650
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	83.3	125	86.0	313	1.00	1.46	25.9	27.3	1.43	4.95	6.38	1,112	113,852	114,964	117	10.9	1,931	123,071
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	15.2	22.9	15.7	57.1	0.18	0.27	4.72	4.99	0.26	0.90	1.16	184	18,849	19,034	19.4	1.81	320	20,376

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	84.3	80.5	77.8	304	1.06	1.25	27.7	28.9	1.19	5.27	6.46	—	110,856	110,856	3.71	9.89	380	114,275
Area	15.0	60.4	0.71	84.2	0.01	0.11	—	0.11	0.15	—	0.15	—	347	347	0.01	< 0.005	—	348
Energy	0.22	0.11	1.99	1.67	0.01	0.15	—	0.15	0.15	—	0.15	—	8,834	8,834	0.82	0.08	—	8,878
Water	—	—	—	—	—	—	—	—	—	—	—	439	1,513	1,952	45.2	1.09	—	3,405
Waste	—	—	—	—	—	—	—	—	—	—	—	673	0.00	673	67.3	0.00	—	2,354
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,777	1,777
Off-Road	0.16	0.16	3.37	6.79	0.01	0.03	—	0.03	0.03	—	0.03	—	1,373	1,373	0.06	0.01	—	1,378

Total	99.6	141	83.9	397	1.09	1.54	27.7	29.2	1.52	5.27	6.79	1,112	122,922	124,034	117	11.1	2,157	132,415
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	81.5	77.7	82.1	261	1.02	1.25	27.7	28.9	1.19	5.27	6.46	—	106,772	106,772	3.86	10.00	9.85	109,858
Area	—	46.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.22	0.11	1.99	1.67	0.01	0.15	—	0.15	0.15	—	0.15	—	8,834	8,834	0.82	0.08	—	8,878
Water	—	—	—	—	—	—	—	—	—	—	—	439	1,513	1,952	45.2	1.09	—	3,405
Waste	—	—	—	—	—	—	—	—	—	—	—	673	0.00	673	67.3	0.00	—	2,354
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,777	1,777
Off-Road	0.16	0.16	3.37	6.79	0.01	0.03	—	0.03	0.03	—	0.03	—	1,373	1,373	0.06	0.01	—	1,378
Total	81.9	125	87.5	269	1.05	1.43	27.7	29.1	1.37	5.27	6.64	1,112	118,492	119,604	117	11.2	1,787	127,650
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	72.7	69.2	80.1	247	0.98	1.21	25.9	27.1	1.15	4.95	6.10	—	101,894	101,894	3.58	9.74	154	105,041
Area	10.3	56.1	0.49	57.7	< 0.005	0.08	—	0.08	0.10	—	0.10	—	237	237	0.01	< 0.005	—	238
Energy	0.22	0.11	1.99	1.67	0.01	0.15	—	0.15	0.15	—	0.15	—	8,834	8,834	0.82	0.08	—	8,878
Water	—	—	—	—	—	—	—	—	—	—	—	439	1,513	1,952	45.2	1.09	—	3,405
Waste	—	—	—	—	—	—	—	—	—	—	—	673	0.00	673	67.3	0.00	—	2,354
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,777	1,777
Off-Road	0.16	0.16	3.37	6.79	0.01	0.03	—	0.03	0.03	—	0.03	—	1,373	1,373	0.06	0.01	—	1,378
Total	83.3	125	86.0	313	1.00	1.46	25.9	27.3	1.43	4.95	6.38	1,112	113,852	114,964	117	10.9	1,931	123,071
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	13.3	12.6	14.6	45.0	0.18	0.22	4.72	4.94	0.21	0.90	1.11	—	16,870	16,870	0.59	1.61	25.5	17,391
Area	1.87	10.2	0.09	10.5	< 0.005	0.01	—	0.01	0.02	—	0.02	—	39.3	39.3	< 0.005	< 0.005	—	39.4
Energy	0.04	0.02	0.36	0.31	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,463	1,463	0.14	0.01	—	1,470
Water	—	—	—	—	—	—	—	—	—	—	—	72.7	251	323	7.48	0.18	—	564
Waste	—	—	—	—	—	—	—	—	—	—	—	111	0.00	111	11.1	0.00	—	390
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	294	294

Off-Road	0.03	0.03	0.61	1.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	227	227	0.01	< 0.005	—	228
Total	15.2	22.9	15.7	57.1	0.18	0.27	4.72	4.99	0.26	0.90	1.16	184	18,849	19,034	19.4	1.81	320	20,376

3. Construction Emissions Details

3.1. Site Preparation (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	9.43	7.93	76.3	61.6	0.08	4.06	—	4.06	3.73	—	3.73	—	8,984	8,984	0.36	0.07	—	9,014
Dust From Material Movement	—	—	—	—	—	—	9.35	9.35	—	4.47	4.47	—	—	—	—	—	—	—
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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39	0.33	3.14	2.53	< 0.005	0.17	—	0.17	0.15	—	0.15	—	369	369	0.01	< 0.005	—	370
Dust From Material Movement	—	—	—	—	—	—	0.38	0.38	—	0.18	0.18	—	—	—	—	—	—	—
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	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.57	0.46	< 0.005	0.03	—	0.03	0.03	—	0.03	—	61.1	61.1	< 0.005	< 0.005	—	61.3
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.03	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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.15	0.15	2.49	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	404	404	0.02	0.01	1.73	410
Vendor	0.03	0.02	0.73	0.23	< 0.005	0.01	0.04	0.04	0.01	0.01	0.02	—	628	628	0.01	0.09	1.75	658
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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	15.5	15.5	< 0.005	< 0.005	0.03	15.7
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	25.8	25.8	< 0.005	< 0.005	0.03	27.0
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.56	2.56	< 0.005	< 0.005	0.01	2.59
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.28	4.28	< 0.005	< 0.005	0.01	4.47
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	0.00	0.00

3.3. Grading (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	8.42	7.08	69.1	55.5	0.10	3.30	—	3.30	3.04	—	3.04	—	11,046	11,046	0.45	0.09	—	11,084
Dust From Material Movement	—	—	—	—	—	—	4.92	4.92	—	1.91	1.91	—	—	—	—	—	—	—
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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	8.42	7.08	69.1	55.5	0.10	3.30	—	3.30	3.04	—	3.04	—	11,046	11,046	0.45	0.09	—	11,084
Dust From Material Movement	—	—	—	—	—	—	4.92	4.92	—	1.91	1.91	—	—	—	—	—	—	—
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.62	1.36	13.2	10.6	0.02	0.63	—	0.63	0.58	—	0.58	—	2,118	2,118	0.09	0.02	—	2,126
Dust From Material Movement	—	—	—	—	—	—	0.94	0.94	—	0.37	0.37	—	—	—	—	—	—	—
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.29	0.25	2.42	1.94	< 0.005	0.12	—	0.12	0.11	—	0.11	—	351	351	0.01	< 0.005	—	352
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.17	0.17	2.95	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	477	477	0.02	0.02	2.05	485
Vendor	0.15	0.09	3.41	1.06	0.02	0.04	0.17	0.21	0.04	0.06	0.10	—	2,921	2,921	0.06	0.43	8.13	3,060
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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.16	0.20	2.23	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	439	439	0.02	0.02	0.05	444
Vendor	0.15	0.08	3.57	1.09	0.02	0.04	0.17	0.21	0.04	0.06	0.10	—	2,923	2,923	0.06	0.43	0.21	3,054
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.04	0.45	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	85.2	85.2	< 0.005	< 0.005	0.17	86.4
Vendor	0.03	0.02	0.69	0.21	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	560	560	0.01	0.08	0.68	586
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	14.1	14.1	< 0.005	< 0.005	0.03	14.3
Vendor	0.01	< 0.005	0.13	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	92.8	92.8	< 0.005	0.01	0.11	97.0
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	0.00	0.00

3.5. Building Construction (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.24	2.71	25.6	28.6	0.05	1.19	—	1.19	1.10	—	1.10	—	5,260	5,260	0.21	0.04	—	5,278
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.34	3.26	3.63	0.01	0.15	—	0.15	0.14	—	0.14	—	669	669	0.03	0.01	—	671
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.06	0.59	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	111	111	< 0.005	< 0.005	—	111
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	4.53	4.11	4.99	55.9	0.00	0.00	0.66	0.66	0.00	0.00	0.00	—	10,974	10,974	0.53	0.40	1.32	11,109
Vendor	0.28	0.16	6.88	2.10	0.04	0.08	0.32	0.40	0.08	0.12	0.20	—	5,626	5,626	0.12	0.84	0.41	5,878
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.57	0.52	0.64	7.46	0.00	0.00	0.08	0.08	0.00	0.00	0.00	—	1,414	1,414	0.07	0.05	2.80	1,434
Vendor	0.04	0.02	0.88	0.26	0.01	0.01	0.04	0.05	0.01	0.02	0.03	—	715	715	0.02	0.11	0.86	748
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.12	1.36	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	234	234	0.01	0.01	0.46	237
Vendor	0.01	< 0.005	0.16	0.05	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	118	118	< 0.005	0.02	0.14	124
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	0.00	0.00

3.7. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.10	2.59	24.3	28.5	0.05	1.08	—	1.08	0.99	—	0.99	—	5,261	5,261	0.21	0.04	—	5,279
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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.10	2.59	24.3	28.5	0.05	1.08	—	1.08	0.99	—	0.99	—	5,261	5,261	0.21	0.04	—	5,279

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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.75	0.63	5.91	6.91	0.01	0.26	—	0.26	0.24	—	0.24	—	1,277	1,277	0.05	0.01	—	1,281
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	1.08	1.26	< 0.005	0.05	—	0.05	0.04	—	0.04	—	211	211	0.01	< 0.005	—	212
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.57	4.17	3.93	67.9	0.00	0.00	0.66	0.66	0.00	0.00	0.00	—	11,702	11,702	0.49	0.40	46.4	11,881
Vendor	0.25	0.16	6.30	1.96	0.04	0.08	0.32	0.40	0.08	0.12	0.20	—	5,558	5,558	0.12	0.83	15.7	5,824
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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.34	3.92	4.62	51.3	0.00	0.00	0.66	0.66	0.00	0.00	0.00	—	10,754	10,754	0.51	0.40	1.20	10,888
Vendor	0.24	0.16	6.59	2.00	0.04	0.08	0.32	0.40	0.08	0.12	0.20	—	5,561	5,561	0.12	0.84	0.41	5,814
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.05	0.95	1.12	13.1	0.00	0.00	0.16	0.16	0.00	0.00	0.00	—	2,643	2,643	0.12	0.10	4.87	2,680
Vendor	0.06	0.04	1.60	0.48	0.01	0.02	0.08	0.10	0.02	0.03	0.05	—	1,349	1,349	0.03	0.20	1.63	1,412
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.19	0.17	0.20	2.39	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	438	438	0.02	0.02	0.81	444
Vendor	0.01	0.01	0.29	0.09	< 0.005	< 0.005	0.01	0.02	< 0.005	0.01	0.01	—	223	223	< 0.005	0.03	0.27	234
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	0.00	0.00

3.9. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.10	2.59	24.3	28.5	0.05	1.08	—	1.08	0.99	—	0.99	—	5,261	5,261	0.21	0.04	—	5,279
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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.28	2.67	3.12	0.01	0.12	—	0.12	0.11	—	0.11	—	577	577	0.02	< 0.005	—	578
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.49	0.57	< 0.005	0.02	—	0.02	0.02	—	0.02	—	95.4	95.4	< 0.005	< 0.005	—	95.8
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.57	4.17	3.93	67.9	0.00	0.00	0.66	0.66	0.00	0.00	0.00	—	11,702	11,702	0.49	0.40	46.4	11,881
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	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.47	0.43	0.51	5.92	0.00	0.00	0.07	0.07	0.00	0.00	0.00	—	1,194	1,194	0.06	0.04	2.20	1,210
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	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	1.08	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	198	198	0.01	0.01	0.36	200
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	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	0.00	0.00

3.11. Paving (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.03	1.70	15.6	20.1	0.03	0.78	—	0.78	0.72	—	0.72	—	3,023	3,023	0.12	0.02	—	3,034
Paving	—	2.59	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.86	1.10	< 0.005	0.04	—	0.04	0.04	—	0.04	—	166	166	0.01	< 0.005	—	166
Paving	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27.4	27.4	< 0.005	< 0.005	—	27.5
Paving	—	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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.15	0.14	2.50	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	432	432	0.02	0.01	1.71	438
Vendor	0.04	0.02	0.95	0.30	0.01	0.01	0.05	0.06	0.01	0.02	0.03	—	838	838	0.02	0.13	2.36	879
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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	22.0	22.0	< 0.005	< 0.005	0.04	22.3
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	45.9	45.9	< 0.005	0.01	0.06	48.1

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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	3.65	3.65	< 0.005	< 0.005	0.01	3.70
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.61	7.61	< 0.005	< 0.005	0.01	7.96
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	0.00	0.00

3.13. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.36	2.42	3.06	< 0.005	0.08	—	0.08	0.08	—	0.08	—	356	356	0.01	< 0.005	—	357
Architectural Coatings	—	29.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.36	2.42	3.06	< 0.005	0.08	—	0.08	0.08	—	0.08	—	356	356	0.01	< 0.005	—	357
Architectural Coatings	—	29.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.04	0.27	0.34	< 0.005	0.01	—	0.01	0.01	—	0.01	—	39.0	39.0	< 0.005	< 0.005	—	39.2
Architectural Coatings	—	3.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.46	6.46	< 0.005	< 0.005	—	6.48
Architectural Coatings	—	0.59	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.83	1.67	1.57	27.2	0.00	0.00	0.27	0.27	0.00	0.00	0.00	—	4,681	4,681	0.20	0.16	18.6	4,752
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	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.74	1.57	1.85	20.5	0.00	0.00	0.27	0.27	0.00	0.00	0.00	—	4,302	4,302	0.20	0.16	0.48	4,355
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	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.17	0.20	2.37	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	477	477	0.02	0.02	0.88	484
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	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.04	0.43	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	79.0	79.0	< 0.005	< 0.005	0.15	80.2
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	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	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.68	0.66	0.14	2.62	0.01	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	517	517	0.02	0.01	2.03	524
Unrefrigerated Warehouse-No Rail	16.2	15.7	3.31	62.6	0.12	0.06	0.55	0.61	0.05	0.17	0.22	—	12,371	12,371	0.51	0.33	48.4	12,532
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Fast Food Restaurant w/o Drive Thru	25.7	24.8	10.0	88.2	0.19	0.15	1.04	1.19	0.14	0.32	0.46	—	19,706	19,706	0.96	0.94	78.7	20,089
Fast Food Restaurant with Drive Thru	31.9	30.7	12.6	112	0.25	0.20	1.36	1.56	0.18	0.42	0.61	—	25,820	25,820	1.16	1.19	104	26,308
Automobile Care Center	3.16	3.05	1.21	10.6	0.02	0.02	0.12	0.14	0.02	0.04	0.05	—	2,280	2,280	0.12	0.11	9.06	2,326
Convenience Market with Gas Pumps	4.44	4.28	1.76	15.7	0.04	0.03	0.19	0.22	0.03	0.06	0.08	—	3,601	3,601	0.16	0.17	14.5	3,669
User Defined Industrial	2.24	1.36	48.8	11.9	0.43	0.80	3.35	4.15	0.77	1.07	1.84	—	46,562	46,562	0.78	7.12	124	48,827
Total	84.3	80.5	77.8	304	1.06	1.25	6.63	7.89	1.19	2.08	3.27	—	110,856	110,856	3.71	9.89	380	114,275
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.66	0.64	0.15	2.18	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	478	478	0.02	0.01	0.05	483
Unrefrigerated Warehouse-No Rail	15.9	15.4	3.66	52.2	0.11	0.06	0.55	0.61	0.05	0.17	0.22	—	11,427	11,427	0.54	0.36	1.26	11,548

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant w/o Drive Thru	24.7	23.7	10.7	76.1	0.18	0.15	1.04	1.19	0.14	0.32	0.46	—	18,517	18,517	1.01	0.98	2.04	18,835
Fast Food Restaurant with Drive Thru	30.8	29.6	13.5	95.7	0.24	0.20	1.36	1.56	0.18	0.42	0.61	—	24,253	24,253	1.22	1.24	2.69	24,654
Automobile Care Center	3.02	2.91	1.30	9.24	0.02	0.02	0.12	0.14	0.02	0.04	0.05	—	2,144	2,144	0.13	0.12	0.23	2,182
Convenience Market with Gas Pumps	4.29	4.13	1.89	13.3	0.03	0.03	0.19	0.22	0.03	0.06	0.08	—	3,382	3,382	0.17	0.17	0.37	3,438
User Defined Industrial	2.20	1.33	50.9	11.9	0.43	0.80	3.35	4.15	0.77	1.07	1.84	—	46,572	46,572	0.77	7.12	3.21	48,718
Total	81.5	77.7	82.1	261	1.02	1.25	6.63	7.89	1.19	2.08	3.28	—	106,772	106,772	3.86	10.00	9.85	109,858
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.12	0.11	0.03	0.41	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	80.0	80.0	< 0.005	< 0.005	0.14	81.0

