



**Birtcher Logistics Center Rialto
(MC2020-0031)
GREENHOUSE GAS ANALYSIS
CITY OF RIALTO**

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TABLE OF CONTENTS

TABLE OF CONTENTS	I
APPENDICES	II
LIST OF EXHIBITS	II
LIST OF TABLES	II
LIST OF ABBREVIATED TERMS	III
EXECUTIVE SUMMARY	1
ES.1 Summary of Findings.....	1
ES.2 Project Requirements	1
ES.3 Mitigation Measures.....	2
1 INTRODUCTION	5
1.1 Site Location.....	5
1.2 Project Description.....	5
2 CLIMATE CHANGE SETTING	9
2.1 Introduction to Global Climate Change (GCC)	9
2.2 Global Climate Change Defined	9
2.3 GHGs	9
2.4 Global Warming Potential.....	16
2.5 GHG Emissions Inventories	16
2.6 Effects of Climate Change in California.....	17
2.7 Regulatory Setting.....	19
3 PROJECT GHG IMPACT	41
3.1 Introduction	41
3.2 Standards of Significance	41
3.3 Models Employed To Analyze GHGs.....	41
3.4 Life-Cycle Analysis Not Required	41
3.5 Construction Emissions.....	42
3.6 Operational Emissions	44
3.7 GHG Emissions Findings and Recommendations.....	48
4 REFERENCES	57
5 CERTIFICATIONS	61

APPENDICES

- APPENDIX 3.1: CALEEMOD PROJECT CONSTRUCTION EMISSIONS MODEL OUTPUTS**
- APPENDIX 3.2: CALEEMOD EXISTING OPERATIONAL EMISSIONS MODEL OUTPUTS**
- APPENDIX 3.3: CALEEMOD PROJECT OPERATIONAL EMISSIONS MODEL OUTPUTS (WAREHOUSE)**
- APPENDIX 3.4: CALEEMOD PROJECT OPERATIONAL EMISSIONS MODEL OUTPUTS (COLD STORAGE)**

LIST OF EXHIBITS

EXHIBIT 1-A: LOCATION MAP	6
EXHIBIT 1-B: SITE PLAN	7
EXHIBIT 2-A: SUMMARY OF PROJECTED GLOBAL WARMING IMPACT, 2070-2099 (AS COMPARED WITH 1961-1990)	15

LIST OF TABLES

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS	1
TABLE 2-1: GHGS	10
TABLE 2-2: GWP AND ATMOSPHERIC LIFETIME OF SELECT GHGS	16
TABLE 2-3: TOP GHG PRODUCING COUNTRIES AND THE EUROPEAN UNION	17
TABLE 3-1: CONSTRUCTION DURATION	42
TABLE 3-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS	43
TABLE 3-3: AMORTIZED ANNUAL CONSTRUCTION EMISSIONS	44
TABLE 3-4: PASSENGER CAR FLEET MIX	45
TABLE 3-5: TRUCK FLEET MIX	46
TABLE 3-6: EMISSIONS FROM EXISTING DEVELOPMENT	48
TABLE 3-7: PROJECT GHG EMISSIONS	48
TABLE 3-7: 2017 SCOPING PLAN CONSISTENCY SUMMARY	49

LIST OF ABBREVIATED TERMS

%	Percent
°C	Degrees Celsius
°F	Degrees Fahrenheit
(1)	Reference
<i>2017 Scoping Plan</i>	<i>Final 2017 Scoping Plan Update</i>
AB	Assembly Bill
AB 32	Global Warming Solutions Act of 2006
AB 1493	Pavley Fuel Efficiency Standards
AB 1881	California Water Conservation Landscaping Act of 2006
Annex I	Industrialized Nations
APA	Administrative Procedure Act
AQIA	<i>Birtcher Logistics Center Rialto Air Quality Impact Analysis</i>
BAU	Business as Usual
C ₂ F ₆	Hexafluoroethane
C ₂ H ₆	Ethane
C ₂ H ₂ F ₄	Tetrafluoroethane
C ₂ H ₄ F ₂	Ethylidene Fluoride
CAA	Federal Clean Air Act
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CALGAPS	California LBNL GHG Analysis of Policies Spreadsheet
CALGreen	California Green Building Standards Code
CalSTA	California State Transportation Agency
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resource Board
CBSC	California Building Standards Commission
CEC	California Energy Commission
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
<i>CEQA Guidelines</i>	<i>2019 CEQA Statute and Guidelines</i>
CDFA	California Department of Food and Agriculture
CF ₄	Tetrafluoromethane
CFC	Chlorofluorocarbons
CFC-113	Trichlorotrifluoroethane

CH ₄	Methane
City	City of Rialto
CNRA	California Natural Resources Agency
<i>CNRA 2009</i>	<i>2009 California Climate Adaptation Strategy</i>
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
Convention	United Nation’s Framework Convention on Climate Change
COP	Conference of the Parties
CPUC	California Public Utilities Commission
CTC	California Transportation Commission
DOF	Department of Finance
DWR	Department of Water Resources
EMFAC	Emission Factor Model
EPA	Environmental Protection Agency
EV	Electric Vehicle
FED	Functional Equivalent Document
GCC	Global Climate Change
Gg	Gigagram
GHGA	Greenhouse Gas Analysis
GO-Biz	Governor’s Office of Business and Economic Development
gpd	Gallons Per Day
gpm	Gallons Per Minute
GWP	Global Warming Potential
H ₂ O	Water
HFC	Hydrofluorocarbons
HDT	Heavy-Duty Trucks
HFC-23	Fluoroform
HFC-134a	1,1,1,2-tetrafluoroethane
HFC-152a	1,1-difluoroethane
HHDT	Heavy-Heavy-Duty Trucks
hp	Horsepower
IBANK	California Infrastructure and Economic Development Bank
IPCC	Intergovernmental Panel on Climate Change
IRP	Integrated Resource Planning
ISO	Independent System Operator
ITE	Institute of Transportation Engineers
kWh	Kilowatt Hours
lbs	Pounds