Unrefrigerated Warehouse-No Rail	2.83	2.74	0.69	9.91	0.02	0.01	0.10	0.11	0.01	0.03	0.04	—	1,915	1,915	0.09	0.06	3.46	1,938
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant w/o Drive Thru	3.12	3.00	1.41	10.2	0.02	0.02	0.13	0.15	0.02	0.04	0.06	—	2,190	2,190	0.12	0.12	3.98	2,232
Fast Food Restaurant with Drive Thru	5.49	5.28	2.51	18.1	0.04	0.04	0.25	0.28	0.03	0.08	0.11	—	4,053	4,053	0.20	0.21	7.41	4,127
Automobile Care Center	0.54	0.52	0.24	1.74	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	357	357	0.02	0.02	0.65	364
Convenience Market with Gas Pumps	0.77	0.74	0.35	2.52	0.01	< 0.005	0.03	0.04	< 0.005	0.01	0.02	—	565	565	0.03	0.03	1.03	576
User Defined Industrial	0.40	0.24	9.39	2.17	0.08	0.15	0.61	0.76	0.14	0.20	0.34	—	7,710	7,710	0.13	1.18	8.83	8,073
Total	13.3	12.6	14.6	45.0	0.18	0.22	1.16	1.38	0.21	0.36	0.57	—	16,870	16,870	0.59	1.61	25.5	17,391

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	992	992	0.09	0.01	—	998
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	3,968	3,968	0.38	0.05	—	3,991
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	342	342	0.03	< 0.005	—	344
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	634	634	0.06	0.01	—	638
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	32.2	32.2	< 0.005	< 0.005	—	32.4

Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	490	490	0.05	0.01	—	493
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	6,459	6,459	0.61	0.07	—	6,497
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	992	992	0.09	0.01	—	998
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	3,968	3,968	0.38	0.05	—	3,991
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	342	342	0.03	< 0.005	—	344
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	634	634	0.06	0.01	—	638

Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	32.2	32.2	< 0.005	< 0.005	—	32.4
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	490	490	0.05	0.01	—	493
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	6,459	6,459	0.61	0.07	—	6,497
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	164	164	0.02	< 0.005	—	165
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	657	657	0.06	0.01	—	661
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	56.6	56.6	0.01	< 0.005	—	57.0

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	105	105	0.01	< 0.005	—	106
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	5.33	5.33	< 0.005	< 0.005	—	5.36
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	81.2	81.2	0.01	< 0.005	—	81.6
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,069	1,069	0.10	0.01	—	1,076

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	0.07	0.03	0.62	0.52	< 0.005	0.05	—	0.05	0.05	—	0.05	—	735	735	0.07	< 0.005	—	737
Fast Food Restaurant with Drive Thru	0.13	0.06	1.14	0.96	0.01	0.09	—	0.09	0.09	—	0.09	—	1,362	1,362	0.12	< 0.005	—	1,365
Automobile Care Center	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	91.1	91.1	0.01	< 0.005	—	91.3
Convenience Market with Gas Pumps	0.02	0.01	0.16	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	187	187	0.02	< 0.005	—	187
User Defined Industrial	0.00	0.00	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	0.22	0.11	1.99	1.67	0.01	0.15	—	0.15	0.15	—	0.15	—	2,374	2,374	0.21	< 0.005	—	2,381
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Unrefrigerated Warehou Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	0.07	0.03	0.62	0.52	< 0.005	0.05	—	0.05	0.05	—	0.05	—	735	735	0.07	< 0.005	—	737
Fast Food Restaurant with Drive Thru	0.13	0.06	1.14	0.96	0.01	0.09	—	0.09	0.09	—	0.09	—	1,362	1,362	0.12	< 0.005	—	1,365
Automobile Care Center	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	91.1	91.1	0.01	< 0.005	—	91.3
Convenience Market with Gas Pumps	0.02	0.01	0.16	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	187	187	0.02	< 0.005	—	187
User Defined Industrial	0.00	0.00	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	0.22	0.11	1.99	1.67	0.01	0.15	—	0.15	0.15	—	0.15	—	2,374	2,374	0.21	< 0.005	—	2,381
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Unrefrige Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	122	122	0.01	< 0.005	—	122
Fast Food Restaurant with Drive Thru	0.02	0.01	0.21	0.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	225	225	0.02	< 0.005	—	226
Automobile Care Center	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.1	15.1	< 0.005	< 0.005	—	15.1
Convenience Market with Gas Pumps	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	30.9	30.9	< 0.005	< 0.005	—	31.0
User Defined Industrial	0.00	0.00	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	0.04	0.02	0.36	0.31	< 0.005	0.03	—	0.03	0.03	—	0.03	—	393	393	0.03	< 0.005	—	394

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	34.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	41.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	15.0	13.8	0.71	84.2	0.01	0.11	—	0.11	0.15	—	0.15	—	347	347	0.01	< 0.005	—	348
Total	15.0	89.9	0.71	84.2	0.01	0.11	—	0.11	0.15	—	0.15	—	347	347	0.01	< 0.005	—	348
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	34.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	41.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	76.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	1.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	7.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.87	1.73	0.09	10.5	< 0.005	0.01	—	0.01	0.02	—	0.02	—	39.3	39.3	< 0.005	< 0.005	—	39.4

Total	1.87	10.8	0.09	10.5	< 0.005	0.01	—	0.01	0.02	—	0.02	—	39.3	39.3	< 0.005	< 0.005	—	39.4

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	21.1	95.0	116	2.17	0.05	—	186
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	400	1,357	1,757	41.1	0.99	—	3,081
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	5.93	20.1	26.1	0.61	0.01	—	45.7
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	11.0	37.3	48.3	1.13	0.03	—	84.7

Automob Care Center	—	—	—	—	—	—	—	—	—	—	—	0.63	2.15	2.79	0.07	< 0.005	—	4.89
Convenie nce Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.32	1.09	1.41	0.03	< 0.005	—	2.47
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	439	1,513	1,952	45.2	1.09	—	3,405
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigera ted Warehou se-No Rail	—	—	—	—	—	—	—	—	—	—	—	21.1	95.0	116	2.17	0.05	—	186
Unrefrige rated Warehou se-No Rail	—	—	—	—	—	—	—	—	—	—	—	400	1,357	1,757	41.1	0.99	—	3,081
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	5.93	20.1	26.1	0.61	0.01	—	45.7

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	11.0	37.3	48.3	1.13	0.03	—	84.7
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	0.63	2.15	2.79	0.07	< 0.005	—	4.89
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.32	1.09	1.41	0.03	< 0.005	—	2.47
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	439	1,513	1,952	45.2	1.09	—	3,405
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	3.49	15.7	19.2	0.36	0.01	—	30.8
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	66.2	225	291	6.81	0.16	—	510
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	0.98	3.33	4.32	0.10	< 0.005	—	7.57
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	1.82	6.18	8.00	0.19	< 0.005	—	14.0
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	0.11	0.36	0.46	0.01	< 0.005	—	0.81
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.05	0.18	0.23	0.01	< 0.005	—	0.41
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	72.7	251	323	7.48	0.18	—	564

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

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

Refrigerated Warehouse-No	—	—	—	—	—	—	—	—	—	—	—	24.1	0.00	24.1	2.41	0.00	—	84.2
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	457	0.00	457	45.7	0.00	—	1,600
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	63.3	0.00	63.3	6.33	0.00	—	222
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	117	0.00	117	11.7	0.00	—	411
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	7.25	0.00	7.25	0.72	0.00	—	25.4
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	3.65	0.00	3.65	0.37	0.00	—	12.8
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	673	0.00	673	67.3	0.00	—	2,354

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	24.1	0.00	24.1	2.41	0.00	—	84.2
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	457	0.00	457	45.7	0.00	—	1,600
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	63.3	0.00	63.3	6.33	0.00	—	222
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	117	0.00	117	11.7	0.00	—	411
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	7.25	0.00	7.25	0.72	0.00	—	25.4
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	3.65	0.00	3.65	0.37	0.00	—	12.8

User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	673	0.00	673	67.3	0.00	—	2,354
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	3.98	0.00	3.98	0.40	0.00	—	13.9
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	75.7	0.00	75.7	7.57	0.00	—	265
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.7
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	19.4	0.00	19.4	1.94	0.00	—	68.0
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	1.20	0.00	1.20	0.12	0.00	—	4.20

Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.60	0.00	0.60	0.06	0.00	—	2.12
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	111	0.00	111	11.1	0.00	—	390

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	48.4	48.4
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.9	15.9
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29.5	29.5

Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	730	730
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	954	954
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,777	1,777
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	48.4	48.4
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.9	15.9
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29.5	29.5
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	730	730
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	954	954
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,777	1,777

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.02	8.02
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.64	2.64
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.89	4.89
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	158	158
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	294	294

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tractors/ Loaders/ Backhoes	0.16	0.16	3.37	6.79	0.01	0.03	—	0.03	0.03	—	0.03	—	1,373	1,373	0.06	0.01	—	1,378
Total	0.16	0.16	3.37	6.79	0.01	0.03	—	0.03	0.03	—	0.03	—	1,373	1,373	0.06	0.01	—	1,378
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tractors/ Loaders/ Backhoes	0.16	0.16	3.37	6.79	0.01	0.03	—	0.03	0.03	—	0.03	—	1,373	1,373	0.06	0.01	—	1,378
Total	0.16	0.16	3.37	6.79	0.01	0.03	—	0.03	0.03	—	0.03	—	1,373	1,373	0.06	0.01	—	1,378
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tractors/ Loaders/ Backhoes	0.03	0.03	0.61	1.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	227	227	0.01	< 0.005	—	228
Total	0.03	0.03	0.61	1.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	227	227	0.01	< 0.005	—	228

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

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	7/3/2023	7/21/2023	5.00	15.0	—
Grading	Grading	7/22/2023	10/27/2023	5.00	70.0	—
Building Construction/Vertical Construction	Building Construction	10/28/2023	5/3/2024	5.00	135	—
Landscaping/Tenant Improvements	Building Construction	5/11/2024	7/5/2024	5.00	40.0	—
Paving	Paving	5/4/2024	5/31/2024	5.00	20.0	—
Architectural Coating	Architectural Coating	3/18/2024	5/10/2024	5.00	40.0	—

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	Average	5.00	8.00	367	0.40
Grading	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	2.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	3.00	8.00	423	0.48

Building Construction/Vertical Construction	Cranes	Diesel	Average	2.00	8.00	367	0.29
Building Construction/Vertical Construction	Forklifts	Diesel	Average	6.00	8.00	82.0	0.20
Building Construction/Vertical Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction/Vertical Construction	Tractors/Loaders/Backhoes	Diesel	Average	6.00	8.00	84.0	0.37
Building Construction/Vertical Construction	Welders	Diesel	Average	2.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	4.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	4.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	4.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	2.00	8.00	37.0	0.48
Landscaping/Tenant Improvements	Cranes	Diesel	Average	2.00	8.00	367	0.29
Landscaping/Tenant Improvements	Forklifts	Diesel	Average	6.00	8.00	82.0	0.20
Landscaping/Tenant Improvements	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Landscaping/Tenant Improvements	Tractors/Loaders/Backhoes	Diesel	Average	6.00	8.00	84.0	0.37
Landscaping/Tenant Improvements	Welders	Diesel	Average	2.00	8.00	46.0	0.45
Site Preparation	Crawler Tractors	Diesel	Average	6.00	8.00	87.0	0.43
Grading	Crawler Tractors	Diesel	Average	3.00	8.00	87.0	0.43

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	27.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	20.0	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	32.5	18.5	LDA,LDT1,LDT2
Grading	Vendor	93.0	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction/Vertical Construction	—	—	—	—
Building Construction/Vertical Construction	Worker	813	18.5	LDA,LDT1,LDT2
Building Construction/Vertical Construction	Vendor	179	10.2	HHDT,MHDT
Building Construction/Vertical Construction	Hauling	0.00	20.0	HHDT
Building Construction/Vertical Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	30.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	27.0	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	325	18.5	LDA,LDT1,LDT2

Architectural Coating	Vendor	0.00	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Landscaping/Tenant Improvements	—	—	—	—
Landscaping/Tenant Improvements	Worker	813	18.5	LDA,LDT1,LDT2
Landscaping/Tenant Improvements	Vendor	0.00	10.2	HHDT,MHDT
Landscaping/Tenant Improvements	Hauling	0.00	20.0	HHDT
Landscaping/Tenant Improvements	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

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	1,519,894	506,631	51,645

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	300	0.00	—
Grading	0.00	0.00	1,400	0.00	—
Paving	0.00	0.00	0.00	0.00	19.8

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Refrigerated Warehouse-No Rail	0.00	0%
Unrefrigerated Warehouse-No Rail	0.00	0%
Other Asphalt Surfaces	13.7	100%
Parking Lot	6.08	100%
Fast Food Restaurant w/o Drive Thru	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Automobile Care Center	0.00	0%
Convenience Market with Gas Pumps	0.00	0%
User Defined Industrial	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	349	0.03	< 0.005
2024	0.00	349	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
Refrigerated Warehouse-No Rail	66.0	66.0	66.0	24,104	682	682	682	248,876

Unrefrigerated Warehouse-No Rail	1,580	1,580	1,580	576,606	16,311	16,311	16,311	5,953,457
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant w/o Drive Thru	2,004	3,095	2,224	799,833	14,518	22,426	16,111	5,794,593
Fast Food Restaurant with Drive Thru	3,442	3,442	3,442	1,256,355	29,522	29,522	29,522	10,775,441
Automobile Care Center	423	424	424	154,440	2,569	2,580	2,580	938,881
Convenience Market with Gas Pumps	480	480	480	175,200	4,117	4,117	4,117	1,502,647
User Defined Industrial	379	379	379	138,385	15,166	15,166	15,166	5,535,412

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	2,945,230	981,743	51,645

5.10.3. Landscape Equipment

Season	Unit	Value

Snow Days	day/yr	0.00
Summer Days	day/yr	250

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)
Refrigerated Warehouse-No Rail	1,039,022	349	0.0330	0.0040	0.00
Unrefrigerated Warehouse-No Rail	4,154,589	349	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	349	0.0330	0.0040	0.00
Parking Lot	0.00	349	0.0330	0.0040	0.00
Fast Food Restaurant w/o Drive Thru	358,172	349	0.0330	0.0040	1,146,539
Fast Food Restaurant with Drive Thru	663,672	349	0.0330	0.0040	2,124,470
Automobile Care Center	33,683	349	0.0330	0.0040	142,082
Convenience Market with Gas Pumps	513,276	349	0.0330	0.0040	291,388
User Defined Industrial	0.00	349	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)
Refrigerated Warehouse-No Rail	10,986,688	4,655,142
Unrefrigerated Warehouse-No Rail	208,751,688	0.00
Other Asphalt Surfaces	0.00	0.00

Parking Lot	0.00	0.00
Fast Food Restaurant w/o Drive Thru	3,096,044	0.00
Fast Food Restaurant with Drive Thru	5,736,787	0.00
Automobile Care Center	331,165	0.00
Convenience Market with Gas Pumps	167,315	0.00
User Defined Industrial	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Refrigerated Warehouse-No Rail	44.7	0.00
Unrefrigerated Warehouse-No Rail	849	0.00
Other Asphalt Surfaces	0.00	0.00
Parking Lot	0.00	0.00
Fast Food Restaurant w/o Drive Thru	117	0.00
Fast Food Restaurant with Drive Thru	218	0.00
Automobile Care Center	13.4	0.00
Convenience Market with Gas Pumps	6.78	0.00
User Defined Industrial	0.00	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
Refrigerated Warehouse-No Rail	Cold storage	User Defined	150	7.50	7.50	7.50	25.0

Fast Food Restaurant w/o Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant w/o Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant w/o 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
Convenience Market with Gas Pumps	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Convenience Market with Gas Pumps	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
Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	4.00	4.00	200	0.37

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)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	29.1	annual days of extreme heat
Extreme Precipitation	1.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	6.36	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A

Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

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

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract

Exposure Indicators	—
AQ-Ozone	97.6
AQ-PM	53.3
AQ-DPM	47.8
Drinking Water	10.2
Lead Risk Housing	22.0
Pesticides	58.8
Toxic Releases	37.7
Traffic	81.9
Effect Indicators	—
CleanUp Sites	69.4
Groundwater	0.00
Haz Waste Facilities/Generators	53.5
Impaired Water Bodies	0.00
Solid Waste	40.1
Sensitive Population	—
Asthma	65.6
Cardio-vascular	90.6
Low Birth Weights	62.9
Socioeconomic Factor Indicators	—
Education	74.7
Housing	57.9
Linguistic	53.4
Poverty	64.5
Unemployment	15.8

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	36.04516874
Employed	38.00846914
Education	—
Bachelor's or higher	28.6154241
High school enrollment	100
Preschool enrollment	5.440780187
Transportation	—
Auto Access	94.58488387
Active commuting	6.723983062
Social	—
2-parent households	87.71974849
Voting	9.636853587
Neighborhood	—
Alcohol availability	84.04978827
Park access	11.88245862
Retail density	29.21852945
Supermarket access	12.06210702
Tree canopy	0.590273322
Housing	—
Homeownership	79.23777749
Housing habitability	40.67753112
Low-inc homeowner severe housing cost burden	12.19042731
Low-inc renter severe housing cost burden	27.61452586
Uncrowded housing	47.8121391
Health Outcomes	—

Insured adults	26.49813936
Arthritis	79.8
Asthma ER Admissions	42.9
High Blood Pressure	64.8
Cancer (excluding skin)	87.6
Asthma	27.9
Coronary Heart Disease	81.5
Chronic Obstructive Pulmonary Disease	59.8
Diagnosed Diabetes	52.6
Life Expectancy at Birth	37.8
Cognitively Disabled	88.7
Physically Disabled	83.0
Heart Attack ER Admissions	7.5
Mental Health Not Good	28.5
Chronic Kidney Disease	64.9
Obesity	17.5
Pedestrian Injuries	92.5
Physical Health Not Good	37.9
Stroke	70.4
Health Risk Behaviors	—
Binge Drinking	30.9
Current Smoker	25.4
No Leisure Time for Physical Activity	29.5
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	35.2

Elderly	90.4
English Speaking	42.3
Foreign-born	59.5
Outdoor Workers	11.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	72.4
Traffic Density	65.3
Traffic Access	23.0
Other Indices	—
Hardship	70.6
Other Decision Support	—
2016 Voting	23.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	69.0
Healthy Places Index Score for Project Location (b)	30.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health and Equity Evaluation Scorecard not completed.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Construction schedule based on input from Project team.
Construction: Off-Road Equipment	Equipment adjusted based on changes made to the construction schedule
Construction: Dust From Material Movement	Analysis conservatively assumed that up to 20 acres can be disturbed per day
Construction: Architectural Coatings	PVCC SP EIR MM Air 9: Super-Compliant VOC Paint (10 g/L) for nonresidential interior and exterior surfaces
Operations: Vehicle Data	Trip characteristics based on information provided in the Traffic analysis
Operations: Fleet Mix	Fleet characteristics based on information provided in the Traffic analysis
Operations: Off-Road Equipment	Based on SCAQMD High Cube Warehouse Truck Trip Study White Paper Summary of Busniess Survey Results (2014)
Operations: Off-Road Equipment EF	Emission Factors based on CalEEmod 2020
Operations: Energy Use	Industrial uses will not use natural gas
Operations: Refrigerants	Per 17 CCR 95371, new refrigeration equipment containing >50 lbs of refrigerant in new facilities is prohibited from utilizing refrigerants with a GWP of 150 or greater as of 1 Jan 2022.
Construction: Trips and VMT	Vendor trips apportioned based on number of days for each phase.