LBNL	Lawrence Berkeley National Laboratory
LCA	Life-Cycle Analysis
LCD	Liquid Crystal Display
LCFS	Low Carbon Fuel Standard or Executive Order S-01-07
LDA	Light-Duty Auto
LDT1/LDT2	Light-Duty Trucks
LEV III	Low-Emission Vehicle
LHDT1/LHDT2	Light-Heavy-Duty Trucks
LULUCF	Land-Use, Land-Use Change and Forestry
MCY	Motorcycles
MD	Medium Duty
MDT	Medium-Duty Trucks
MDV	Medium-Duty Vehicles
MHDT	Medium-Heavy-Duty Trucks
MMR	Mandatory Reporting Rule
MMTCO _{2e}	Million Metric Ton of Carbon Dioxide Equivalent
mpg	Miles Per Gallon
MPOs	Metropolitan Planning Organizations
MMTCO _{2e} /yr	Million Metric Ton of Carbon Dioxide Equivalent Per Year
MT/yr	Metric Tons Per Year
MTCO _{2e}	Metric Ton of Carbon Dioxide Equivalent
MTCO _{2e} /yr	Metric Ton of Carbon Dioxide Equivalent Per Year
MW	Megawatts
MWh	Megawatts Per Hour
MWELO	California Department of Water Resources' Model Water Efficient
N ₂ O	Nitrous Oxide
NDC	Nationally Determined Contributions
NF ₃	Nitrogen Trifluoride
NHTSA	National Highway Traffic Safety Administration
NIOSH	National Institute for Occupational Safety and Health
NO _x	Nitrogen Oxides
Non-Annex I	Developing Nations
OAL	Office of Administrative Law
OPR	Office of Planning and Research
PFC	Perfluorocarbons
ppb	Parts Per Billion
ppm	Parts Per Million

ppt	Parts Per Trillion
Project	Birtcher Logistics Center Rialto
RMC	Riverside Municipal Code
RTP	Regional Transportation Plan
SAFE	Safer Affordable Fuel-Efficient Vehicles Rule
SB	Senate Bill
SB 32	California Global Warming Solutions Act of 2006
SB 375	Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies
SB 1078	Renewable Portfolio Standards
SB 1368	Statewide Retail Provider Emissions Performance Standards
SBTAM	San Bernardino Transportation Analysis Model
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
Scoping Plan	California Air Resources Board Climate Change Scoping Plan
SCS	Sustainable Communities Strategy
sf	Square Feet
SF ₆	Sulfur Hexafluoride
SGC	Strategic Growth Council
SHGC	Solar Heat Gain Coefficient
SLPS	Short-Lived Climate Pollutant Strategy
SP	Service Population
SWCRB	State Water Resources Control Board
Title 20	Appliance Energy Efficiency Standards
Title 24	California Building Code
U.N.	United Nations
U.S.	United States
UNFCCC	United Nations' Framework Convention on Climate Change
URBEMIS	Urban Emissions
UTR	Utility Tractors
VFP	Vehicle Fueling Positions
VMT	Vehicle Miles Traveled
WCI	Western Climate Initiative
WRCOG	Western Riverside Council of Governments
WRI	World Resources Institute

ZE/NZE
ZEV

Zero and Near-Zero Emissions
Zero-Emissions Vehicles

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Birtcher Logistics Center Rialto Greenhouse Gas Analysis* (GHGA) is summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines (CEQA Guidelines)* (1). Table ES-1, *Summary of CEQA Significance Findings*, shows the findings of significance for potential greenhouse gas (GHG) impacts under CEQA.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
GHG Impact #1: Would the Project generate GHG emissions either directly or indirectly, that may have a significant impact on the environment?	3.8	<i>Potentially Significant</i>	<i>Significant and Unavoidable</i>
GHG Impact #2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?	3.8	<i>Less Than Significant</i>	<i>n/a</i>

ES.2 PROJECT REQUIREMENTS

The Project would be required to comply with regulations imposed by the State of California and the South Coast Air Quality Management District (SCAQMD) aimed at the reduction of air pollutant emissions. Those that are directly and indirectly applicable to the Project and that would assist in the reduction of GHG emissions include:

- Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32) (2).
- Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies (Senate Bill [SB] 375) (3).
- Pavley Fuel Efficiency Standards (AB 1493). Establishes fuel efficiency ratings for new vehicles (4).
- California Building Code (Title 24 California Code of Regulations [CCR]). Establishes energy efficiency requirements for new construction (5).
- Appliance Energy Efficiency Standards (Title 20 CCR). Establishes energy efficiency requirements for appliances (6).
- Low Carbon Fuel Standard (LCFS). Requires carbon content of fuel sold in California to be 10 percent (%) less by 2020 (7).

- California Water Conservation in Landscaping Act of 2006 (AB 1881). Requires local agencies to adopt the Department of Water Resources updated Water Efficient Landscape Ordinance or equivalent by January 1, 2010 to ensure efficient landscapes in new development and reduced water waste in existing landscapes (8).
- Statewide Retail Provider Emissions Performance Standards (SB 1368). Requires energy generators to achieve performance standards for GHG emissions (9).
- Renewable Portfolio Standards (SB 1078 – also referred to as RPS). Requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20% by 2010 and 33% by 2020 (10).
- California Global Warming Solutions Act of 2006 (SB 32). Requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15 (11).

Promulgated regulations that would affect the Project’s emissions are accounted for in the Project’s GHG calculations provided in this report. In particular, AB 1493, LCFS, and RPS, and therefore are accounted for in the Project’s emission calculations.

ES.3 MITIGATION MEASURES

OPERATIONAL-SOURCE MITIGATION MEASURES

The Project would exceed regional thresholds of significance established by the SCAQMD. It is important to note that 88% of the Project’s GHG emissions are derived from heavy duty truck trips. The *Birtcher Logistics Center Rialto (MC2020-0031) Air Quality Impact Analysis Report (AQIA)* identifies the following mitigation measures (MM AQ-2 through MM AQ-7), which are designed to reduce the mobile-source operational emissions but will not be sufficient enough to reduce the GHG emissions to less than the significant impacts.

MM AQ-2

Require Operational Equipment to Turn Off When Not in Use. Building operators/tenants shall ensure (by contract specifications) that equipment, including heavy-duty equipment, motor vehicles, and portable equipment, will be turned off when not in use for more than 5 minutes. Truck idling shall not exceed 5 minutes in time. All facilities will post signs requiring that trucks shall not be left idling for more than 5 minutes pursuant to Title 13 of the California Code of Regulations, Section 2485, which limits idle times to not more than 5 minutes.

MM AQ-3

Incorporate EPA Smartway Features. The City will require building operators/tenants to ensure that haul trucks incorporate EPA Smartway features, as required by CARB. Project operators will maintain a daily log of incoming and outgoing haul trucks that are fitted with the combination of aerodynamic kits and low rolling resistance tires to reduce fuel consumption.

MM AQ-4

Incorporate Energy Efficiency in Vendor Trucks. The City will require building operators/tenants to encourage the vendor trucks to incorporate energy efficiency improvement features through

the Carl Moyer Program—including truck modernization, retrofits, and/or aerodynamic kits and low rolling resistance tires—to reduce fuel consumption.

MM AQ-5

Incorporate Electric Vehicle (EV) Charging Stations and Carpool Parking. The project will be designed to incorporate electric vehicle charging stations and a minimum of five carpool parking spaces at each building for employees and the public to use.

MM AQ-6

Provide Electric Interior Vehicles. All buildings will be designed to provide infrastructure to support use of electric-powered forklifts and/or other interior vehicles.

MM AQ-7

A Transportation Management Plan or similar mechanism shall be established by the Project Applicant. The TMA shall encourage and coordinate carpooling. The TMA shall advertise its services to the building occupants. The TMA shall offer transit incentives to employees and shall provide shuttle service to and from public transit, should a minimum of five (5) employees request and use such service from a transit stop at the same drop-off and/or pickup time. The TMA shall distribute public transportation information to its employees. The TMA shall provide electronic message board space for coordination rides.

FEASIBILITY OF ADDITIONAL MITIGATION MEASURES

As noted above, 88% of the mobile-source emissions derive from the operation of heavy-duty trucks (HDT). The CARB through its regulatory programs is aggressively reducing emissions from heavy duty vehicles through a combination of measures requiring the use of ultra-low sulfur diesel fuel, new emission standards, restrictions on idling, addition of post-combustion filter and catalyst equipment, and retrofits for diesel truck fleets. These programs are expected to result in significant reductions in emissions as they are fully implemented by 2023.

Federal and State agencies regulate and enforce vehicle emission standards. It is not feasible for the City of Rialto staff to effectively enforce a prohibition on trucks from entering the property that are otherwise permitted to operate in California and access other properties in the County, region, and State. Even if the City were to apply such a restriction, it would merely cause warehouse operators using truck fleets older than 2007/2010 to locate in another location in the SCAB where the restriction does not apply, thereby resulting in no improvement to regional air quality. Based on the regulatory changes discussed in Section 2.8, Regulatory Setting, most HDTs entering the project site will meet or exceed EPA 2007 and 2010 emission standards within a relatively short time after the Project becomes fully operational in 2023, and all such trucks entering the property will meet or exceed such standards by 2023. For instance, CARB projects that are approximately 50% of all instate heavy-heavy duty trucks (HHDT) will meet the 2010 engine standard in 2019. The percentage increases to 59% in 2020, 62% in 2021, 65% in 2022, and 90% by 2023 (12).

Since neither the Project Applicant nor the City have regulatory authority to control tailpipe emissions, no feasible mitigation measures exist that would reduce NO_x emissions to levels that are less-than-significant, thus NO_x emissions are considered significant and unavoidable.

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1 INTRODUCTION

This report presents the results of the GHGA prepared by Urban Crossroads, Inc., for the proposed Birtcher Logistics Center Rialto (Project). The purpose of this GHGA is to evaluate Project-related construction and operational emissions and determine the level of GHG impacts as a result of constructing and operating the Project.

1.1 SITE LOCATION

The Birtcher Logistics Center Rialto site is located at the northwest corner of Valley Boulevard and Willow Avenue in the City of Rialto, shown on Exhibit 1-A, *Location Map*. The nearest sensitive residential land use is located west of the Project site.

1.2 PROJECT DESCRIPTION

The Project is proposed to consist of a single 492,410 square foot (sf) warehouse building. For analytical purposes it is assumed that up to 20% of the Project (98,482 sf) could include a cold-storage component. It is anticipated that the Project would be developed in a single phase with an anticipated Opening Year of 2023. At the time this study was prepared the future tenants of the proposed Project were unknown. It is expected that the Project business operations would primarily be conducted within the enclosed buildings, except for traffic movement, parking, as well as loading and unloading of trucks at designated loading bays. This analysis includes a conservative assumption of on-site Project-related emission sources for potential future tenants, including architectural coatings, consumer products, landscape maintenance equipment, natural gas, electricity, mobile operations, and on-site cargo handling equipment. This analysis is intended to describe air quality impacts associated with the expected typical operational activities at the Project site. To present a conservative approach, this report assumes the Project would operate 24-hours daily for seven days per week.