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APPENDIX 3.2:

CALEEMOD EMISSIONS MODEL OUTPUTS – OPERATIONAL LOCALIZED SOURCE EMISSIONS

Ramona Gateway Commerce Center Ops LST Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Ramona Gateway Commerce Center Ops LST
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	9.00
Location	33.842043561435375, -117.2466820493357
County	Riverside-South Coast
City	Perris
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5580
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

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
Refrigerated Warehouse-No Rail	47.5	1000sqft	1.09	47,510	293,594	—	—	—
Unrefrigerated Warehouse-No Rail	903	1000sqft	20.7	902,710	0.00	—	—	—

Other Asphalt Surfaces	596	1000sqft	13.7	0.00	0.00	—	—	—
Parking Lot	875	Space	6.08	0.00	0.00	—	—	—
Fast Food Restaurant w/o Drive Thru	10.2	1000sqft	0.23	10,200	0.00	—	—	—
Fast Food Restaurant with Drive Thru	18.9	1000sqft	0.43	18,900	0.00	—	—	—
Automobile Care Center	3.52	1000sqft	0.08	3,520	0.00	—	—	—
Convenience Market with Gas Pumps	16.0	Pump	0.11	4,600	0.00	—	—	—
User Defined Industrial	950	User Defined Unit	0.00	950,224	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	48.1	92.4	22.6	176	0.14	0.42	2.53	2.95	0.45	0.47	0.92	1,112	23,206	24,317	115	2.52	27,086	55,030
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	30.5	75.9	22.8	96.1	0.13	0.31	2.53	2.84	0.30	0.47	0.77	1,112	22,467	23,579	115	2.55	27,053	54,271

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	37.4	82.0	22.1	146	0.12	0.37	2.26	2.64	0.39	0.42	0.81	1,112	21,806	22,918	115	2.45	27,066	53,589
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.82	15.0	4.03	26.7	0.02	0.07	0.41	0.48	0.07	0.08	0.15	184	3,610	3,794	19.0	0.41	4,481	8,872

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	32.8	31.7	16.5	83.4	0.11	0.13	2.53	2.66	0.12	0.47	0.59	—	11,139	11,139	1.69	1.34	33.5	11,614
Area	15.0	60.4	0.71	84.2	0.01	0.11	—	0.11	0.15	—	0.15	—	347	347	0.01	< 0.005	—	348
Energy	0.22	0.11	1.99	1.67	0.01	0.15	—	0.15	0.15	—	0.15	—	8,834	8,834	0.82	0.08	—	8,878
Water	—	—	—	—	—	—	—	—	—	—	—	439	1,513	1,952	45.2	1.09	—	3,405
Waste	—	—	—	—	—	—	—	—	—	—	—	673	0.00	673	67.3	0.00	—	2,354
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27,053	27,053
Off-Road	0.16	0.16	3.37	6.79	0.01	0.03	—	0.03	0.03	—	0.03	—	1,373	1,373	0.06	0.01	—	1,378
Total	48.1	92.4	22.6	176	0.14	0.42	2.53	2.95	0.45	0.47	0.92	1,112	23,206	24,317	115	2.52	27,086	55,030
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	30.2	29.0	17.5	87.6	0.10	0.13	2.53	2.66	0.12	0.47	0.59	—	10,747	10,747	1.88	1.37	0.87	11,204
Area	—	46.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.22	0.11	1.99	1.67	0.01	0.15	—	0.15	0.15	—	0.15	—	8,834	8,834	0.82	0.08	—	8,878
Water	—	—	—	—	—	—	—	—	—	—	—	439	1,513	1,952	45.2	1.09	—	3,405
Waste	—	—	—	—	—	—	—	—	—	—	—	673	0.00	673	67.3	0.00	—	2,354

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27,053	27,053
Off-Road	0.16	0.16	3.37	6.79	0.01	0.03	—	0.03	0.03	—	0.03	—	1,373	1,373	0.06	0.01	—	1,378
Total	30.5	75.9	22.8	96.1	0.13	0.31	2.53	2.84	0.30	0.47	0.77	1,112	22,467	23,579	115	2.55	27,053	54,271
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	26.7	25.7	16.2	80.0	0.09	0.12	2.26	2.38	0.11	0.42	0.53	—	9,848	9,848	1.70	1.28	13.0	10,284
Area	10.3	56.1	0.49	57.7	< 0.005	0.08	—	0.08	0.10	—	0.10	—	237	237	0.01	< 0.005	—	238
Energy	0.22	0.11	1.99	1.67	0.01	0.15	—	0.15	0.15	—	0.15	—	8,834	8,834	0.82	0.08	—	8,878
Water	—	—	—	—	—	—	—	—	—	—	—	439	1,513	1,952	45.2	1.09	—	3,405
Waste	—	—	—	—	—	—	—	—	—	—	—	673	0.00	673	67.3	0.00	—	2,354
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27,053	27,053
Off-Road	0.16	0.16	3.37	6.79	0.01	0.03	—	0.03	0.03	—	0.03	—	1,373	1,373	0.06	0.01	—	1,378
Total	37.4	82.0	22.1	146	0.12	0.37	2.26	2.64	0.39	0.42	0.81	1,112	21,806	22,918	115	2.45	27,066	53,589
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.88	4.69	2.96	14.6	0.02	0.02	0.41	0.44	0.02	0.08	0.10	—	1,630	1,630	0.28	0.21	2.15	1,703
Area	1.87	10.2	0.09	10.5	< 0.005	0.01	—	0.01	0.02	—	0.02	—	39.3	39.3	< 0.005	< 0.005	—	39.4
Energy	0.04	0.02	0.36	0.31	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,463	1,463	0.14	0.01	—	1,470
Water	—	—	—	—	—	—	—	—	—	—	—	72.7	251	323	7.48	0.18	—	564
Waste	—	—	—	—	—	—	—	—	—	—	—	111	0.00	111	11.1	0.00	—	390
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4,479	4,479
Off-Road	0.03	0.03	0.61	1.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	227	227	0.01	< 0.005	—	228
Total	6.82	15.0	4.03	26.7	0.02	0.07	0.41	0.48	0.07	0.08	0.15	184	3,610	3,794	19.0	0.41	4,481	8,872

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.18	0.18	0.04	0.52	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	36.4	36.4	0.01	0.01	0.10	38.3
Unrefrigerated Warehouse-No Rail	4.42	4.29	1.05	12.3	0.01	0.01	0.03	0.04	0.01	0.01	0.02	—	870	870	0.25	0.12	2.41	916
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant w/o Drive Thru	11.8	11.5	3.81	28.9	0.03	0.03	0.15	0.19	0.03	0.05	0.08	—	3,397	3,397	0.54	0.34	11.6	3,522
Fast Food Restaurant with Drive Thru	12.5	12.2	3.98	29.6	0.03	0.03	0.13	0.16	0.03	0.04	0.07	—	3,079	3,079	0.58	0.35	9.97	3,207
Automobile Care Center	1.68	1.63	0.55	4.24	0.01	0.01	0.02	0.03	< 0.005	0.01	0.01	—	541	541	0.08	0.05	1.89	559

Convenience Market with Gas Pumps	1.74	1.69	0.55	4.12	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	427	427	0.08	0.05	1.38	445
User Defined Industrial	0.46	0.29	6.52	3.57	0.03	0.04	0.17	0.21	0.04	0.05	0.09	—	2,789	2,789	0.15	0.43	6.18	2,928
Total	32.8	31.7	16.5	83.4	0.11	0.13	0.52	0.65	0.12	0.16	0.28	—	11,139	11,139	1.69	1.34	33.5	11,614
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.17	0.17	0.05	0.56	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	34.6	34.6	0.01	0.01	< 0.005	36.5
Unrefrigerated Warehouse-No Rail	4.15	4.01	1.13	13.5	0.01	0.01	0.03	0.04	0.01	0.01	0.02	—	826	826	0.29	0.13	0.06	872
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant w/o Drive Thru	10.8	10.5	4.05	29.9	0.03	0.03	0.15	0.19	0.03	0.05	0.08	—	3,229	3,229	0.60	0.35	0.30	3,348
Fast Food Restaurant with Drive Thru	11.4	11.1	4.22	31.3	0.03	0.03	0.13	0.16	0.03	0.04	0.07	—	2,936	2,936	0.65	0.36	0.26	3,060

Automobile	1.55	1.50	0.59	4.32	0.01	0.01	0.02	0.03	< 0.005	0.01	0.01	—	513	513	0.08	0.05	0.05	530
Convenience Market with Gas Pumps	1.59	1.54	0.59	4.36	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	407	407	0.09	0.05	0.04	424
User Defined Industrial	0.43	0.26	6.84	3.68	0.03	0.04	0.17	0.21	0.04	0.05	0.09	—	2,799	2,799	0.15	0.43	0.16	2,933
Total	30.2	29.0	17.5	87.6	0.10	0.13	0.52	0.65	0.12	0.16	0.29	—	10,747	10,747	1.88	1.37	0.87	11,204
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.03	0.03	0.01	0.10	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.77	5.77	< 0.005	< 0.005	0.01	6.09
Unrefrigerated Warehouse-No Rail	0.75	0.72	0.21	2.50	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	138	138	0.05	0.02	0.17	146
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant w/o Drive Thru	1.38	1.34	0.53	3.93	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	381	381	0.07	0.04	0.58	396
Fast Food Restaurant with Drive Thru	2.07	2.00	0.77	5.80	0.01	0.01	0.02	0.03	0.01	0.01	0.01	—	490	490	0.11	0.06	0.71	511

Automobile Care Center	0.28	0.27	0.11	0.80	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	85.4	85.4	0.01	0.01	0.14	88.4
Convenience Market with Gas Pumps	0.29	0.28	0.11	0.81	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	67.9	67.9	0.02	0.01	0.10	70.8
User Defined Industrial	0.08	0.05	1.23	0.66	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	462	462	0.02	0.07	0.44	485
Total	4.88	4.69	2.96	14.6	0.02	0.02	0.09	0.11	0.02	0.03	0.05	—	1,630	1,630	0.28	0.21	2.15	1,703

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	992	992	0.09	0.01	—	998
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	3,968	3,968	0.38	0.05	—	3,991
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	342	342	0.03	< 0.005	—	344
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	634	634	0.06	0.01	—	638
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	32.2	32.2	< 0.005	< 0.005	—	32.4
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	490	490	0.05	0.01	—	493
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	6,459	6,459	0.61	0.07	—	6,497
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	992	992	0.09	0.01	—	998
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	3,968	3,968	0.38	0.05	—	3,991

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	342	342	0.03	< 0.005	—	344
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	634	634	0.06	0.01	—	638
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	32.2	32.2	< 0.005	< 0.005	—	32.4
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	490	490	0.05	0.01	—	493
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	6,459	6,459	0.61	0.07	—	6,497
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	164	164	0.02	< 0.005	—	165

Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	657	657	0.06	0.01	—	661
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	56.6	56.6	0.01	< 0.005	—	57.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	105	105	0.01	< 0.005	—	106
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	5.33	5.33	< 0.005	< 0.005	—	5.36
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	81.2	81.2	0.01	< 0.005	—	81.6
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,069	1,069	0.10	0.01	—	1,076

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	0.07	0.03	0.62	0.52	< 0.005	0.05	—	0.05	0.05	—	0.05	—	735	735	0.07	< 0.005	—	737
Fast Food Restaurant with Drive Thru	0.13	0.06	1.14	0.96	0.01	0.09	—	0.09	0.09	—	0.09	—	1,362	1,362	0.12	< 0.005	—	1,365
Automobile Care Center	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	91.1	91.1	0.01	< 0.005	—	91.3

Convenience Market with Gas Pumps	0.02	0.01	0.16	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	187	187	0.02	< 0.005	—	187
User Defined Industrial	0.00	0.00	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	0.22	0.11	1.99	1.67	0.01	0.15	—	0.15	0.15	—	0.15	—	2,374	2,374	0.21	< 0.005	—	2,381
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	0.07	0.03	0.62	0.52	< 0.005	0.05	—	0.05	0.05	—	0.05	—	735	735	0.07	< 0.005	—	737
Fast Food Restaurant with Drive Thru	0.13	0.06	1.14	0.96	0.01	0.09	—	0.09	0.09	—	0.09	—	1,362	1,362	0.12	< 0.005	—	1,365

Automobile	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	91.1	91.1	0.01	< 0.005	—	91.3
Convenience Market with Gas Pumps	0.02	0.01	0.16	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	187	187	0.02	< 0.005	—	187
User Defined Industrial	0.00	0.00	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	0.22	0.11	1.99	1.67	0.01	0.15	—	0.15	0.15	—	0.15	—	2,374	2,374	0.21	< 0.005	—	2,381
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	122	122	0.01	< 0.005	—	122
Fast Food Restaurant with Drive Thru	0.02	0.01	0.21	0.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	225	225	0.02	< 0.005	—	226

Automob Care Center	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.1	15.1	< 0.005	< 0.005	—	15.1
Convenie nce Market with Gas Pumps	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	30.9	30.9	< 0.005	< 0.005	—	31.0
User Defined Industrial	0.00	0.00	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	0.04	0.02	0.36	0.31	< 0.005	0.03	—	0.03	0.03	—	0.03	—	393	393	0.03	< 0.005	—	394

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	—	34.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consum er Products	—	41.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landsca pe Equipme nt	15.0	13.8	0.71	84.2	0.01	0.11	—	0.11	0.15	—	0.15	—	347	347	0.01	< 0.005	—	348
Total	15.0	89.9	0.71	84.2	0.01	0.11	—	0.11	0.15	—	0.15	—	347	347	0.01	< 0.005	—	348
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	—	34.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	41.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	76.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	1.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	7.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.87	1.73	0.09	10.5	< 0.005	0.01	—	0.01	0.02	—	0.02	—	39.3	39.3	< 0.005	< 0.005	—	39.4
Total	1.87	10.8	0.09	10.5	< 0.005	0.01	—	0.01	0.02	—	0.02	—	39.3	39.3	< 0.005	< 0.005	—	39.4

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	21.1	95.0	116	2.17	0.05	—	186

Unrefrigerated	—	—	—	—	—	—	—	—	—	—	—	400	1,357	1,757	41.1	0.99	—	3,081
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	5.93	20.1	26.1	0.61	0.01	—	45.7
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	11.0	37.3	48.3	1.13	0.03	—	84.7
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	0.63	2.15	2.79	0.07	< 0.005	—	4.89
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.32	1.09	1.41	0.03	< 0.005	—	2.47
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	439	1,513	1,952	45.2	1.09	—	3,405
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	21.1	95.0	116	2.17	0.05	—	186

Unrefrige Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	400	1,357	1,757	41.1	0.99	—	3,081
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	5.93	20.1	26.1	0.61	0.01	—	45.7
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	11.0	37.3	48.3	1.13	0.03	—	84.7
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	0.63	2.15	2.79	0.07	< 0.005	—	4.89
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.32	1.09	1.41	0.03	< 0.005	—	2.47
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	439	1,513	1,952	45.2	1.09	—	3,405
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	3.49	15.7	19.2	0.36	0.01	—	30.8

Unrefrige Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	66.2	225	291	6.81	0.16	—	510
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	0.98	3.33	4.32	0.10	< 0.005	—	7.57
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	1.82	6.18	8.00	0.19	< 0.005	—	14.0
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	0.11	0.36	0.46	0.01	< 0.005	—	0.81
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.05	0.18	0.23	0.01	< 0.005	—	0.41
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	72.7	251	323	7.48	0.18	—	564

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	24.1	0.00	24.1	2.41	0.00	—	84.2
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	457	0.00	457	45.7	0.00	—	1,600
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	63.3	0.00	63.3	6.33	0.00	—	222
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	117	0.00	117	11.7	0.00	—	411
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	7.25	0.00	7.25	0.72	0.00	—	25.4

Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	3.65	0.00	3.65	0.37	0.00	—	12.8
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	673	0.00	673	67.3	0.00	—	2,354
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	24.1	0.00	24.1	2.41	0.00	—	84.2
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	457	0.00	457	45.7	0.00	—	1,600
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	63.3	0.00	63.3	6.33	0.00	—	222
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	117	0.00	117	11.7	0.00	—	411

Automobile	—	—	—	—	—	—	—	—	—	—	—	7.25	0.00	7.25	0.72	0.00	—	25.4
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	3.65	0.00	3.65	0.37	0.00	—	12.8
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	673	0.00	673	67.3	0.00	—	2,354
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	3.98	0.00	3.98	0.40	0.00	—	13.9
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	75.7	0.00	75.7	7.57	0.00	—	265
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	10.5	0.00	10.5	1.05	0.00	—	36.7
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	19.4	0.00	19.4	1.94	0.00	—	68.0

Automob Care Center	—	—	—	—	—	—	—	—	—	—	—	1.20	0.00	1.20	0.12	0.00	—	4.20
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.60	0.00	0.60	0.06	0.00	—	2.12
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	111	0.00	111	11.1	0.00	—	390

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,266	1,266
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24,057	24,057

Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.9	15.9
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29.5	29.5
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	730	730
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	954	954
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27,053	27,053
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,266	1,266
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24,057	24,057
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.9	15.9

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29.5	29.5
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	730	730
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	954	954
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27,053	27,053
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	210	210
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3,983	3,983
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.64	2.64
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.89	4.89

Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	158	158
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4,479	4,479

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tractors/ Loaders/ Backhoes	0.16	0.16	3.37	6.79	0.01	0.03	—	0.03	0.03	—	0.03	—	1,373	1,373	0.06	0.01	—	1,378
Total	0.16	0.16	3.37	6.79	0.01	0.03	—	0.03	0.03	—	0.03	—	1,373	1,373	0.06	0.01	—	1,378
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tractors/ Loaders/ Backhoes	0.16	0.16	3.37	6.79	0.01	0.03	—	0.03	0.03	—	0.03	—	1,373	1,373	0.06	0.01	—	1,378
Total	0.16	0.16	3.37	6.79	0.01	0.03	—	0.03	0.03	—	0.03	—	1,373	1,373	0.06	0.01	—	1,378
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Tractors/	0.03	0.03	0.61	1.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	227	227	0.01	< 0.005	—	228
Total	0.03	0.03	0.61	1.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	227	227	0.01	< 0.005	—	228

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

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Refrigerated Warehouse-No Rail	66.0	66.0	66.0	24,104	33.9	33.9	33.9	12,364
Unrefrigerated Warehouse-No Rail	1,580	1,580	1,580	576,606	810	810	810	295,770
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Fast Food Restaurant w/o Drive Thru	2,004	3,095	2,224	799,833	2,131	3,291	2,364	850,350
Fast Food Restaurant with Drive Thru	3,442	3,442	3,442	1,256,355	2,840	2,840	2,840	1,036,782
Automobile Care Center	423	424	424	154,440	537	540	540	196,347
Convenience Market with Gas Pumps	480	480	480	175,200	393	393	393	143,439
User Defined Industrial	379	379	379	138,385	758	758	758	276,771

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	2,945,230	981,743	51,645

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO_2 and CH_4 and N_2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Refrigerated Warehouse-No Rail	1,039,022	349	0.0330	0.0040	0.00
Unrefrigerated Warehouse-No Rail	4,154,589	349	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	349	0.0330	0.0040	0.00
Parking Lot	0.00	349	0.0330	0.0040	0.00
Fast Food Restaurant w/o Drive Thru	358,172	349	0.0330	0.0040	1,146,539
Fast Food Restaurant with Drive Thru	663,672	349	0.0330	0.0040	2,124,470
Automobile Care Center	33,683	349	0.0330	0.0040	142,082
Convenience Market with Gas Pumps	513,276	349	0.0330	0.0040	291,388
User Defined Industrial	0.00	349	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)
Refrigerated Warehouse-No Rail	10,986,688	4,655,142
Unrefrigerated Warehouse-No Rail	208,751,688	0.00
Other Asphalt Surfaces	0.00	0.00
Parking Lot	0.00	0.00
Fast Food Restaurant w/o Drive Thru	3,096,044	0.00
Fast Food Restaurant with Drive Thru	5,736,787	0.00
Automobile Care Center	331,165	0.00

Convenience Market with Gas Pumps	167,315	0.00
User Defined Industrial	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Refrigerated Warehouse-No Rail	44.7	0.00
Unrefrigerated Warehouse-No Rail	849	0.00
Other Asphalt Surfaces	0.00	0.00
Parking Lot	0.00	0.00
Fast Food Restaurant w/o Drive Thru	117	0.00
Fast Food Restaurant with Drive Thru	218	0.00
Automobile Care Center	13.4	0.00
Convenience Market with Gas Pumps	6.78	0.00
User Defined Industrial	0.00	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
Refrigerated Warehouse-No Rail	Cold storage	R-404A	3,922	7.50	7.50	7.50	25.0
Unrefrigerated Warehouse-No Rail	Cold storage	R-404A	3,922	7.50	7.50	7.50	25.0
Fast Food Restaurant w/o Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant w/o Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0

Fast Food Restaurant w/o 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
Convenience Market with Gas Pumps	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Convenience Market with Gas Pumps	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
Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	4.00	4.00	200	0.37

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)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	29.1	annual days of extreme heat
Extreme Precipitation	1.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	6.36	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

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

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

6.3. Adjusted Climate Risk Scores

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

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	97.6
AQ-PM	53.3
AQ-DPM	47.8

Drinking Water	10.2
Lead Risk Housing	22.0
Pesticides	58.8
Toxic Releases	37.7
Traffic	81.9
Effect Indicators	—
CleanUp Sites	69.4
Groundwater	0.00
Haz Waste Facilities/Generators	53.5
Impaired Water Bodies	0.00
Solid Waste	40.1
Sensitive Population	—
Asthma	65.6
Cardio-vascular	90.6
Low Birth Weights	62.9
Socioeconomic Factor Indicators	—
Education	74.7
Housing	57.9
Linguistic	53.4
Poverty	64.5
Unemployment	15.8

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	36.04516874

Employed	38.00846914
Education	—
Bachelor's or higher	28.6154241
High school enrollment	100
Preschool enrollment	5.440780187
Transportation	—
Auto Access	94.58488387
Active commuting	6.723983062
Social	—
2-parent households	87.71974849
Voting	9.636853587
Neighborhood	—
Alcohol availability	84.04978827
Park access	11.88245862
Retail density	29.21852945
Supermarket access	12.06210702
Tree canopy	0.590273322
Housing	—
Homeownership	79.23777749
Housing habitability	40.67753112
Low-inc homeowner severe housing cost burden	12.19042731
Low-inc renter severe housing cost burden	27.61452586
Uncrowded housing	47.8121391
Health Outcomes	—
Insured adults	26.49813936
Arthritis	79.8
Asthma ER Admissions	42.9

High Blood Pressure	64.8
Cancer (excluding skin)	87.6
Asthma	27.9
Coronary Heart Disease	81.5
Chronic Obstructive Pulmonary Disease	59.8
Diagnosed Diabetes	52.6
Life Expectancy at Birth	37.8
Cognitively Disabled	88.7
Physically Disabled	83.0
Heart Attack ER Admissions	7.5
Mental Health Not Good	28.5
Chronic Kidney Disease	64.9
Obesity	17.5
Pedestrian Injuries	92.5
Physical Health Not Good	37.9
Stroke	70.4
Health Risk Behaviors	—
Binge Drinking	30.9
Current Smoker	25.4
No Leisure Time for Physical Activity	29.5
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	35.2
Elderly	90.4
English Speaking	42.3
Foreign-born	59.5

Outdoor Workers	11.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	72.4
Traffic Density	65.3
Traffic Access	23.0
Other Indices	—
Hardship	70.6
Other Decision Support	—
2016 Voting	23.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	69.0
Healthy Places Index Score for Project Location (b)	30.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health and Equity Evaluation Scorecard not completed.

8. User Changes to Default Data

Screen	Justification

Construction: Construction Phases	Construction schedule based on input from Project team.
Construction: Off-Road Equipment	Equipment adjusted based on changes made to the construction schedule
Construction: Dust From Material Movement	Analysis conservatively assumed that up to 20 acres can be disturbed per day
Construction: Architectural Coatings	PVCC SP EIR MM Air 9: Super-Compliant VOC Paint (10 g/L) for nonresidential interior and exterior surfaces
Operations: Vehicle Data	Trip characteristics based on information provided in the Traffic analysis
Operations: Fleet Mix	Fleet characteristics based on information provided in the Traffic analysis
Operations: Off-Road Equipment	Based on SCAQMD High Cube Warehouse Truck Trip Study White Paper Summary of Busniess Survey Results (2014)
Operations: Off-Road Equipment EF	Emission Factors based on CalEEmod 2020
Operations: Energy Use	Industrial uses will not use natural gas

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APPENDIX 3.3:

CALEEMOD EMISSIONS MODEL OUTPUTS – EXISTING PVCCSP LAND USE DESIGNATIONS

RGCC NP Alt Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	RGCC NP Alt
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	9.00
Location	33.84161527496646, -117.24718559267107
County	Riverside-South Coast
City	Perris
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5580
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Light Industry	50.0	1000sqft	1.15	50,000	293,594	—	—	—
General Light Industry	24.1	1000sqft	0.55	24,140	0.00	—	—	—

General Office Building	229	1000sqft	5.25	228,762	0.00	—	—	—
Office Park	74.1	1000sqft	1.70	74,140	0.00	—	—	—
Medical Office Building	53.7	1000sqft	1.23	53,724	0.00	—	—	—
General Office Building	175	1000sqft	4.02	175,038	0.00	—	—	—
Strip Mall	180	1000sqft	4.13	179,700	0.00	—	—	—
Supermarket	40.0	1000sqft	0.92	40,000	0.00	—	—	—
Convenience Market with Gas Pumps	8.12	1000sqft	0.19	8,115	0.00	—	—	—
Fast Food Restaurant with Drive Thru	28.3	1000sqft	0.65	28,300	0.00	—	—	—
Other Asphalt Surfaces	23.5	Acre	23.5	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	478	480	210	1,751	4.05	4.68	128	133	4.52	22.7	27.3	1,275	440,784	442,059	148	18.8	11,658	463,031
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	457	459	224	1,444	3.81	4.63	128	133	4.45	22.7	27.2	1,275	416,183	417,458	149	19.4	10,084	437,060
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	290	298	149	964	2.26	3.41	72.6	76.0	3.32	12.9	16.2	1,275	257,663	258,938	144	12.4	10,438	276,651
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	52.9	54.4	27.2	176	0.41	0.62	13.2	13.9	0.61	2.35	2.96	211	42,659	42,870	23.8	2.05	1,728	45,803

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	469	452	189	1,696	3.92	3.01	128	131	2.83	22.7	25.6	—	400,691	400,691	16.8	17.9	1,616	408,074
Area	6.66	27.0	0.32	37.5	< 0.005	0.05	—	0.05	0.07	—	0.07	—	154	154	0.01	< 0.005	—	155
Energy	2.34	1.17	21.3	17.9	0.13	1.62	—	1.62	1.62	—	1.62	—	39,029	39,029	3.54	0.20	—	39,178
Water	—	—	—	—	—	—	—	—	—	—	—	261	910	1,171	26.9	0.65	—	2,035
Waste	—	—	—	—	—	—	—	—	—	—	—	1,014	0.00	1,014	101	0.00	—	3,547
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10,042	10,042
Total	478	480	210	1,751	4.05	4.68	128	133	4.52	22.7	27.3	1,275	440,784	442,059	148	18.8	11,658	463,031
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	455	437	202	1,426	3.68	3.02	128	131	2.83	22.7	25.6	—	376,245	376,245	17.5	18.6	41.9	382,258
Area	—	20.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	2.34	1.17	21.3	17.9	0.13	1.62	—	1.62	1.62	—	1.62	—	39,029	39,029	3.54	0.20	—	39,178
Water	—	—	—	—	—	—	—	—	—	—	—	261	910	1,171	26.9	0.65	—	2,035
Waste	—	—	—	—	—	—	—	—	—	—	—	1,014	0.00	1,014	101	0.00	—	3,547

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10,042	10,042
Total	457	459	224	1,444	3.81	4.63	128	133	4.45	22.7	27.2	1,275	416,183	417,458	149	19.4	10,084	437,060
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	283	272	128	920	2.13	1.76	72.6	74.3	1.65	12.9	14.5	—	217,619	217,619	11.9	11.5	396	221,743
Area	4.56	25.1	0.22	25.7	< 0.005	0.03	—	0.03	0.05	—	0.05	—	106	106	< 0.005	< 0.005	—	106
Energy	2.34	1.17	21.3	17.9	0.13	1.62	—	1.62	1.62	—	1.62	—	39,029	39,029	3.54	0.20	—	39,178
Water	—	—	—	—	—	—	—	—	—	—	—	261	910	1,171	26.9	0.65	—	2,035
Waste	—	—	—	—	—	—	—	—	—	—	—	1,014	0.00	1,014	101	0.00	—	3,547
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10,042	10,042
Total	290	298	149	964	2.26	3.41	72.6	76.0	3.32	12.9	16.2	1,275	257,663	258,938	144	12.4	10,438	276,651
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	51.6	49.6	23.3	168	0.39	0.32	13.2	13.6	0.30	2.35	2.66	—	36,029	36,029	1.97	1.91	65.5	36,712
Area	0.83	4.58	0.04	4.68	< 0.005	0.01	—	0.01	0.01	—	0.01	—	17.5	17.5	< 0.005	< 0.005	—	17.5
Energy	0.43	0.21	3.88	3.26	0.02	0.30	—	0.30	0.30	—	0.30	—	6,462	6,462	0.59	0.03	—	6,486
Water	—	—	—	—	—	—	—	—	—	—	—	43.2	151	194	4.45	0.11	—	337
Waste	—	—	—	—	—	—	—	—	—	—	—	168	0.00	168	16.8	0.00	—	587
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,663	1,663
Total	52.9	54.4	27.2	176	0.41	0.62	13.2	13.9	0.61	2.35	2.96	211	42,659	42,870	23.8	2.05	1,728	45,803

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	3.90	3.76	1.57	14.1	0.03	0.03	0.18	0.20	0.02	0.05	0.08	—	3,333	3,333	0.14	0.15	13.4	3,394
General Office Building	41.4	39.9	16.6	150	0.35	0.27	1.88	2.14	0.25	0.58	0.83	—	35,363	35,363	1.48	1.58	143	36,014
Office Park	8.64	8.32	3.47	31.2	0.07	0.06	0.39	0.45	0.05	0.12	0.17	—	7,379	7,379	0.31	0.33	29.8	7,515
Medical Office Building	19.7	19.0	7.91	71.1	0.16	0.13	0.89	1.02	0.12	0.28	0.39	—	16,810	16,810	0.70	0.75	67.8	17,120
Strip Mall	83.8	80.7	33.7	303	0.70	0.54	3.80	4.34	0.51	1.18	1.68	—	71,609	71,609	2.99	3.21	289	72,928
Supermarket	74.8	72.0	30.1	270	0.62	0.48	3.39	3.87	0.45	1.05	1.50	—	63,881	63,881	2.67	2.86	258	65,058
Convenience Market with Gas Pumps	53.3	51.4	21.4	193	0.45	0.34	2.42	2.76	0.32	0.75	1.07	—	45,544	45,544	1.90	2.04	184	46,383
Fast Food Restaurant with Drive Thru	184	177	73.8	663	1.53	1.18	8.32	9.50	1.11	2.57	3.68	—	156,773	156,773	6.56	7.02	632	159,661
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	469	452	189	1,696	3.92	3.01	21.3	24.3	2.83	6.58	9.41	—	400,691	400,691	16.8	17.9	1,616	408,074
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	3.78	3.64	1.68	11.9	0.03	0.03	0.18	0.20	0.02	0.05	0.08	—	3,130	3,130	0.15	0.15	0.35	3,180
General Office Building	40.1	38.6	17.9	126	0.32	0.27	1.88	2.14	0.25	0.58	0.83	—	33,205	33,205	1.54	1.64	3.70	33,736
Office Park	8.37	8.05	3.73	26.3	0.07	0.06	0.39	0.45	0.05	0.12	0.17	—	6,929	6,929	0.32	0.34	0.77	7,040
Medical Office Building	19.1	18.3	8.49	59.8	0.15	0.13	0.89	1.02	0.12	0.28	0.39	—	15,784	15,784	0.73	0.78	1.76	16,037
Strip Mall	81.2	78.1	36.1	255	0.66	0.54	3.80	4.34	0.51	1.18	1.68	—	67,240	67,240	3.12	3.32	7.49	68,315
Supermarket	72.5	69.7	32.2	227	0.59	0.48	3.39	3.87	0.45	1.05	1.50	—	59,983	59,983	2.78	2.96	6.68	60,942
Convenience Market with Gas Pumps	51.7	49.7	23.0	162	0.42	0.34	2.42	2.76	0.32	0.75	1.07	—	42,765	42,765	1.98	2.11	4.76	43,449
Fast Food Restaurant with Drive Thru	178	171	79.1	558	1.44	1.18	8.32	9.50	1.11	2.57	3.68	—	147,208	147,208	6.83	7.27	16.4	149,560
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	455	437	202	1,426	3.68	3.02	21.3	24.3	2.83	6.58	9.41	—	376,245	376,245	17.5	18.6	41.9	382,258
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.61	0.59	0.28	2.04	0.01	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	475	475	0.02	0.02	0.87	483
General Office Building	5.42	5.20	2.51	18.0	0.05	0.04	0.26	0.30	0.03	0.08	0.11	—	4,201	4,201	0.19	0.21	7.72	4,275