EXHIBIT 1-A: LOCATION MAP

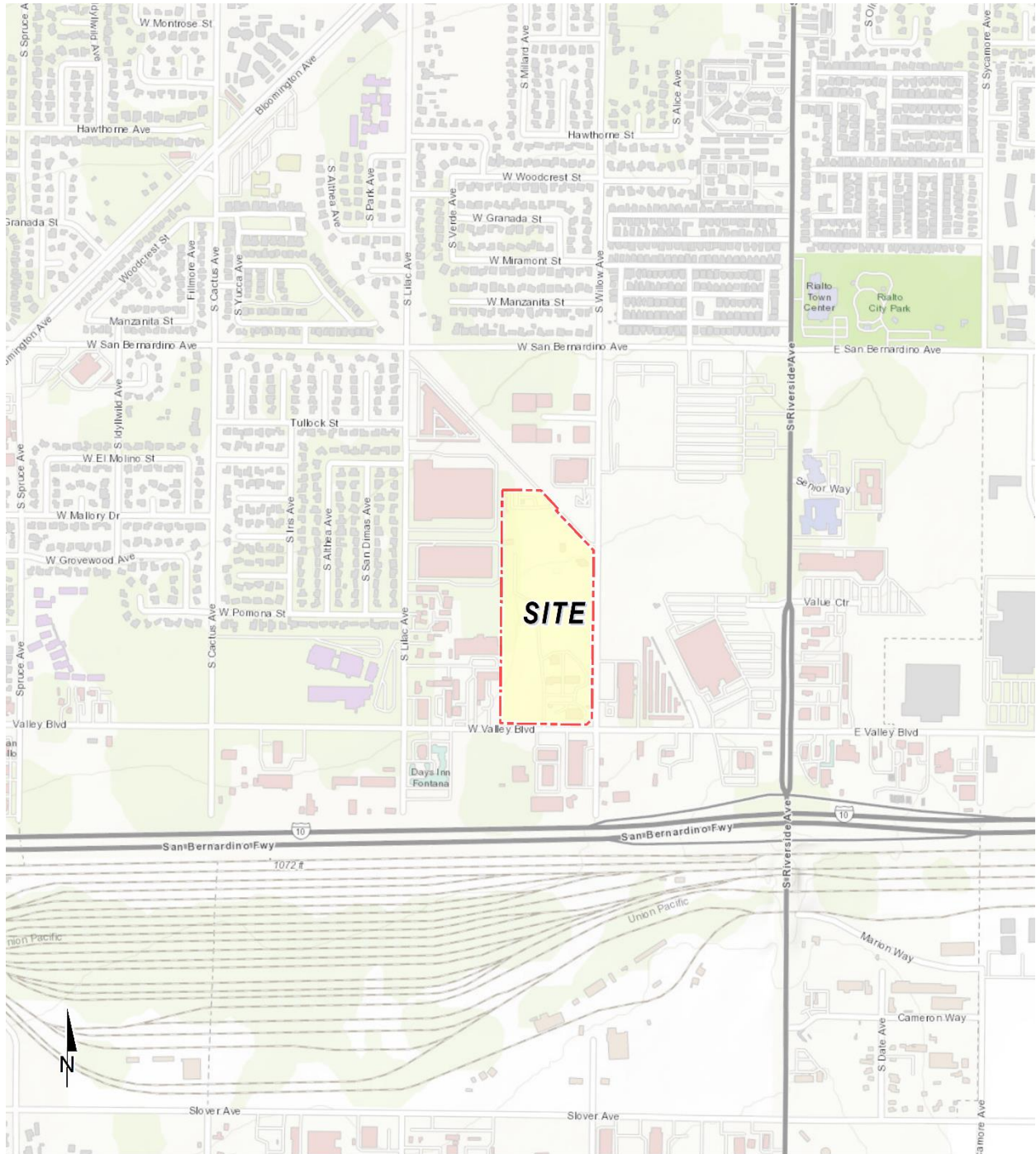
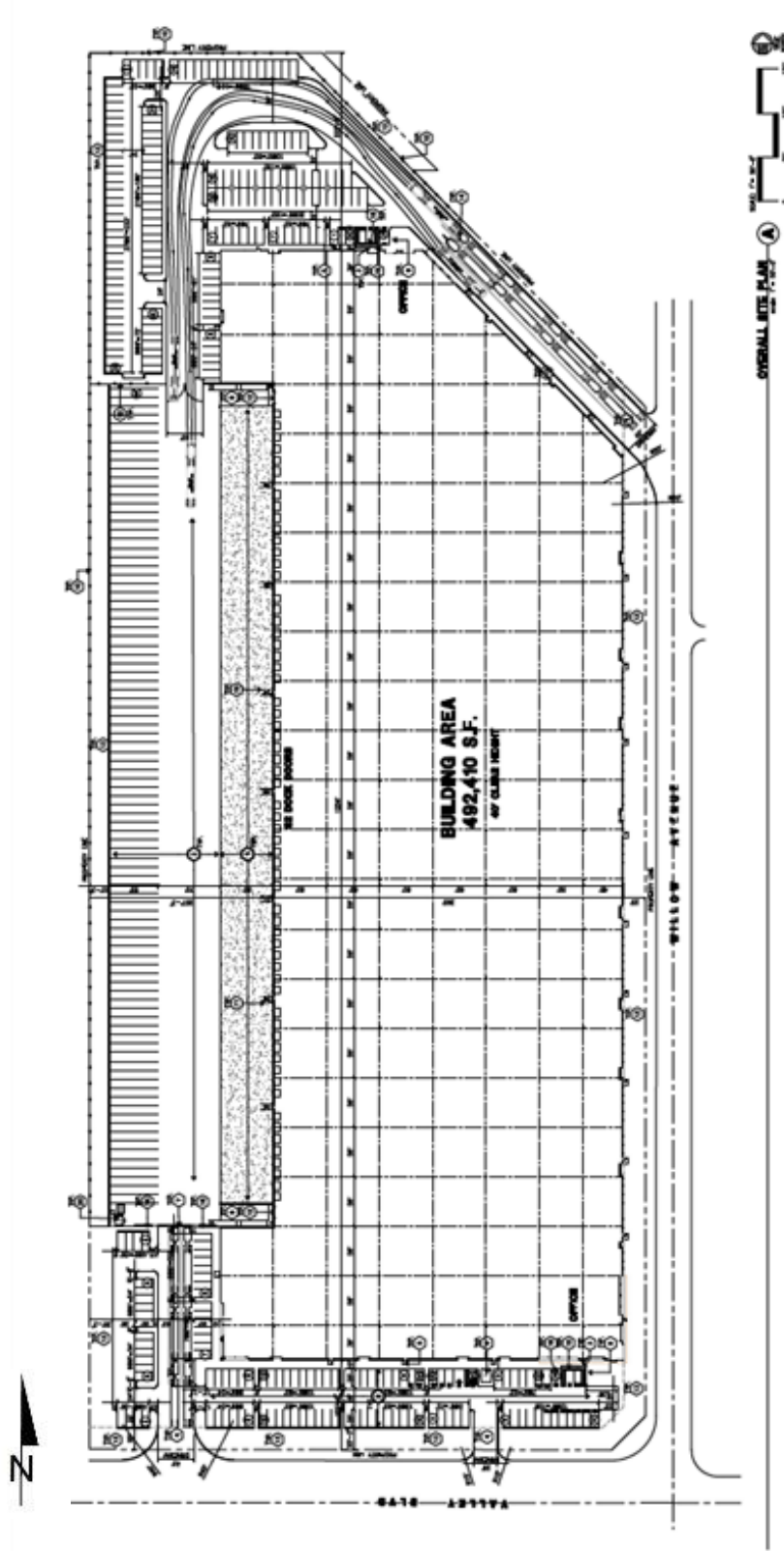


EXHIBIT 1-B: SITE PLAN



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2 CLIMATE CHANGE SETTING

2.1 INTRODUCTION TO GLOBAL CLIMATE CHANGE (GCC)

GCC is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed Project evaluated in this GHGA cannot generate enough GHG emissions to affect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, Section 3.0 will evaluate the potential for the proposed Project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

2.2 GLOBAL CLIMATE CHANGE DEFINED

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation, and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO₂, N₂O, CH₄, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth's atmosphere, but prevent radioactive heat from escaping, thus warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic activity. Without the natural GHG effect, the earth's average temperature would be approximately 61 degrees Fahrenheit (°F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

2.3 GHGs

2.3.1 GHGs AND HEALTH EFFECTS

GHGs trap heat in the atmosphere, creating a GHG effect that results in global warming and climate change. Many gases demonstrate these properties and as discussed in Table 2-1, *GHGs*. For the purposes of this analysis, emissions of CO₂, CH₄, and N₂O were evaluated (see Table 3-1 later in this report) because these gases are the primary contributors to GCC from development

projects. Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate these gases.

TABLE 2-1: GHGS

GHGs	Description	Sources	Health Effects
Water (H ₂ O)	<p>Water is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. A climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change.</p> <p>As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to ‘hold’ more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a “positive feedback loop.” The extent to which this positive feedback loop would continue is</p>	<p>The main source of water vapor is evaporation from the oceans (approximately 85%). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.</p>	<p>There are no known direct health effects related to water vapor at this time. It should be noted however that when some pollutants react with water vapor, the reaction forms a transport mechanism for some of these pollutants to enter the human body through water vapor.</p>

GHGs	Description	Sources	Health Effects
	<p>unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it would eventually condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the earth's surface and heat it up) (13).</p>		
<p>Carbon Dioxide (CO₂)</p>	<p>CO₂ is an odorless and colorless GHG. Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO₂ concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30%. Left unchecked, the concentration of CO₂ in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources (14).</p>	<p>CO₂ is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. CO₂ is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks (15).</p>	<p>Outdoor levels of CO₂ are not high enough to result in negative health effects.</p> <p>According to the National Institute for Occupational Safety and Health (NIOSH) high concentrations of CO₂ can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of CO₂ in the earth's atmosphere are estimated to be approximately 370 ppm, the actual reference exposure level (level at which adverse health effects typically occur) is at exposure levels of 5,000 ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of 30,000 ppm averaged over a 15 minute period (16).</p>

GHGs	Description	Sources	Health Effects
Methane (CH ₄)	CH ₄ is an extremely effective absorber of radiation, although its atmospheric concentration is less than CO ₂ and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs.	CH ₄ has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH ₄ . Other anthropogenic sources include fossil-fuel combustion and biomass burning (17).	CH ₄ is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Exposure to high levels of CH ₄ can cause asphyxiation, loss of consciousness, headache and dizziness, nausea and vomiting, weakness, loss of coordination, and an increased breathing rate.
Nitrous Oxide (N ₂ O)	N ₂ O, also known as laughing gas, is a colorless GHG. Concentrations of N ₂ O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb).	N ₂ O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, i.e., in whipped cream	N ₂ O can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage) (18).

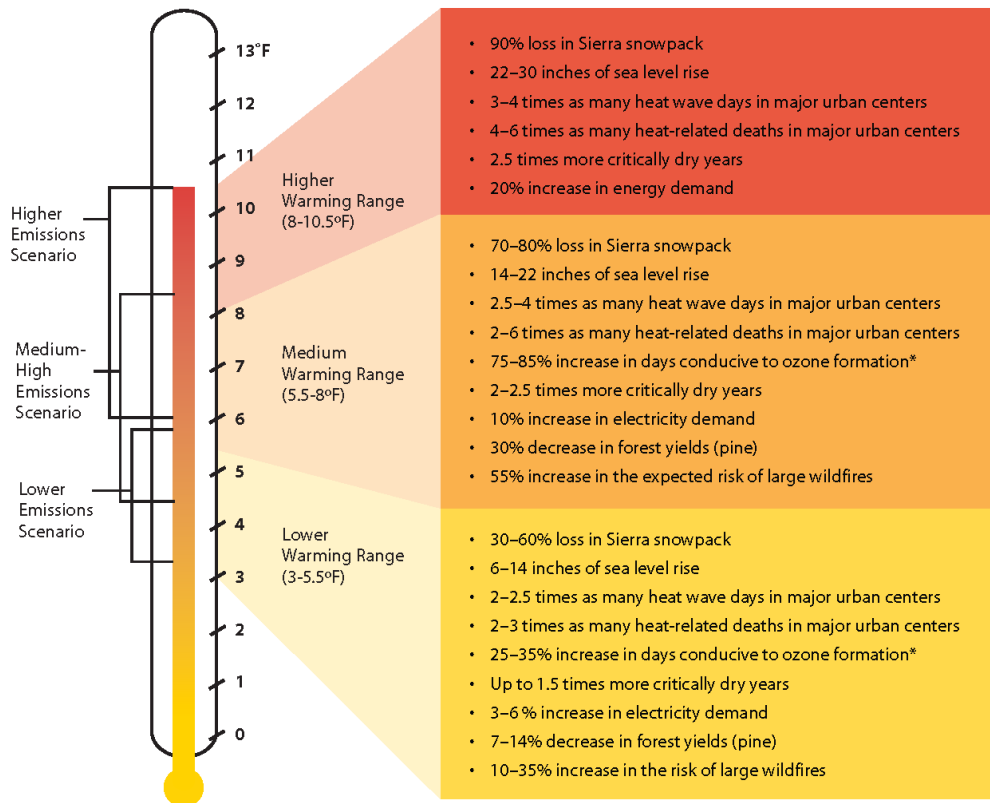
GHGs	Description	Sources	Health Effects
		<p>bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. N₂O can be transported into the stratosphere, be deposited on the earth's surface, and be converted to other compounds by chemical reaction (18).</p>	
<p>Chlorofluorocarbons (CFCs)</p>	<p>CFCs are gases formed synthetically by replacing all hydrogen atoms in CH₄ or ethane (C₂H₆) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the earth's surface).</p>	<p>CFCs have no natural source but were first synthesized in 1928. They were used for refrigerants, aerosol propellants and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs would remain in the atmosphere for over 100 years (19).</p>	<p>In confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.</p>