Office Park	1.11	1.07	0.52	3.70	0.01	0.01	0.05	0.06	0.01	0.02	0.02	—	863	863	0.04	0.04	1.59	878
Medical Office Building	2.57	2.47	1.19	8.55	0.02	0.02	0.12	0.14	0.02	0.04	0.05	—	1,992	1,992	0.09	0.10	3.66	2,028
Strip Mall	13.3	12.7	6.16	44.2	0.11	0.09	0.64	0.73	0.08	0.20	0.28	—	10,289	10,289	0.47	0.51	18.9	10,471
Superma rket	6.59	6.34	2.95	21.3	0.05	0.04	0.27	0.31	0.04	0.08	0.12	—	4,437	4,437	0.26	0.24	8.04	4,523
Convenie nce Market with Gas Pumps	5.33	5.13	2.30	16.8	0.03	0.03	0.19	0.21	0.03	0.06	0.08	—	3,105	3,105	0.22	0.19	5.53	3,172
Fast Food Restaurant with Drive Thru	16.7	16.1	7.37	53.4	0.11	0.10	0.65	0.74	0.09	0.20	0.29	—	10,667	10,667	0.67	0.60	19.2	10,882
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	51.6	49.6	23.3	168	0.39	0.32	2.20	2.52	0.30	0.68	0.98	—	36,029	36,029	1.97	1.91	65.5	36,712

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	678	678	0.06	0.01	—	682

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	6,728	6,728	0.64	0.08	—	6,767
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	1,235	1,235	0.12	0.01	—	1,242
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	895	895	0.08	0.01	—	900
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	1,675	1,675	0.16	0.02	—	1,685
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	1,226	1,226	0.12	0.01	—	1,233
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	249	249	0.02	< 0.005	—	250
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	949	949	0.09	0.01	—	955
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	13,634	13,634	1.29	0.16	—	13,713
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	678	678	0.06	0.01	—	682
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	6,728	6,728	0.64	0.08	—	6,767
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	1,235	1,235	0.12	0.01	—	1,242

Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	895	895	0.08	0.01	—	900
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	1,675	1,675	0.16	0.02	—	1,685
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	1,226	1,226	0.12	0.01	—	1,233
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	249	249	0.02	< 0.005	—	250
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	949	949	0.09	0.01	—	955
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	13,634	13,634	1.29	0.16	—	13,713
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	112	112	0.01	< 0.005	—	113
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	1,114	1,114	0.11	0.01	—	1,120
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	205	205	0.02	< 0.005	—	206
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	148	148	0.01	< 0.005	—	149
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.03	< 0.005	—	279
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	203	203	0.02	< 0.005	—	204

Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	41.2	41.2	< 0.005	< 0.005	—	41.4
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	157	157	0.01	< 0.005	—	158
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,257	2,257	0.21	0.03	—	2,270

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.09	0.04	0.80	0.68	< 0.005	0.06	—	0.06	0.06	—	0.06	—	959	959	0.08	< 0.005	—	962
General Office Building	1.53	0.76	13.9	11.7	0.08	1.06	—	1.06	1.06	—	1.06	—	16,577	16,577	1.47	0.03	—	16,623
Office Park	0.28	0.14	2.55	2.14	0.02	0.19	—	0.19	0.19	—	0.19	—	3,044	3,044	0.27	0.01	—	3,052
Medical Office Building	0.20	0.10	1.85	1.55	0.01	0.14	—	0.14	0.14	—	0.14	—	2,205	2,205	0.20	< 0.005	—	2,212
Strip Mall	0.07	0.03	0.63	0.53	< 0.005	0.05	—	0.05	0.05	—	0.05	—	748	748	0.07	< 0.005	—	750
Supermarket	0.06	0.03	0.59	0.49	< 0.005	0.04	—	0.04	0.04	—	0.04	—	700	700	0.06	< 0.005	—	702

Convenie Market with Gas Pumps	0.01	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	142	142	0.01	< 0.005	—	142
Fast Food Restaurant with Drive Thru	0.09	0.05	0.85	0.72	0.01	0.06	—	0.06	0.06	—	0.06	—	1,019	1,019	0.09	< 0.005	—	1,022
Other Asphalt Surfaces	0.00	0.00	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	1.17	21.3	17.9	0.13	1.62	—	1.62	1.62	—	1.62	—	25,394	25,394	2.25	0.05	—	25,465
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.09	0.04	0.80	0.68	< 0.005	0.06	—	0.06	0.06	—	0.06	—	959	959	0.08	< 0.005	—	962
General Office Building	1.53	0.76	13.9	11.7	0.08	1.06	—	1.06	1.06	—	1.06	—	16,577	16,577	1.47	0.03	—	16,623
Office Park	0.28	0.14	2.55	2.14	0.02	0.19	—	0.19	0.19	—	0.19	—	3,044	3,044	0.27	0.01	—	3,052
Medical Office Building	0.20	0.10	1.85	1.55	0.01	0.14	—	0.14	0.14	—	0.14	—	2,205	2,205	0.20	< 0.005	—	2,212
Strip Mall	0.07	0.03	0.63	0.53	< 0.005	0.05	—	0.05	0.05	—	0.05	—	748	748	0.07	< 0.005	—	750
Superma rket	0.06	0.03	0.59	0.49	< 0.005	0.04	—	0.04	0.04	—	0.04	—	700	700	0.06	< 0.005	—	702
Convenie nce Market with Gas Pumps	0.01	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	142	142	0.01	< 0.005	—	142

Fast Food Restaurant with Drive Thru	0.09	0.05	0.85	0.72	0.01	0.06	—	0.06	0.06	—	0.06	—	1,019	1,019	0.09	< 0.005	—	1,022
Other Asphalt Surfaces	0.00	0.00	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	1.17	21.3	17.9	0.13	1.62	—	1.62	1.62	—	1.62	—	25,394	25,394	2.25	0.05	—	25,465
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.02	0.01	0.15	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	159	159	0.01	< 0.005	—	159
General Office Building	0.28	0.14	2.54	2.13	0.02	0.19	—	0.19	0.19	—	0.19	—	2,744	2,744	0.24	0.01	—	2,752
Office Park	0.05	0.03	0.47	0.39	< 0.005	0.04	—	0.04	0.04	—	0.04	—	504	504	0.04	< 0.005	—	505
Medical Office Building	0.04	0.02	0.34	0.28	< 0.005	0.03	—	0.03	0.03	—	0.03	—	365	365	0.03	< 0.005	—	366
Strip Mall	0.01	0.01	0.11	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	124	124	0.01	< 0.005	—	124
Supermarket	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	116	116	0.01	< 0.005	—	116
Convenience Market with Gas Pumps	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.5	23.5	< 0.005	< 0.005	—	23.6
Fast Food Restaurant with Drive Thru	0.02	0.01	0.16	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	169	169	0.01	< 0.005	—	169

Other Asphalt Surfaces	0.00	0.00	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	0.43	0.21	3.88	3.26	0.02	0.30	—	0.30	0.30	—	0.30	—	4,204	4,204	0.37	0.01	—	4,216

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	18.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	6.66	6.15	0.32	37.5	< 0.005	0.05	—	0.05	0.07	—	0.07	—	154	154	0.01	< 0.005	—	155
Total	6.66	27.0	0.32	37.5	< 0.005	0.05	—	0.05	0.07	—	0.07	—	154	154	0.01	< 0.005	—	155
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	18.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	2.35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	20.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	3.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.43	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.83	0.77	0.04	4.68	< 0.005	0.01	—	0.01	0.01	—	0.01	—	17.5	17.5	< 0.005	< 0.005	—	17.5
Total	0.83	4.58	0.04	4.68	< 0.005	0.01	—	0.01	0.01	—	0.01	—	17.5	17.5	< 0.005	< 0.005	—	17.5

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	32.9	135	168	3.38	0.08	—	277
General Office Building	—	—	—	—	—	—	—	—	—	—	—	138	467	604	14.1	0.34	—	1,059
Office Park	—	—	—	—	—	—	—	—	—	—	—	25.3	85.7	111	2.60	0.06	—	194
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	12.9	43.8	56.8	1.33	0.03	—	99.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	25.5	86.5	112	2.62	0.06	—	196

Superma	—	—	—	—	—	—	—	—	—	—	—	9.45	32.1	41.5	0.97	0.02	—	72.8
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	1.15	3.91	5.06	0.12	< 0.005	—	8.87
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	16.5	55.9	72.3	1.69	0.04	—	127
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	261	910	1,171	26.9	0.65	—	2,035
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	32.9	135	168	3.38	0.08	—	277
General Office Building	—	—	—	—	—	—	—	—	—	—	—	138	467	604	14.1	0.34	—	1,059
Office Park	—	—	—	—	—	—	—	—	—	—	—	25.3	85.7	111	2.60	0.06	—	194
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	12.9	43.8	56.8	1.33	0.03	—	99.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	25.5	86.5	112	2.62	0.06	—	196
Supermarket	—	—	—	—	—	—	—	—	—	—	—	9.45	32.1	41.5	0.97	0.02	—	72.8

Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	1.15	3.91	5.06	0.12	< 0.005	—	8.87
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	16.5	55.9	72.3	1.69	0.04	—	127
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	261	910	1,171	26.9	0.65	—	2,035
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	5.44	22.4	27.8	0.56	0.01	—	45.8
General Office Building	—	—	—	—	—	—	—	—	—	—	—	22.8	77.3	100	2.34	0.06	—	175
Office Park	—	—	—	—	—	—	—	—	—	—	—	4.18	14.2	18.4	0.43	0.01	—	32.2
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	2.14	7.26	9.40	0.22	0.01	—	16.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.22	14.3	18.6	0.43	0.01	—	32.5
Supermarket	—	—	—	—	—	—	—	—	—	—	—	1.56	5.31	6.87	0.16	< 0.005	—	12.0
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.19	0.65	0.84	0.02	< 0.005	—	1.47

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	2.73	9.25	12.0	0.28	0.01	—	21.0
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	43.2	151	194	4.45	0.11	—	337

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	49.5	0.00	49.5	4.95	0.00	—	173
General Office Building	—	—	—	—	—	—	—	—	—	—	—	202	0.00	202	20.2	0.00	—	708
Office Park	—	—	—	—	—	—	—	—	—	—	—	37.2	0.00	37.2	3.71	0.00	—	130
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	313	0.00	313	31.3	0.00	—	1,094
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	102	0.00	102	10.2	0.00	—	356
Supermarket	—	—	—	—	—	—	—	—	—	—	—	122	0.00	122	12.2	0.00	—	425

Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	13.1	0.00	13.1	1.31	0.00	—	46.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	176	0.00	176	17.6	0.00	—	615
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,014	0.00	1,014	101	0.00	—	3,547
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	49.5	0.00	49.5	4.95	0.00	—	173
General Office Building	—	—	—	—	—	—	—	—	—	—	—	202	0.00	202	20.2	0.00	—	708
Office Park	—	—	—	—	—	—	—	—	—	—	—	37.2	0.00	37.2	3.71	0.00	—	130
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	313	0.00	313	31.3	0.00	—	1,094
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	102	0.00	102	10.2	0.00	—	356
Supermarket	—	—	—	—	—	—	—	—	—	—	—	122	0.00	122	12.2	0.00	—	425
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	13.1	0.00	13.1	1.31	0.00	—	46.0

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	176	0.00	176	17.6	0.00	—	615
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,014	0.00	1,014	101	0.00	—	3,547
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	8.20	0.00	8.20	0.82	0.00	—	28.7
General Office Building	—	—	—	—	—	—	—	—	—	—	—	33.5	0.00	33.5	3.35	0.00	—	117
Office Park	—	—	—	—	—	—	—	—	—	—	—	6.15	0.00	6.15	0.61	0.00	—	21.5
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	51.8	0.00	51.8	5.17	0.00	—	181
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	16.8	0.00	16.8	1.68	0.00	—	58.9
Supermarket	—	—	—	—	—	—	—	—	—	—	—	20.1	0.00	20.1	2.01	0.00	—	70.4
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	2.18	0.00	2.18	0.22	0.00	—	7.61
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	29.1	0.00	29.1	2.91	0.00	—	102

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	168	0.00	168	16.8	0.00	—	587

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.3	19.3
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.98	0.98
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.18	0.18
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.37	1.37
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.12	1.12
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8,293	8,293
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,682	1,682

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	44.2	44.2
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10,042	10,042
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.3	19.3
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.98	0.98
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.18	0.18
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.37	1.37
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.12	1.12
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8,293	8,293
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,682	1,682
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	44.2	44.2
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10,042	10,042
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.20	3.20
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.16	0.16
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.23	0.23
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,373	1,373
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	279	279
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.32	7.32
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,663	1,663

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Light Industry	248	99.5	250	82,881	2,561	1,027	2,581	855,747
General Light Industry	120	48.0	121	40,015	1,236	496	1,246	413,155
General Office Building	2,228	506	160	615,620	23,006	5,220	1,653	6,356,274
Office Park	821	122	56.3	223,254	8,474	1,255	582	2,305,098
Medical Office Building	1,870	460	76.3	515,415	19,304	4,754	788	5,321,664
General Office Building	1,705	387	123	471,044	17,603	3,994	1,265	4,863,524
Strip Mall	7,964	7,555	3,671	2,661,756	82,231	78,001	37,906	27,482,632
Supermarket	4,271	7,105	6,659	1,831,236	16,406	73,357	68,752	11,687,142
Convenience Market with Gas Pumps	5,065	5,065	5,065	1,848,865	9,928	52,300	52,300	8,042,535
Fast Food Restaurant with Drive Thru	13,328	17,436	13,374	5,081,302	43,524	180,029	138,087	27,934,742
Other Asphalt Surfaces	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	1,338,884	446,295	61,341

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Light Industry	478,454	349	0.0330	0.0040	2,018,213
General Light Industry	230,997	349	0.0330	0.0040	974,393
General Office Building	3,990,335	349	0.0330	0.0040	7,325,651
Office Park	1,293,237	349	0.0330	0.0040	2,374,187
Medical Office Building	937,117	349	0.0330	0.0040	1,720,405
General Office Building	3,053,218	349	0.0330	0.0040	5,605,246
Strip Mall	1,753,583	349	0.0330	0.0040	777,637
Supermarket	1,283,189	349	0.0330	0.0040	728,469
Convenience Market with Gas Pumps	260,327	349	0.0330	0.0040	147,788
Fast Food Restaurant with Drive Thru	993,752	349	0.0330	0.0040	3,181,084
Other Asphalt Surfaces	0.00	349	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)
General Light Industry	11,562,500	4,655,142
General Light Industry	5,582,375	0.00
General Office Building	40,658,728	0.00
Office Park	13,177,180	0.00
Medical Office Building	6,741,316	0.00
General Office Building	31,110,160	0.00
Strip Mall	13,310,832	0.00
Supermarket	4,930,729	0.00
Convenience Market with Gas Pumps	601,099	0.00
Fast Food Restaurant with Drive Thru	8,590,004	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Light Industry	62.0	0.00
General Light Industry	29.9	0.00
General Office Building	213	0.00
Office Park	69.0	0.00
Medical Office Building	580	0.00
General Office Building	163	0.00
Strip Mall	189	0.00
Supermarket	226	0.00
Convenience Market with Gas Pumps	24.4	0.00
Fast Food Restaurant with Drive Thru	326	0.00

Other Asphalt Surfaces	0.00	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
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Medical Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Medical Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

Supermarket	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Supermarket	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0
Convenience Market with Gas Pumps	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Convenience Market with Gas Pumps	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0
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

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)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit

Temperature and Extreme Heat	29.1	annual days of extreme heat
Extreme Precipitation	1.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	6.36	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

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

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	97.6
AQ-PM	53.3
AQ-DPM	47.8
Drinking Water	10.2
Lead Risk Housing	22.0

Pesticides	58.8
Toxic Releases	37.7
Traffic	81.9
Effect Indicators	—
CleanUp Sites	69.4
Groundwater	0.00
Haz Waste Facilities/Generators	53.5
Impaired Water Bodies	0.00
Solid Waste	40.1
Sensitive Population	—
Asthma	65.6
Cardio-vascular	90.6
Low Birth Weights	62.9
Socioeconomic Factor Indicators	—
Education	74.7
Housing	57.9
Linguistic	53.4
Poverty	64.5
Unemployment	15.8

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	36.04516874
Employed	38.00846914
Education	—

Bachelor's or higher	28.6154241
High school enrollment	100
Preschool enrollment	5.440780187
Transportation	—
Auto Access	94.58488387
Active commuting	6.723983062
Social	—
2-parent households	87.71974849
Voting	9.636853587
Neighborhood	—
Alcohol availability	84.04978827
Park access	11.88245862
Retail density	29.21852945
Supermarket access	12.06210702
Tree canopy	0.590273322
Housing	—
Homeownership	79.23777749
Housing habitability	40.67753112
Low-inc homeowner severe housing cost burden	12.19042731
Low-inc renter severe housing cost burden	27.61452586
Uncrowded housing	47.8121391
Health Outcomes	—
Insured adults	26.49813936
Arthritis	79.8
Asthma ER Admissions	42.9
High Blood Pressure	64.8
Cancer (excluding skin)	87.6

Asthma	27.9
Coronary Heart Disease	81.5
Chronic Obstructive Pulmonary Disease	59.8
Diagnosed Diabetes	52.6
Life Expectancy at Birth	37.8
Cognitively Disabled	88.7
Physically Disabled	83.0
Heart Attack ER Admissions	7.5
Mental Health Not Good	28.5
Chronic Kidney Disease	64.9
Obesity	17.5
Pedestrian Injuries	92.5
Physical Health Not Good	37.9
Stroke	70.4
Health Risk Behaviors	—
Binge Drinking	30.9
Current Smoker	25.4
No Leisure Time for Physical Activity	29.5
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	35.2
Elderly	90.4
English Speaking	42.3
Foreign-born	59.5
Outdoor Workers	11.9
Climate Change Adaptive Capacity	—

Impervious Surface Cover	72.4
Traffic Density	65.3
Traffic Access	23.0
Other Indices	—
Hardship	70.6
Other Decision Support	—
2016 Voting	23.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	69.0
Healthy Places Index Score for Project Location (b)	30.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health and Equity Evaluation Scorecard not completed.