GHGs	Description	Sources	Health Effects
Hydroflourocarbons (HFCs)	HFCs are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential (GWP). The HFCs with the largest measured atmospheric abundances are (in order), Fluoroform (HFC-23), 1,1,1,2-tetrafluoroethane (HFC-134a), and 1,1-difluoroethane (HFC-152a). Prior to 1990, the only significant emissions were of HFC-23. HCF-134a emissions are increasing due to its use as a refrigerant.	HFCs are manmade for applications such as automobile air conditioners and refrigerants.	No health effects are known to result from exposure to HFCs.
Perfluorocarbons (PFCs)	PFCs have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above earth's surface, are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF ₄) and hexafluoroethane (C ₂ F ₆). The EPA estimates that concentrations of CF ₄ in the atmosphere are over 70 parts per trillion (ppt).	The two main sources of PFCs are primary aluminum production and semiconductor manufacture.	No health effects are known to result from exposure to PFCs.
Sulfur Hexafluoride (SF ₆)	SF ₆ is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (23,900) (20). The EPA indicates that concentrations in the 1990s were about 4 ppt.	SF ₆ is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.	In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.

GHGs	Description	Sources	Health Effects
Nitrogen Trifluoride (NF ₃)	NF ₃ is a colorless gas with a distinctly moldy odor. The World Resources Institute (WRI) indicates that NF ₃ has a 100-year GWP of 17,200 (21).	NF ₃ is used in industrial processes and is produced in the manufacturing of semiconductors, Liquid Crystal Display (LCD) panels, types of solar panels, and chemical lasers.	Long-term or repeated exposure may affect the liver and kidneys and may cause fluorosis (22).

The potential health effects related directly to the emissions of CO₂, CH₄, and N₂O as they relate to development projects such as the proposed Project are still being debated in the scientific community. Their cumulative effects to GCC have the potential to cause adverse effects to human health. Increases in Earth’s ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport that higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change would likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas (23). Exhibit 2-A, *Summary of Projected Global Warming Impact, 2070-2099 (As Compared with 1961-1990)*, presents the potential impacts of global warming (24).

EXHIBIT 2-A: SUMMARY OF PROJECTED GLOBAL WARMING IMPACT, 2070-2099 (AS COMPARED WITH 1961-1990)



* For high ozone locations in Los Angeles (Riverside) and the San Joaquin Valley (Visalia)

Source: Barbara H. Allen-Diaz. "Climate change affects us all." *University of California, Agriculture and Natural Resources*, 2009.

2.4 GLOBAL WARMING POTENTIAL

GHGs have varying GWP values. GWP of a GHG indicates the amount of warming a gas causes over a given period of time and represents the potential of a gas to trap heat in the atmosphere. CO₂ is utilized as the reference gas for GWP, and thus has a GWP of 1. CO₂ equivalent (CO₂e) is a term used for describing the difference GHGs in a common unit. CO₂e signifies the amount of CO₂ which would have the equivalent GWP.

The atmospheric lifetime and GWP of selected GHGs are summarized in Table 2-2, *GWP and Atmospheric Lifetime of Select GHGs*. As shown in the table below, GWP for the 2nd Assessment Report, the Intergovernmental Panel on Climate Change (IPCC)'s scientific and socio-economic assessment, range from 1 for CO₂ to 23,900 for SF₆ and GWP for the IPCC's 5th Assessment Report range from 1 for CO₂ to 23,500 for SF₆ (25).

TABLE 2-2: GWP AND ATMOSPHERIC LIFETIME OF SELECT GHGS

Gas	Atmospheric Lifetime (years)	GWP (100-year time horizon)	
		2 nd Assessment Report	5 th Assessment Report
CO ₂	See*	1	1
CH ₄	12 .4	21	28
N ₂ O	121	310	265
HFC-23	222	11,700	12,400
HFC-134a	13.4	1,300	1,300
HFC-152a	1.5	140	138
SF ₆	3,200	23,900	23,500

*As per Appendix 8.A. of IPCC's 5th Assessment Report, no single lifetime can be given.

Source: Table 2.14 of the IPCC Fourth Assessment Report, 2007

2.5 GHG EMISSIONS INVENTORIES

2.5.1 GLOBAL

Worldwide anthropogenic GHG emissions are tracked by the IPCC for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Human GHG emissions data for Annex I nations are available through 2018. Based on the latest available data, the sum of these emissions totaled approximately 28,768,440 gigagram (Gg) CO₂e¹ (26) (27) as summarized on Table 2-3, *Top GHG Producing Countries and The European Union*.

¹ The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2018 data, the United Nations' Framework Convention on Climate Change (UNFCCC) data for the most recent year were used U.N. Framework Convention on Climate Change, "Annex I Parties – GHG total without LULUCF," The most recent GHG emissions for China and India are from 2014 and 2010, respectively.

2.5.2 UNITED STATES

As noted in Table 2-3, the United States, as a single country, was the number two producer of GHG emissions in 2018.

TABLE 2-3: TOP GHG PRODUCING COUNTRIES AND THE EUROPEAN UNION ²

Emitting Countries	GHG Emissions (Gg CO ₂ e)
China	12,300,200
United States	6,676,650
European Union (28-member countries)	4,232,274
Russian Federation	2,220,123
India	2,100,850
Japan	1,238,343
Total	28,768,440

2.5.3 STATE OF CALIFORNIA

California has significantly slowed the rate of growth of GHG emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls but is still a substantial contributor to the United States (U.S.) emissions inventory total (28). The California Air Resource Board (CARB) compiles GHG inventories for the State of California. Based upon the 2019 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2018 GHG emissions period, California emitted an average 425.3 million metric tons of CO₂e per year (MMTCO₂e/yr) or 425,320 Gg CO₂e (6.37% of the total United States GHG emissions) (29).

2.6 EFFECTS OF CLIMATE CHANGE IN CALIFORNIA

2.6.1 PUBLIC HEALTH

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35% under the lower warming range to 75 to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. Based on *Our Changing Climate Assessing the Risks to California by the California Climate Change Center*, large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced (30).

In addition, under the higher warming range scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large

² Used <http://unfccc.int> data for Annex I countries. Consulted the CAIT Climate Data Explorer in <https://www.climatewatchdata.org> site to reference Non-Annex I countries of China and India.

increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

2.6.2 WATER RESOURCES

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90%. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

2.6.3 AGRICULTURE

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25% of the water supply needed. Although higher CO₂ levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits, and nuts.

In addition, continued GCC could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued GCC could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

2.6.4 FORESTS AND LANDSCAPES

GCC has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks would not be uniform throughout the state. In contrast, wildfires in northern California could increase by up to 90% due to decreased precipitation.

Moreover, continued GCC has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80% by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of GCC.

2.6.5 RISING SEA LEVELS

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12-14 inches.

2.7 REGULATORY SETTING

2.7.1 INTERNATIONAL

Climate change is a global issue involving GHG emissions from all around the world; therefore, countries such as the ones discussed below have made an effort to reduce GHGs.

IPCC

In 1988, the United Nations (U.N.) and the World Meteorological Organization established the IPCC to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

UNITED NATION'S FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

On March 21, 1994, the U.S. joined a number of countries around the world in signing the Convention. Under the UNFCCC, governments gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

INTERNATIONAL CLIMATE CHANGE TREATIES

The Kyoto Protocol is an international agreement linked to the UNFCCC. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions at an average of 5% against 1990 levels over the five-year period 2008–2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of “common but differentiated responsibilities.”

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the UN Climate Change Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2 degrees Celsius (°C) above pre-industrial levels, subject to a review in 2015. The Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings gradually gained consensus among participants on individual climate change issues.

On September 23, 2014, more than 100 Heads of State and Government and leaders from the private sector and civil society met at the Climate Summit in New York hosted by the U.N. At the Summit, heads of government, business and civil society announced actions in areas that would have the greatest impact on reducing emissions, including climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience.

Parties to the UNFCCC reached a landmark agreement on December 12, 2015 in Paris, charting a fundamentally new course in the two-decade-old global climate effort. Culminating a four-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and to strengthen them in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts and undergo international review.

The agreement and a companion decision by parties were the key outcomes of the conference, known as the 21st session of the UNFCCC Conference of the Parties (COP) 21. Together, the Paris Agreement and the accompanying COP decision:

- Reaffirm the goal of limiting global temperature increase well below 2°C, while urging efforts to limit the increase to 1.5 degrees;
- Establish binding commitments by all parties to make “nationally determined contributions” (NDCs), and to pursue domestic measures aimed at achieving them;
- Commit all countries to report regularly on their emissions and “progress made in implementing and achieving” their NDCs, and to undergo international review;
- Commit all countries to submit new NDCs every five years, with the clear expectation that they would “represent a progression” beyond previous ones;
- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too;
- Extend the current goal of mobilizing \$100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025;
- Extend a mechanism to address “loss and damage” resulting from climate change, which explicitly would not “involve or provide a basis for any liability or compensation;”
- Require parties engaging in international emissions trading to avoid “double counting;” and
- Call for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to be counted toward another country’s NDC (C2ES 2015a) (31).

On November 4, 2019, the Trump administration formally notified the U.N. that the United States would withdraw from the Paris Agreement. This withdrawal was effective one year after notification in 2020.

2.7.2 NATIONAL

Prior to the last decade, there have been no concrete federal regulations of GHGs or major planning for climate change adaptation. The following are actions regarding the federal government, GHGs, and fuel efficiency.

GHG ENDANGERMENT

In *Massachusetts v. Environmental Protection Agency* 549 U.S. 497 (2007), decided on April 2, 2007, the United States Supreme Court (Supreme Court) found that four GHGs, including CO₂, are air pollutants subject to regulation under Section 202(a)(1) of the Clean Air Act (CAA). The Supreme Court held that the EPA Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the CAA:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs— CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆—in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section “Clean Vehicles” below. After a lengthy legal challenge, the Supreme Court declined to review an Appeals Court ruling that upheld the EPA Administrator’s findings (32).

CLEAN VEHICLES

Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the U.S. On April 1, 2010, the EPA and the Department of Transportation’s National Highway Traffic Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the U.S.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty (MD) passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO₂ per mile, equivalent to 35.5 miles per gallon (mpg) if the automobile industry were to meet this CO₂ level solely through fuel economy improvements. Together, these standards would cut CO₂ emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the NHTSA issued final rules on a second-phase joint rulemaking establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012. The new standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and MD passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of CO₂ in model year 2025, which is equivalent to 54.5 mpg if achieved exclusively through fuel economy improvements.

The EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks (HDT) and buses on September 15, 2011, effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20% reduction in CO₂ emissions and fuel consumption by the 2018 model year. For HDT and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10% reduction for gasoline vehicles and a 15% reduction for diesel vehicles by the 2018 model year (12 and 17% respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle

standards would achieve up to a 10% reduction in fuel consumption and CO₂ emissions from the 2014 to 2018 model years.