8. User Changes to Default Data

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APPENDIX 3.4:

SCAQMD AMICUS BRIEF

S219783

IN THE SUPREME COURT OF C ALIFORNIA

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,

Plaintiffs and Appellants,

v.

COUNTY OF FRESNO,

Defendant and Respondent,

and,

FRIANT RANCH, L.P.,

Real Party in Interest and Respondent.

SUPREME COURT
FILED

APR 13 2015

Frank A. McGuire Clerk

Deputy

After a Published Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726
Honorable Rosendo A. Pena, Jr.

APPLICATION OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT FOR LEAVE TO FILE BRIEF OF *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY AND *[PROPOSED]* BRIEF OF *AMICUS CURIAE*

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TABLE OF CONTENTS

TABLE OF AUTHORITIES

State Cases

California Statutes (cont'd)

California Regulations

Federal Statutes

Rules

Other

TO THE HONORABLE CHIEF JUSTICE AND JUSTICES OF THE SUPREME COURT:

APPLICATION FOR LEAVE TO FILE *AMICUS CURIAE* BRIEF

Pursuant to Rule 8.520(f) of the California Rules of Court, the South Coast Air Quality Management District (SCAQMD) respectfully requests leave to file the attached *amicus curiae* brief. Because SCAQMD's position differs from that of either party, we request leave to submit this amicus brief in support of neither party.

HOW THIS BRIEF WILL ASSIST THE COURT

SCAQMD's proposed amicus brief takes a position on two of the issues in this case. In both instances, its position differs from that of either party. The issues are:

1) Does the California Environmental Quality Act (CEQA) require an environmental impact report (EIR) to correlate a project's air pollution emissions with specific levels of health impacts?
2) What is the proper standard of review for determining whether an EIR provides sufficient information on the health impacts caused by a project's emission of air pollutants?

This brief will assist the Court by discussing the practical realities of correlating identified air quality impacts with specific health outcomes. In short, CEQA requires agencies to provide detailed information about a project's air quality impacts that is sufficient for the public and decisionmakers to adequately evaluate the project and meaningfully understand its impacts. However, the level of analysis is governed by a rule of reason; CEQA only requires agencies to conduct analysis if it is reasonably feasible to do so.

With regard to health-related air quality impacts, an analysis that correlates a project's air pollution emissions with specific levels of health impacts will be feasible in some cases but not others. Whether it is feasible depends on a variety of factors, including the nature of the project and the nature of the analysis under consideration. The feasibility of analysis may also change over time as air districts and others develop new tools for measuring projects' air quality related health impacts. Because SCAQMD has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, it is uniquely situated to express an opinion on the extent to which the Court should hold that CEQA requires lead agencies to correlate air quality impacts with specific health outcomes.

SCAQMD can also offer a unique perspective on the question of the appropriate standard of review. SCAQMD submits that the proper standard of review for determining whether an EIR is sufficient as an informational document is more nuanced than argued by either party. In our view, this is a mixed question of fact and law. It includes determining whether additional analysis is feasible, which is primarily a factual question that should be reviewed under the substantial evidence standard. However, it also involves determining whether the omission of a particular analysis renders an EIR insufficient to serve CEQA's purpose as a meaningful, informational document. If a lead agency has not determined that a requested analysis is infeasible, it is the court's role to determine whether the EIR nevertheless meets CEQA's purposes, and courts should not defer to the lead agency's conclusions regarding the legal sufficiency of an EIR's analysis. The ultimate question of whether an EIR's analysis is "sufficient" to serve CEQA's informational purposes is predominately a question of law that courts should review de novo.

This brief will explain the rationale for these arguments and may assist the Court in reaching a conclusion that accords proper respect to a lead agency's factual conclusions while maintaining judicial authority over the ultimate question of what level of analysis CEQA requires.

STATEMENT OF INTEREST OF *AMICUS CURIAE*

The SCAQMD is the regional agency primarily responsible for air pollution control in the South Coast Air Basin, which consists of all of Orange County and the non-desert portions of the Los Angeles, Riverside, and San Bernardino Counties. (Health & Saf. Code § 40410; Cal. Code Regs., tit. 17, § 60104.) The SCAQMD participates in the CEQA process in several ways. Sometimes it acts as a lead agency that prepares CEQA documents for projects. Other times it acts as a responsible agency when it has permit authority over some part of a project that is undergoing CEQA review by a different lead agency. Finally, SCAQMD also acts as a commenting agency for CEQA documents that it receives because it is a public agency with jurisdiction by law over natural resources affected by the project.

In all of these capacities, SCAQMD will be affected by the decision in this case. SCAQMD sometimes submits comments requesting that a lead agency perform an additional type of air quality or health impacts analysis. On the other hand, SCAQMD sometimes determines that a particular type of health impact analysis is not feasible or would not produce reliable and informative results. Thus, SCAQMD will be affected by the Court's resolution of the extent to which CEQA requires EIRs to correlate emissions and health impacts, and its resolution of the proper standard of review.

CERTIFICATION REGARDING AUTHORSHIP AND FUNDING

No party or counsel in the pending case authored the proposed amicus curiae brief in whole or in part, or made any monetary contribution intended to fund the preparation or submission of the brief. No person or entity other than the proposed *Amicus Curiae* made any monetary contribution intended to fund the preparation or submission of the brief.

Respectfully submitted,

DATED: April 3, 2015

SOUTH COAST AIR QUALITY
MANAGEMENT DISTRICT
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BRIEF OF AMICUS CURIAE

SUMMARY OF ARGUMENT

The South Coast Air Quality Management District (SCAQMD) submits that this Court should not try to establish a hard-and-fast rule concerning whether lead agencies are required to correlate emissions of air pollutants with specific health consequences in their environmental impact reports (EIR). The level of detail required in EIRs is governed by a few, core CEQA (California Environmental Quality Act) principles. As this Court has stated, "[a]n EIR must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project." (*Laurel Heights Improvement Assn. v. Regents of the Univ of Cal.* (1988) 47 Cal.3d 376, 405 ["*Laurel Heights I*"]) Accordingly, "an agency must use its best efforts to find out and disclose all that it reasonably can." (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 428 (quoting CEQA Guidelines § 15144)[1].). However, "[a]nalysis of environmental effects need not be exhaustive, but will be judged in light of what is reasonably feasible." (*Association of Irritated Residents v. County of Madera* (2003) 107 Cal.App.4th 1383, 1390; CEQA Guidelines §§ 15151, 15204(a).)

With regard to analysis of air quality related health impacts, EIRs must generally quantify a project's pollutant emissions, but in some cases it is not feasible to correlate these emissions to specific, quantifiable health impacts (e.g., premature mortality; hospital admissions). In such cases, a general description of the adverse health impacts resulting from the pollutants at issue may be sufficient. In other cases, due to the magnitude

[1] The CEQA Guidelines are found at Cal. Code Regs., tit. 14 §§ 15000, *et seq*.

or nature of the pollution emissions, as well as the specificity of the project involved, it may be feasible to quantify health impacts. Or there may be a less exacting, but still meaningful analysis of health impacts that can feasibly be performed. In these instances, agencies should disclose those impacts.

SCAQMD also submits that whether or not an EIR complies with CEQA's informational mandates by providing sufficient, feasible analysis is a mixed question of fact and law. Pertinent here, the question of whether an EIR's discussion of health impacts from air pollution is sufficient to allow the public to understand and consider meaningfully the issues involves two inquiries: (1) Is it feasible to provide the information or analysis that a commenter is requesting or a petitioner is arguing should be required?; and (2) Even if it is feasible, is the agency relying on other policy or legal considerations to justify not preparing the requested analysis? The first question of whether an analysis is feasible is primarily a question of fact that should be judged by the substantial evidence standard. The second inquiry involves evaluating CEQA's information disclosure purposes against the asserted reasons to not perform the requested analysis. For example, an agency might believe that its EIR meets CEQA's informational disclosure standards even without a particular analysis, and therefore choose not to conduct that analysis. SCAQMD submits that this is more of a legal question, which should be reviewed de novo as a question of law.

ARGUMENT

I. RELEVANT FACTUAL AND LEGAL FRAMEWORK.

A. Air Quality Regulatory Background

The South Coast Air Quality Management District (SCAQMD) is one of the local and regional air pollution control districts and air quality management districts in California. The SCAQMD is the regional air pollution agency for the South Coast Air Basin, which consists of all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. (Health & Saf. Code § 40410, 17 Cal. Code Reg. § 60104.) The SCAQMD also includes the Coachella Valley in Riverside County (Palm Springs area to the Salton Sea). (SCAQMD, *Final 2012 AQMP (Feb. 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "chapter 7" hyperlink; pp 7-1, 7-3 (last visited Apr. 1, 2015).) The SCAQMD's jurisdiction includes over 16 million residents and has the worst or nearly the worst air pollution levels in the country for ozone and fine particulate matter. (SCAQMD, *Final 2012 AQMP (Feb. 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "Executive Summary" hyperlink p. ES-1 (last visited Apr. 1, 2015).)

Under California law, the local and regional districts are primarily responsible for controlling air pollution from all sources except motor vehicles. (Health & Saf. Code § 40000.) The California Air Resources Board (CARB), part of the California Environmental Protection Agency, is primarily responsible for controlling pollution from motor vehicles. (*Id.*) The air districts must adopt rules to achieve and maintain the state and federal ambient air quality standards within their jurisdictions. (Health & Saf. Code § 40001.)

The federal Clean Air Act (CAA) requires the United States Environmental Protection Agency (EPA) to identify pollutants that are widely distributed and pose a threat to human health, developing a so-called "criteria" document. (42 U.S.C. § 7408; CAA § 108.) These pollutants are frequently called "criteria pollutants." EPA must then establish "national ambient air quality standards" at levels "requisite to protect public health", allowing "an adequate margin of safety." (42 U.S.C. § 7409; CAA § 109.) EPA has set standards for six identified pollutants: ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, particulate matter (PM), and lead. (U.S. EPA, National Ambient Air Quality Standards (NAAQS), http://www.epa.gov/air/criteria.html (last updated Oct. 21, 2014).)[2]

Under the Clean Air Act, EPA sets emission standards for motor vehicles and "nonroad engines" (mobile farm and construction equipment, marine vessels, locomotives, aircraft, etc.). (42 U.S.C. §§ 7521, 7547; CAA §§ 202, 213.) California is the only state allowed to establish emission standards for motor vehicles and most nonroad sources; however, it may only do so with EPA's approval. (42 U.S.C. §§ 7543(b), 7543(e); CAA §§ 209(b), 209(c).) Sources such as manufacturing facilities, power plants and refineries that are not mobile are often referred to as "stationary sources." The Clean Air Act charges state and local agencies with the primary responsibility to attain the national ambient air quality standards. (42 U.S.C. § 7401(a)(3); CAA § 101(a)(3).) Each state must adopt and implement a plan including enforceable measures to achieve and maintain the national ambient air quality standards. (42 U.S.C. § 7410; CAA § 110.) The SCAQMD and CARB jointly prepare portion of the plan for the South Coast Air Basin and submit it for approval by EPA. (Health & Saf. Code §§ 40460, et seq.)

The Clean Air Act also requires state and local agencies to adopt a permit program requiring, among other things, that new or modified "major" stationary sources use technology to achieve the "lowest achievable emission rate," and to control minor stationary sources as

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[2] Particulate matter (PM) is further divided into two categories: fine particulate or $PM_{2.5}$ (particles with a diameter of less than or equal to 2.5 microns) and coarse particulate (PM_{10}) (particles with a diameter of 10 microns or less). (U.S. EPA, Particulate Matter (PM), http://www.epa.gov/airquality/particlepollution/ (last visited Apr. 1, 2015).)

needed to help attain the standards. (42 U.S.C. §§ 7502(c)(5), 7503(a)(2), 7410(a)(2)(C); CAA §§ 172(c)(5), 173(a)(2), 110(a)(2)(C).) The air districts implement these permit programs in California. (Health & Saf. Code §§ 42300, et seq.)

The Clean Air Act also sets out a regulatory structure for over 100 so-called "hazardous air pollutants" calling for EPA to establish "maximum achievable control technology" (MACT) for sources of these pollutants. (42 U.S.C. § 7412(d)(2); CAA § 112(d)(2).) California refers to these pollutants as "toxic air contaminants" (TACs) which are subject to two state-required programs. The first program requires "air toxics control measures" for specific categories of sources. (Health & Saf. Code § 39666.) The other program requires larger stationary sources and sources identified by air districts to prepare "health risk assessments" for impacts of toxic air contaminants. (Health & Saf. Code §§ 44320(b), 44322, 44360.) If the health risk exceeds levels identified by the district as "significant," the facility must implement a "risk reduction plan" to bring its risk levels below "significant" levels. Air districts may adopt additional more stringent requirements than those required by state law, including requirements for toxic air contaminants. (Health & Saf. Code § 41508; *Western Oil & Gas Assn. v. Monterey Bay Unified APCD* (1989) 49 Cal.3d 408, 414.) For example, SCAQMD has adopted a rule requiring new or modified sources to keep their risks below specified levels and use best available control technology (BACT) for toxics. (SCAQMD, *Rule 1401-New Source Review of Toxic Air Contaminants*, http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xiv; then follow "Rule 1401" hyperlink (last visited Apr. 1, 2015).)

B. The SCAQMD's Role Under CEQA

The California Environmental Quality Act (CEQA) requires public agencies to perform an environmental review and appropriate analysis for projects that they implement or approve. (Pub. Resources Code § 21080(a).) The agency with primary approval authority for a particular project is generally the "lead agency" that prepares the appropriate CEQA document. (CEQA Guidelines §§ 15050, 15051.) Other agencies having a subsequent approval authority over all or part of a project are called "responsible" agencies that must determine whether the CEQA document is adequate for their use. (CEQA Guidelines §§ 15096(c), 15381.) Lead agencies must also consult with and circulate their environmental impact reports to "trustee agencies" and agencies "with jurisdiction by law" including "authority over resources which may be affected by the project." (Pub. Resources Code §§ 21104(a), 21153; CEQA Guidelines §§ 15086(a)(3), 15073(c).) The SCAQMD has a role in all these aspects of CEQA.

Fulfilling its responsibilities to implement its air quality plan and adopt rules to attain the national ambient air quality standards, SCAQMD adopts a dozen or more rules each year to require pollution reductions from a wide variety of sources. The SCAQMD staff evaluates each rule for any adverse environmental impact and prepares the appropriate CEQA document. Although most rules reduce air emissions, they may have secondary environmental impacts such as use of water or energy or disposal of waste—e.g., spent catalyst from control equipment.[3]

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[3] The SCAQMD's CEQA program for its rules is a "Certified Regulatory Program" under which it prepares a "functionally equivalent" document in lieu of a negative declaration or EIR. (Pub. Resources Code § 21080.5, CEQA Guidelines § 15251(l).)

The SCAQMD also approves a large number of permits every year to construct new, modified, or replacement facilities that emit regulated air pollutants. The majority of these air pollutant sources have already been included in an earlier CEQA evaluation for a larger project, are currently being evaluated by a local government as lead agency, or qualify for an exemption. However, the SCAQMD sometimes acts as lead agency for major projects where the local government does not have a discretionary approval. In such cases, SCAQMD prepares and certifies a negative declaration or environmental impact report (EIR) as appropriate.[4] SCAQMD evaluates perhaps a dozen such permit projects under CEQA each year. SCAQMD is often also a "responsible agency" for many projects since it must issue a permit for part of the projects (e.g., a boiler used to provide heat in a commercial building). For permit projects evaluated by another lead agency under CEQA, SCAQMD has the right to determine that the CEQA document is inadequate for its purposes as a responsible agency, but it may not do so because its permit program already requires all permitted sources to use the best available air pollution control technology. (SCAQMD, *Rule 1303(a)(1) – Requirements*, http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xiii; then follow "Rule 1303" hyperlink (last visited Apr. 1, 2015).)

Finally, SCAQMD receives as many as 60 or more CEQA documents each month (around 500 per year) in its role as commenting agency or an agency with "jurisdiction by law" over air quality—a natural resource affected by the project. (Pub. Resources Code §§ 21104(a), 21153; CEQA Guidelines § 15366(a)(3).) The SCAQMD staff provides comments on as many as 25 or 30 such documents each month.

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[4] The SCAQMD's permit projects are not included in its Certified Regulatory Program, and are evaluated under the traditional local government CEQA analysis. (Pub. Resources Code §§ 21150-21154.)

(SCAQMD Governing Board Agenda, Apr. 3, 2015, Agenda Item 16, Attachment A, http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-april-3-2015; then follow "16. Lead Agency Projects and Environmental Documents Received by SCAQMD" hyperlink (last visited Apr. 1, 2015).) Of course, SCAQMD focuses its commenting efforts on the more significant projects.

Typically, SCAQMD comments on the adequacy of air quality analysis, appropriateness of assumptions and methodology, and completeness of the recommended air quality mitigation measures. Staff may comment on the need to prepare a health risk assessment detailing the projected cancer and noncancer risks from toxic air contaminants resulting from the project, particularly the impacts of diesel particulate matter, which CARB has identified as a toxic air contaminant based on its carcinogenic effects. (California Air Resources Board, Resolution 98-35, Aug. 27, 1998, http://www.arb.ca.gov/regact/diesltac/diesltac.htm; then follow Resolution 98-35 hyperlink (last visited Apr. 1, 2015).) Because SCAQMD already requires new or modified stationary sources of toxic air contaminants to use the best available control technology for toxics and to keep their risks below specified levels, (SCAQMD Rule 1401, supra, note 15), the greatest opportunity to further mitigate toxic impacts through the CEQA process is by reducing emissions—particularly diesel emissions—from vehicles.

II. THIS COURT SHOULD NOT SET A HARD-AND-FAST RULE CONCERNING THE EXTENT TO WHICH AN EIR MUST CORRELATE A PROJECT'S EMISSION OF POLLUTANTS WITH RESULTING HEALTH IMPACTS.

Numerous cases hold that courts do not review the correctness of an EIR's conclusions but rather its sufficiency as an informative document. (*Laurel Heights 1*, *supra*, 47 Cal.3d at p. 392; *Citizens of Goleta Valley v.*

Bd. of Supervisors (1990) 52 Cal.3d 553, 569; *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1197.)

As stated by the Court of Appeal in this case, where an EIR has addressed a topic, but the petitioner claims that the information provided about that topic is insufficient, courts must "draw[] a line that divides *sufficient* discussions from those that are *insufficient*." (*Sierra Club v. County of Fresno* (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271, 290.) The Court of Appeal readily admitted that "[t]he terms themselves – sufficient and insufficient – provide little, if any, guidance as to where the line should be drawn. They are simply labels applied once the court has completed its analysis." (*Id.*)

The CEQA Guidelines, however, provide guidance regarding what constitutes a sufficient discussion of impacts. Section 15151 states that "the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." Case law reflects this: "Analysis of environmental effects need not be exhaustive, but will be judged in light of what was reasonably feasible." (*Association of Irritated Residents v. County of Madera, supra,* 107 Cal.App.4th at p. 1390; see also CEQA Guidelines § 15204(a).)

Applying this test, this Court cannot realistically establish a hard-and-fast rule that an analysis correlating air pollution impacts of a project to quantified resulting health impacts is always required, or indeed that it is never required. Simply put, in some cases such an analysis will be "feasible"; in some cases it will not.

For example, air pollution control districts often require a proposed new source of toxic air contaminants to prepare a "health risk assessment" before issuing a permit to construct. District rules often limit the allowable cancer risk the new source may cause to the "maximally exposed individual" (worker and residence exposures). (*See, e.g.*, SCAQMD Rule 1401(c)(8); 1401(d)(1), *supra* note 15.) In order to perform this analysis, it is necessary to have data regarding the sources and types of air toxic contaminants, location of emission points, velocity of emissions, the meteorology and topography of the area, and the location of receptors (worker and residence). (SCAQMD, *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB2588), pp. 11-16*; (last visited Apr. 1, 2015) http://www.aqmd.gov/home/library/documents-support-material; "Guidelines" hyperlink; AB2588; then follow AB2588 Risk Assessment Guidelines hyperlink.)

Thus, it is feasible to determine the health risk posed by a new gas station locating at an intersection in a mixed use area, where receptor locations are known. On the other hand, it may not be feasible to perform a health risk assessment for airborne toxics that will be emitted by a generic industrial building that was built on "speculation" (i.e., without knowing the future tenant(s)). Even where a health risk assessment can be prepared, however, the resulting maximum health risk value is only a calculation of risk—it does not necessarily mean anyone will contract cancer as a result of the project.

In order to find the "cancer burden" or expected additional cases of cancer resulting from the project, it is also necessary to know the numbers and location of individuals living within the "zone of impact" of the project: i.e., those living in areas where the projected cancer risk from the project exceeds one in a million. (SCAQMD, Health Risk Assessment Summary form, http://www.aqmd.gov/home/forms ; filter by "AB2588" category; then "Health Risk Assessment" hyperlink (last visited Apr. 1, 2015).) The affected population is divided into bands of those exposed to at least 1 in a million risk, those exposed to at least 10 in a million risk, etc. up to those exposed at the highest levels. (*Id.*) This data allows agencies to calculate an approximate number of additional cancer cases expected from the project. However, it is not possible to predict which particular individuals will be affected.

For the so-called criteria pollutants[5], such as ozone, it may be more difficult to quantify health impacts. Ozone is formed in the atmosphere from the chemical reaction of the nitrogen oxides (NO_x) and volatile organic compounds (VOC) in the presence of sunlight. (U.S. EPA, Ground Level Ozone, http://www.epa.gov/airquality/ozonepollution/ (last updated Mar. 25, 2015).) It takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources. (U.S. EPA, *Guideline on Ozone Monitoring Site Selection* (Aug. 1998) EPA-454/R-98-002 § 5.1.2, http://www.epa.gov/ttnamti1/archive/cpreldoc.html (last visited Apr. 1, 2015).) NO_x and VOC are known as "precursors" of ozone.

Scientifically, health effects from ozone are correlated with increases in the ambient level of ozone in the air a person breathes. (U.S. EPA, *Health Effects of Ozone in the General Population,* Figure 9, http://www.epa.gov/apti/ozonehealth/population.html#levels (last visited Apr. 1, 2015).) However, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire region. For example, the SCAQMD's 2012 AQMP showed that reducing NO_x by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion. (South Coast Air Quality Management District, *Final 2012 AQMP (February 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "Appendix V: Modeling & Attainment Demonstrations" hyperlink,

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[5] See discussion of types of pollutants, supra, Part I.A.

pp. v-4-2, v-7-4, v-7-24.) SCAQMD staff does not currently know of a way to accurately quantify ozone-related health impacts caused by NO_x or VOC emissions from relatively small projects.

On the other hand, this type of analysis may be feasible for projects on a regional scale with very high emissions of NO_x and VOCs, where impacts are regional. For example, in 2011 the SCAQMD performed a health impact analysis in its CEQA document for proposed Rule 1315, which authorized various newly-permitted sources to use offsets from the districts "internal bank" of emission reductions. This CEQA analysis accounted for essentially *all* the increases in emissions due to new or modified sources in the District between 2010 and 2030.[6] The SCAQMD was able to correlate this very large emissions increase (e.g., 6,620 pounds per day NO_x (1,208 tons per year), 89,180 pounds per day VOC (16,275 tons per year)) to expected health outcomes from ozone and particulate matter (e.g., 20 premature deaths per year and 89,947 school absences in the year 2030 due to ozone).[7] (SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System* (see hyperlink in fn 6*)* at p. 4.1-35, Table 4.1-29.)

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[6] (SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, Attachment G, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System, Vol. 1, p.4.0-6,* http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-february-4-2011; the follow "26. Adopt Proposed Rule 1315 – Federal New Source Review Tracking System" (last visited April 1, 2015).)

[7] The SCAQMD was able to establish the location of future NO_x and VOC emissions by assuming that new projects would be built in the same locations and proportions as existing stationary sources. This CEQA document was upheld by the Los Angeles County Superior Court in *Natural Res. Def. Council v SCAQMD*, Los Angeles Superior Court No. BS110792).

However, a project emitting only 10 tons per year of NO_x or VOC is small enough that its regional impact on ambient ozone levels may not be detected in the regional air quality models that are currently used to determine ozone levels. Thus, in this case it would not be feasible to directly correlate project emissions of VOC or NO_x with specific health impacts from ozone. This is in part because ozone formation is not linearly related to emissions. Ozone impacts vary depending on the location of the emissions, the location of other precursor emissions, meteorology and seasonal impacts, and because ozone is formed some time later and downwind from the actual emission. (EPA Guideline on Ozone Monitoring Site Selection (Aug. 1998) EPA-454/R-98-002, § 5.1.2; https://www.epa.gov/ttnamti1/archive/cpreldoc.html; then search "Guideline on Ozone Monitoring Site Selection" click on pdf) (last viewed Apr. 1, 2015).)

SCAQMD has set its CEQA "significance" threshold for NO_x and VOC at 10 tons per year (expressed as 55 lb/day). (SCAQMD, *Air Quality Analysis Handbook*, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook; then follow "SCAQMD Air Quality Significance Thresholds" hyperlink (last visited Apr. 1, 2015).) This is because the federal Clean Air Act defines a "major" stationary source for "extreme" ozone nonattainment areas such as SCAQMD as one emitting 10 tons/year. (42 U.S.C. §§ 7511a(e), 7511a(f); CAA §§ 182(e), 182(f).) Under the Clean Air Act, such sources are subject to enhanced control requirements (42 U.S.C. §§ 7502(c)(5), 7503; CAA §§ 172(c)(5), 173), so SCAQMD decided this was an appropriate threshold for making a CEQA "significance" finding and requiring feasible mitigation. Essentially, SCAQMD takes the position that a source that emits 10 tons/year of NO_x or VOC would contribute cumulatively to ozone formation. Therefore, lead agencies that use SCAQMD's thresholds of significance may determine that many projects have "significant" air quality impacts and must apply all feasible mitigation measures, yet will not be able to precisely correlate the project to quantifiable health impacts, unless the emissions are sufficiently high to use a regional modeling program.

In the case of particulate matter ($PM_{2.5}$)[8], another "criteria" pollutant, SCAQMD staff is aware of two possible methods of analysis. SCAQMD used regional modeling to predict expected health impacts from its proposed Rule 1315, as mentioned above. Also, the California Air Resources Board (CARB) has developed a methodology that can predict expected mortality (premature deaths) from large amounts of $PM_{2.5}$. (California Air Resources Board, *Health Impacts Analysis: PM Premature Death Relationship*, http://www.arb.ca.gov/research/health/pm-mort/pm-mort_arch.htm (last reviewed Jan. 19, 2012).) SCAQMD used the CARB methodology to predict impacts from three very large power plants (e.g., 731-1837 lbs/day). (Final Environmental Assessment for Rule 1315, *supra*, pp 4.0-12, 4.1-13, 4.1-37 (e.g., 125 premature deaths in the entire SCAQMD in 2030), 4.1-39 (0.05 to 1.77 annual premature deaths from power plants.) Again, this project involved large amounts of additional $PM_{2.5}$ in the District, up to 2.82 tons/day (5,650 lbs/day of $PM_{2.5}$, or, or 1029 tons/year. (*Id.* at table 4.1-4, p. 4.1-10.)

However, the primary author of the CARB methodology has reported that this $PM_{2.5}$ health impact methodology is not suited for small projects and may yield unreliable results due to various uncertainties. [9] (SCAQMD, *Final Subsequent Mitigated Negative Declaration for: Warren*

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[8] SCAQMD has not attained the latest annual or 24-hour national ambient air quality standards for "$PM_{2.5}$" or particulate matter less than 2.5 microns in diameter.

[9] Among these uncertainties are the representativeness of the population used in the methodology, and the specific source of PM and the corresponding health impacts. (*Id.* at p. 2-24.)

E&P, Inc. WTU Central Facility, New Equipment Project (certified July 19, 2011), http://www.aqmd.gov/home/library/documents-support-material/lead-agency-permit-projects/permit-project-documents---year-2011; then follow "Final Subsequent Mitigated Negative Declaration for Warren E&P Inc. WTU Central Facility, New Equipment Project" hyperlink, pp. 2-22, 2-23 (last visited Apr. 1, 2015).) Therefore, when SCAQMD prepared a CEQA document for the expansion of an existing oil production facility, with very small $PM_{2.5}$ increases (3.8 lb/day) and a very small affected population, staff elected not to use the CARB methodology for using estimated $PM_{2.5}$ emissions to derive a projected premature mortality number and explained why it would be inappropriate to do so. (*Id.* at pp 2-22 to 2-24.) SCAQMD staff concluded that use of this methodology for such a small source could result in unreliable findings and would not provide meaningful information. (*Id.* at pp. 2-23, 2-25.) This CEQA document was not challenged in court.

In the above case, while it may have been technically possible to plug the data into the methodology, the results would not have been reliable or meaningful. SCAQMD believes that an agency should not be required to perform analyses that do not produce reliable or meaningful results. This Court has already held that an agency may decline to use even the "normal" "existing conditions" CEQA baseline where to do so would be misleading or without informational value. (*Neighbors for Smart Rail v. Exposition Metro Line* (2013) 57 Cal.4th 439, 448, 457.) The same should be true for a decision that a particular study or analysis would not provide reliable or meaningful results.[10]

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[10] Whether a particular study would result in "informational value" is a part of deciding whether it is "feasible." CEQA defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and

Therefore, it is not possible to set a hard-and-fast rule on whether a correlation of air quality impacts with specific quantifiable health impacts is required in all cases. Instead, the result turns on whether such an analysis is reasonably feasible in the particular case.[11] Moreover, what is reasonably feasible may change over time as scientists and regulatory agencies continually seek to improve their ability to predict health impacts. For example, CARB staff has been directed by its Governing Board to reassess and improve the methodology for estimating premature deaths. (California Air Resources Board, *Health Impacts Analysis: PM Mortality Relationship*, http://www.arb.ca.gov/research/health/pm-mort/pm-mort.htm (last reviewed Dec. 29, 2010).) This factor also counsels against setting any hard-and-fast rule in this case.

III. THE QUESTION OF WHETHER AN EIR CONTAINS SUFFICIENT ANALYSIS TO MEET CEQA'S REQUIREMENTS IS A MIXED QUESTION OF FACT AND LAW GOVERNED BY TWO DIFFERENT STANDARDS OF REVIEW.

A. Standard of Review for Feasibility Determination and Sufficiency as an Informative Document

A second issue in this case is whether courts should review an EIR's informational sufficiency under the "substantial evidence" test as argued by Friant Ranch or the "independent judgment" test as argued by Sierra Club.

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technological factors." (Pub. Resources Code § 21061.1.) A study cannot be "accomplished in a *successful* manner" if it produces unreliable or misleading results.

[11] In this case, the lead agency did not have an opportunity to determine whether the requested analysis was feasible because the comment was non-specific. Therefore, SCAQMD suggests that this Court, after resolving the legal issues in the case, direct the Court of Appeal to remand the case to the lead agency for a determination of whether the requested analysis is feasible. Because Fresno County, the lead agency, did not seek review in this Court, it seems likely that the County has concluded that at least some level of correlation of air pollution with health impacts is feasible.

As this Court has explained, "a reviewing court must adjust its scrutiny to the nature of the alleged defect, depending on whether the claim is predominantly one of improper procedure or a dispute over the facts." (*Vineyard Area Citizens v. City of Rancho Cordova, supra,* 40 Cal.4th at 435.) For questions regarding compliance with proper procedure or other legal questions, courts review an agency's action de novo under the "independent judgment" test. (*Id.*) On the other hand, courts review factual disputes only for substantial evidence, thereby "accord[ing] greater deference to the agency's substantive factual conclusions." (*Id.*)

Here, Friant Ranch and Sierra Club agree that the case involves the question of whether an EIR includes sufficient information regarding a project's impacts. However, they disagree on the proper standard of review for answering this question: Sierra Club contends that courts use the independent judgment standard to determine whether an EIR's analysis is sufficient to meet CEQA's informational purposes,[12] while Friant Ranch contends that the substantial evidence standard applies to this question.

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[12] Sierra Club acknowledges that courts use the substantial evidence standard when reviewing predicate factual issues, but argues that courts ultimately decide as a matter of law what CEQA requires. (Answering Brief, pp. 14, 23.)

SCAQMD submits that the issue is more nuanced than either party contends. We submit that, whether a CEQA document includes sufficient analysis to satisfy CEQA's informational mandates is a mixed question of fact and law,[13] containing two levels of inquiry that should be judged by different standards.[14]

The state CEQA Guidelines set forth standards for the adequacy of environmental analysis. Guidelines Section 15151 states:

> An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good-faith effort at full disclosure.

In this case, the basic question is whether the underlying analysis of air quality impacts made the EIR "sufficient" as an informative document. However, whether the EIR's analysis was sufficient is judged in light of what was reasonably feasible. This represents a mixed question of fact and law that is governed by two different standards of review.

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[13] Friant Ranch actually states that the claim that an EIR lacks sufficient relevant information is, "most properly thought of as raising mixed questions of fact and law." (Opening Brief, p. 27.) However, the remainder of its argument claims that the court should apply the substantial evidence standard of review to all aspects of the issue.

[14] Mixed questions of fact and law issues may implicate predominantly factual subordinate questions that are reviewed under the substantial evidence test even though the ultimate question may be reviewed by the independent judgment test. *Crocker National Bank v. City and County of San Francisco* (1989) 49 Cal.3d 881, 888-889.

SCAQMD submits that an EIR's sufficiency as an informational document is ultimately a legal question that courts should determine using their independent judgment. This Court's language in *Laurel Heights I* supports this position. As this Court explained: "The court does not pass upon the correctness of the EIR's environmental conclusions, but only upon its *sufficiency as an informative document*." (*Laurel Heights I, supra,* 47 Cal.3d at 392-393) (emphasis added.) As described above, the Court in *Vineyard Area Citizens v. City of Rancho Cordova, supra,* 40 Cal.4th at 431, also used its independent judgment to determine what level of analysis CEQA requires for water supply impacts. The Court did not defer to the lead agency's opinion regarding the law's requirements; rather, it determined for itself what level of analysis was necessary to meet "[t]he law's informational demands." (*Id.* at p. 432.) Further, existing case law also holds that where an agency fails to comply with CEQA's information disclosure requirements, the agency has "failed to proceed in the manner required by law." (*Save Our Peninsula Comm. v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 118.)

However, whether an EIR satisfies CEQA's requirements depends in part on whether it was reasonably feasible for an agency to conduct additional or more thorough analysis. EIRs must contain "a detailed statement" of a project's impacts (Pub. Res. Code § 21061), and an agency must "use its best efforts to find out and disclose all that it reasonably can." (CEQA Guidelines § 15144.) Nevertheless, "the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." (CEQA Guidelines § 15151.)

SCAQMD submits that the question of whether additional analysis or a particular study suggested by a commenter is "feasible" is generally a question of fact. Courts have already held that whether a particular alternative is "feasible" is reviewed by the substantial evidence test.

(*Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, 598-99; *Center for Biological Diversity v. County of San Bernardino* (2010) 185 Cal.App.4th 866, 883.) Thus, if a lead agency determines that a particular study or analysis is infeasible, that decision should generally be judged by the substantial evidence standard. However, SCAQMD urges this Court to hold that lead agencies must explain the basis of any determination that a particular analysis is infeasible in the EIR itself. An EIR must discuss information, including issues related to the feasibility of particular analyses "in sufficient detail to enable meaningful participation and criticism by the public. '[W]hatever is required to be considered in an EIR must be in that formal report; what any official might have known from other writings or oral presentations cannot supply what is lacking in the report.'" (*Laurel Heights I*, *supra*, 47 Cal.3d at p. 405 (quoting *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3d 818, 831) (discussing analysis of alternatives).) The evidence on which the determination is based should also be summarized in the EIR itself, with appropriate citations to reference materials if necessary. Otherwise commenting agencies such as SCAQMD would be forced to guess where the lead agency's evidence might be located, thus thwarting effective public participation.

Moreover, if a lead agency determines that a particular study or analysis would not result in reliable or useful information and for that reason is not feasible, that determination should be judged by the substantial evidence test. (See *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority*, *supra*, 57 Cal.4th 439, 448, 457:

whether "existing conditions" baseline would be misleading or uninformative judged by substantial evidence standard.[15])

If the lead agency's determination that a particular analysis or study is not feasible is supported by substantial evidence, then the agency has not violated CEQA's information disclosure provisions, since it would be infeasible to provide additional information. This Court's decisions provide precedent for such a result. For example, this Court determined that the issue of whether the EIR should have included a more detailed discussion of future herbicide use was resolved because substantial evidence supported the agency's finding that "the precise parameters of future herbicide use could not be predicted." *Ebbetts Pass Forest Watch v. California Dept. of Forestry & Fire Protection* (2008) 43 Cal.4th 936, 955.

Of course, SCAQMD expects that courts will continue to hold lead agencies to their obligations to consult with, and not to ignore or misrepresent, the views of sister agencies having special expertise in the area of air quality. (*Berkeley Keep Jets Over the Bay v. Board of Port Commissioners* (2007) 91 Cal.App.4th 1344, 1364 n.11.) In some cases, information provided by such expert agencies may establish that the purported evidence relied on by the lead agency is not in fact "substantial". (*Id.* at pp. 1369-1371.)

In sum, courts retain ultimate responsibility to determine what CEQA requires. However, the law does not require exhaustive analysis, but only what is reasonably feasible. Agencies deserve deference for their factual determinations regarding what type of analysis is reasonably feasible. On the other hand, if a commenter requests more information, and the lead agency declines to provide it but does *not* determine that the

[15] The substantial evidence standard recognizes that the courts "have neither the resources nor the scientific expertise" to weigh conflicting evidence on technical issues. (*Laurel Heights I, supra,* 47 Cal.3d 376, 393.)

requested study or analysis would be infeasible, misleading or uninformative, the question becomes whether the omission of that analysis renders the EIR inadequate to satisfy CEQA's informational purposes. (*Id.* at pp. 1370-71.) Again, this is predominantly a question of law and should be judged by the de novo or independent judgment standard of review. Of course, this Court has recognized that a "project opponent or reviewing court can always imagine some additional study or analysis that might provide helpful information. It is not for them to design the EIR. That further study...might be helpful does not make it necessary." (*Laurel Heights I, supra,* 47 Cal.3d 376, 415 – see also CEQA Guidelines § 15204(a) [CEQA "does not require a lead agency to conduct every test. . . recommended or demanded by commenters."].) Courts, then, must adjudicate whether an omission of particular information renders an EIR inadequate to serve CEQA's informational purposes.[16]

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[16] We recognize that there is case law stating that the substantial evidence standard applies to "challenges to the scope of an EIR's analysis of a topic" as well as the methodology used and the accuracy of the data relied on in the document "because these types of challenges involve factual questions." (*Bakersfield Citizens for Local Control v. City of Bakersfield, supra,* 124 Cal.App.4th 1184, 1198, and cases relied on therein.) However, we interpret this language to refer to situations where the question of the scope of the analysis really is factual—that is, where it involves whether further analysis is feasible, as discussed above. This interpretation is supported by the fact that the *Bakersfield* court expressly rejected an argument that a claimed "omission of information from the EIR should be treated as inquiries whether there is substantial evidence supporting the decision approving the project. " *Bakersfield, supra,* 124 Cal.App.4th at p. 1208. And the *Bakersfield* court ultimately decided that the lead agency must analyze the connection between the identified air pollution impacts and resulting health impacts, even though the EIR already included some discussion of air-pollution-related respiratory illnesses. *Bakersfield, supra,* 124 Cal.App.4th at p. 1220. Therefore, the court must not have interpreted this question as one of the "scope of the analysis" to be judged by the substantial evidence standard.

B. Friant Ranch's Rationale for Rejecting the Independent Judgment Standard of Review is Unsupported by Case Law.

In its brief, Friant Ranch makes a distinction between cases where a required CEQA topic is not discussed at all (to be reviewed by independent judgment as a failure to proceed in the manner required by law) and cases where a topic is discussed, but the commenter claims the information provided is insufficient (to be judged by the substantial evidence test). (Opening Brief, pp. 13-17.) The Court of Appeal recognized these two types of cases, but concluded that both raised questions of law. (*Sierra Club v. County of Fresno* (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271, 290.) We believe the distinction drawn by Friant Ranch is unduly narrow, and inconsistent with cases which have concluded that CEQA documents are insufficient. In many instances, CEQA's requirements are stated broadly, and the courts must interpret the law to determine what level of analysis satisfies CEQA's mandate for providing meaningful information, even though the EIR discusses the issue to some extent.

For example, the CEQA Guidelines require discussion of the existing environmental baseline. In *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 954-955, the lead agency had discussed the environmental baseline by describing historic month-end water levels in the affected lakes. However, the court held that this was not an adequate baseline discussion because it failed to discuss the timing and amounts of past actual water releases, to allow comparison with the proposed project. The court evidently applied the independent judgment test to its decision, even though the agency discussed the issue to some extent.

Likewise, in *Vineyard Area Citizens* (2007) 40 Cal.4th 412, this Court addressed the question of whether an EIR's analysis of water supply impacts complied with CEQA. The parties agreed that the EIR was required to analyze the effects of providing water to the development project, "and that in order to do so the EIR had, in some manner, to identify the planned sources of that water." (*Vineyard Area Citizens, supra,* at p. 428.) However, the parties disagreed as to the level of detail required for this analysis and "what level of uncertainty regarding the availability of water supplies can be tolerated in an EIR . . . ." (*Id.*) In other words, the EIR had analyzed water supply impacts for the project, but the petitioner claimed that the analysis was insufficient.

This Court noted that neither CEQA's statutory language or the CEQA Guidelines specifically addressed the question of how precisely an EIR must discuss water supply impacts. (*Id.*) However, it explained that CEQA "states that '[w]hile foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.'" (*Id.*, [Guidelines § 15144].) The Court used this general principle, along with prior precedent, to elucidate four "principles for analytical adequacy" that are necessary in order to satisfy "CEQA's informational purposes." (*Vineyard Area Citizens, supra,* at p. 430.) The Court did not defer to the agency's determination that the EIR's analysis of water supply impacts was sufficient. Rather, this Court used its independent judgment to determine for itself the level of analysis required to satisfy CEQA's fundamental purposes. (*Vineyard Area Citizens, supra*, at p. 441: an EIR does not serve its purposes where it neglects to explain likely sources of water and "... leaves long term water supply considerations to later stages of the project.")

Similarly, the CEQA Guidelines require an analysis of noise impacts of the project. (Appendix G, "Environmental Checklist Form."[17]) In *Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1123, the court held that the lead agency's noise impact analysis was inadequate even though it had addressed the issue and concluded that the increase would not be noticeable. If the court had been using the substantial evidence standard, it likely would have upheld this discussion.

Therefore, we do not agree that the issue can be resolved on the basis suggested by Friant Ranch, which would apply the substantial evidence standard to *every* challenge to an analysis that addresses a required CEQA topic. This interpretation would subvert the courts' proper role in interpreting CEQA and determining what the law requires.

Nor do we agree that the Court of Appeal in this case violated CEQA's prohibition on courts interpreting its provisions "in a manner which imposes procedural or substantive requirements beyond those explicitly stated in this division or in the state guidelines." (Pub. Resources Code § 21083.1.) CEQA requires an EIR to describe *all* significant impacts of the project on the environment. (Pub. Resources Code § 21100(b)(2); *Vineyard Area Citizens, supra,* at p. 428.) Human beings are part of the environment, so CEQA requires EIRs to discuss a project's significant impacts on human health. However, except in certain particular circumstances,[18] neither the CEQA statute nor Guidelines specify the precise level of analysis that agencies must undertake to satisfy the law's requirements. (see, e.g., CEQA Guidelines § 15126.2(a) [EIRs must describe "health and safety problems caused by {a project's} physical changes"].) Accordingly, courts must interpret CEQA as a whole to

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[17] Association of Environmental Professionals, 2015 CEQA Statute and Guidelines (2015) p.287.

[18] E.g., Pub. Resources Code § 21151.8(C)(3)(B)(iii) (requiring specific type of health risk analysis for siting schools).

determine whether a particular EIR is sufficient as an informational document. A court determining whether an EIR's discussion of human health impacts is legally sufficient does not constitute imposing a new substantive requirement.[19] Under Friant Ranch's theory, the above-referenced cases holding a CEQA analysis inadequate would have violated the law. This is not a reasonable interpretation.

IV. COURTS MUST SCRUPULOUSLY ENFORCE THE REQUIREMENTS THAT LEAD AGENCIES CONSULT WITH AND OBTAIN COMMENTS FROM AIR DISTRICTS

Courts must "scrupulously enforce" CEQA's legislatively mandated requirements. (*Vineyard Area Citizens, supra*, 40 Cal.4th 412, 435.) Case law has firmly established that lead agencies must consult with the relevant air pollution control district before conducting an initial study, and must provide the districts with notice of the intention to adopt a negative declaration (or EIR). (*Schenck v. County of Sonoma* (2011) 198 Cal.App.4th 949, 958.) As *Schenck* held, neither publishing the notice nor providing it to the State Clearinghouse was a sufficient substitute for sending notice directly to the air district. (*Id.*) Rather, courts "must be satisfied that [administrative] agencies have fully complied with the procedural requirements of CEQA, since only in this way can the important public purposes of CEQA be protected from subversion." *Schenck,* 198 Cal.App.4th at p. 959 (citations omitted).[20]

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[19] We submit that Public Resources Code Section 21083.1 was intended to prevent courts from, for example, holding that an agency must analyze economic impacts of a project where there are no resulting environmental impacts (see CEQA Guidelines § 15131) , or imposing new procedural requirements, such as imposing additional public notice requirements not set forth in CEQA or the Guidelines.

[20] Lead agencies must consult air districts, as public agencies with jurisdiction by law over resources affected by the project, *before* releasing an EIR. (Pub. Resources Code §§ 21104(a); 21153.) Moreover, air

Lead agencies should be aware, therefore, that failure to properly seek and consider input from the relevant air district constitutes legal error which may jeopardize their project approvals. For example, the court in *Fall River Wild Trout Foundation v. County of Shasta,* (1999) 70 Cal.App.4th 482, 492 held that the failure to give notice to a trustee agency (Department of Fish and Game) was prejudicial error requiring reversal. The court explained that the lack of notice prevented the Department from providing any response to the CEQA document. (*Id.* at p. 492.) It therefore prevented relevant information from being presented to the lead agency, which was prejudicial error because it precluded informed decision-making. (*Id.*)[21]

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districts should be considered "state agencies" for purposes of the requirement to consult with "trustee agencies" as set forth in Public Resources Code § 20180.3(a). This Court has long ago held that the districts are not mere "local agencies" whose regulations are superseded by those of a state agency regarding matters of statewide concern, but rather have concurrent jurisdiction over such issues. (*Orange County Air Pollution Control District v. Public Util. Com.* (1971) 4 Cal.3d 945, 951, 954.) Since air pollution is a matter of statewide concern, *Id* at 952, air districts should be entitled to trustee agency status in order to ensure that this vital concern is adequately protected during the CEQA process.

[21] In *Schenck,* the court concluded that failure to give notice to the air district was not prejudicial, but this was partly because the trial court had already corrected the error before the case arrived at the Court of Appeal. The trial court issued a writ of mandate requiring the lead agency to give notice to the air district. The air district responded by concurring with the lead agency that air impacts were not significant. (*Schenck,* 198 Cal.App.4th 949, 960.) We disagree with the *Schenck* court that the failure to give notice to the air district would not have been prejudicial (even in the absence of the trial court writ) merely because the lead agency purported to follow the air district's published CEQA guidelines for significance. (*Id.*, 198 Cal.App.4th at p. 960.) In the first place, absent notice to the air district, it is uncertain whether the lead agency properly followed those guidelines. Moreover, it is not realistic to expect that an air district's published guidelines would necessarily fully address all possible air-quality related issues that can arise with a CEQA project, or that those

Similarly, lead agencies must obtain additional information requested by expert agencies, including those with jurisdiction by law, if that information is necessary to determine a project's impacts. (*Sierra Club v. State Bd. Of Forestry* (1994) 7 Cal.4th 1215, 1236-37.) Approving a project without obtaining that information constitutes a failure to proceed in the manner prescribed by CEQA. (*Id.* at p. 1236.)

Moreover, a lead agency can save significant time and money by consulting with the air district early in the process. For example, the lead agency can learn what the air district recommends as an appropriate analysis on the facts of its case, including what kinds of health impacts analysis may be available, and what models are appropriate for use. This saves the lead agency from the need to do its analysis all over again and possibly needing to recirculate the document after errors are corrected, if new significant impacts are identified. (CEQA Guidelines § 15088.5(a).) At the same time, the air district's expert input can help the lead agency properly determine whether another commenter's request for additional analysis or studies is reasonable or feasible. Finally, the air district can provide input on what mitigation measures would be feasible and effective.

Therefore, we suggest that this Court provide guidance to lead agencies reminding them of the importance of consulting with the relevant air districts regarding these issues. Otherwise, their feasibility decisions may be vulnerable to air district evidence that establishes that there is no substantial evidence to support the lead agency decision not to provide specific analysis. (*See Berkeley Keep Jets Over the Bay*, *supra*, 91 Cal.App.4th 1344, 1369-1371.)

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guidelines would necessarily be continually modified to reflect new developments. Therefore we believe that, had the trial court not already ordered the lead agency to obtain the air district's views, the failure to give notice would have been prejudicial, as in *Fall River, supra,* 70 Cal.App.4th 482, 492.

CONCLUSION

The SCAQMD respectfully requests this Court *not* to establish a hard-and-fast rule concerning whether CEQA requires a lead agency to correlate identified air quality impacts of a project with resulting health outcomes. Moreover, the question of whether an EIR is "sufficient as an informational document" is a mixed question of fact and law containing two levels of inquiry. Whether a particular proposed analysis is feasible is predominantly a question of fact to be judged by the substantial evidence standard of review. Where the requested analysis is feasible, but the lead agency relies on legal or policy reasons not to provide it, the question of whether the EIR is nevertheless sufficient as an informational document is predominantly a question of law to be judged by the independent judgment standard of review.

Respectfully submitted,

DATED: April 3, 2015

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MANAGEMENT DISTRICT
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CERTIFICATE OF WORD COUNT

Pursuant to Rule 8.520(c)(1) of the California Rules of Court, I hereby certify that this brief contains 8,476 words, including footnotes, but excluding the Application, Table of Contents, Table of Authorities, Certificate of Service, this Certificate of Word Count, and signature blocks. I have relied on the word count of the Microsoft Word Vista program used to prepare this Certificate.

DATED: April 3, 2015 Respectfully submitted,

Barbara Baird

Barbara Baird

PROOF OF SERVICE

I am employed in the County of Los Angeles, California. I am over the age of 18 years and not a party to the within action. My business address is 21865 Copley Drive, Diamond Bar, California 91765.

On April 3, 2015 I served true copies of the following document(s) described as **APPLICATION OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT FOR LEAVE TO FILE BRIEF OF *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY AND *[PROPOSED]* BRIEF OF *AMICUS CURIAE*** by placing a true copy of the foregoing document(s) in a sealed envelope addressed as set forth on the attached service list as follows:

BY MAIL: I enclosed the document(s) in a sealed envelope or package addressed to the persons at the addresses listed in the Service List and placed the envelope for collection and mailing following our ordinary business practices. I am readily familiar with this District's practice for collection and processing of correspondence for mailing. Under that practice, the correspondence would be deposited with the United States Postal Service, with postage thereon fully prepaid at Diamond Bar, California, in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on April 3, 2015 at Diamond Bar, California.

Patricia Anderson

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