On April 2, 2018, the EPA signed the Mid-term Evaluation Final Determination, which declared that the MY 2022-2025 GHG standards are not appropriate and should be revised (33). This Final Determination serves to initiate a notice to further consider appropriate standards for MY 2022-2025 light-duty vehicles. On August 2, 2018, the NHTSA in conjunction with the EPA, released a notice of proposed rulemaking, the *Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks* (SAFE Vehicles Rule). The SAFE Vehicles Rule was proposed to amend existing Corporate Average Fuel Economy (CAFE) and tailpipe CO₂ standards for passenger cars and light trucks and to establish new standards covering model years 2021 through 2026. As of March 31, 2020, the NHTSA and EPA finalized the SAFE Vehicle Rule which increased stringency of CAFE and CO₂ emissions standards by 1.5% each year through model year 2026 (34).

MANDATORY REPORTING OF GHGS

The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of GHGs Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the U.S. and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons per year (MT/yr) or more of GHG emissions are required to submit annual reports to the EPA.

NEW SOURCE REVIEW

The EPA issued a final rule on May 13, 2010, that establishes thresholds for GHGs that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule “tailors” the requirements of these CAA permitting programs to limit which facilities would be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the Federal Code of Regulations, the EPA states:

“This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the CAA, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to GHG sources, starting with the largest GHG emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources but excludes certain smaller sources from Prevention of Significant

Deterioration and Title V permitting for GHG emissions until at least April 30, 2016.”

The EPA estimates that facilities responsible for nearly 70% of the national GHG emissions from stationary sources would be subject to permitting requirements under this rule. This includes the nation’s largest GHG emitters—power plants, refineries, and cement production facilities.

STANDARDS OF PERFORMANCE FOR GHG EMISSIONS FOR NEW STATIONARY SOURCES: ELECTRIC UTILITY GENERATING UNITS

As required by a settlement agreement, the EPA proposed new performance standards for emissions of CO₂ for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatts (MW) would be required to meet an output-based standard of 1,000 pounds (lbs) of CO₂ per MW-hour (MWh), based on the performance of widely used natural gas combined cycle technology. It should be noted that on February 9, 2016, the Supreme Court issued a stay of this regulation pending litigation. Additionally, the current EPA Administrator has also signed a measure to repeal the Clean Power Plan, including the CO₂ standards. The Clean Power Plan was officially repealed on June 19, 2019, when the EPA issued the final Affordable Clean Energy rule (ACE). Under ACE, new state emission guidelines were established that provided existing coal-fired electric utility generating units with achievable standards.

CAP-AND-TRADE

Cap-and-trade refers to a policy tool where emissions are limited to a certain amount and can be traded or provides flexibility on how the emitter can comply. Successful examples in the U.S. include the Acid Rain Program and the N₂O Budget Trading Program and Clean Air Interstate Rule in the northeast. There is no federal GHG cap-and-trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap-and-trade.

The Regional GHG Initiative is an effort to reduce GHGs among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps CO₂ emissions from power plants, auctions CO₂ emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008 and in 2020 has retained all participating states.

The Western Climate Initiative (WCI) partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15% below 2005 levels by 2020. The partners were originally California, British Columbia, Manitoba, Ontario, and Quebec. However, Manitoba and Ontario are not currently participating. California linked with Quebec’s cap-and-trade system January 1, 2014, and joint offset auctions took place in 2015. While the WCI has yet to publish whether it has successfully reached the 2020 emissions goal initiative set in 2007, SB 32 requires that California, a major partner in the WCI, adopt the goal of reducing statewide GHG emissions to 40% below the 1990 level by 2030.

SMARTWAY PROGRAM

The SmartWay Program is a public-private initiative between the EPA, large and small trucking companies, rail carriers, logistics companies, commercial manufacturers, retailers, and other federal and state agencies. Its purpose is to improve fuel efficiency and the environmental performance (reduction of both GHG emissions and air pollution) of the goods movement supply chains. SmartWay is comprised of four components (35):

1. SmartWay Transport Partnership: A partnership in which freight carriers and shippers commit to benchmark operations, track fuel consumption, and improve performance annually.
2. SmartWay Technology Program: A testing, verification, and designation program to help freight companies identify equipment, technologies, and strategies that save fuel and lower emissions.
3. SmartWay Vehicles: A program that ranks light-duty cars and small trucks and identifies superior environmental performers with the SmartWay logo.
4. SmartWay International Interests: Guidance and resources for countries seeking to develop freight sustainability programs modeled after SmartWay.

SmartWay effectively refers to requirements geared towards reducing fuel consumption. Most large trucking fleets driving newer vehicles are compliant with SmartWay design requirements. Moreover, over time, all HDTs would have to comply with the CARB GHG Regulation that is designed with the SmartWay Program in mind, to reduce GHG emissions by making them more fuel-efficient. For instance, in 2015, 53 foot or longer dry vans or refrigerated trailers equipped with a combination of SmartWay-verified low-rolling resistance tires and SmartWay-verified aerodynamic devices would obtain a total of 10% or more fuel savings over traditional trailers.

Through the SmartWay Technology Program, the EPA has evaluated the fuel saving benefits of various devices through grants, cooperative agreements, emissions and fuel economy testing, demonstration projects and technical literature review. As a result, the EPA has determined the following types of technologies provide fuel saving and/or emission reducing benefits when used properly in their designed applications, and has verified certain products:

- Idle reduction technologies allow less idling of the engine when it is not needed and thus reduces fuel consumption.
- Aerodynamic technologies minimize drag and improve airflow over the entire tractor-trailer vehicle. Aerodynamic technologies include gap fairings that reduce turbulence between the tractor and trailer, side skirts that minimize wind under the trailer, and rear fairings that reduce turbulence and pressure drop at the rear of the trailer.
- Low rolling resistance tires can roll longer without slowing down, thereby reducing the amount of fuel used. Rolling resistance (or rolling friction or rolling drag) is the force resisting the motion when a tire rolls on a surface. The wheel would eventually slow down because of this resistance.
- Retrofit technologies include things such as diesel particulate filters, emissions upgrades (to a higher tier), etc., which would reduce emissions.
- Federal excise tax exemptions.

2.7.3 CALIFORNIA

2.7.3.1 LEGISLATIVE ACTIONS TO REDUCE GHGs

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation such as the landmark AB 32 was specifically enacted to address GHG emissions. Other legislation such as Title 24 and Title 20 energy standards were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

AB 32

The California State Legislature enacted AB 32, which required that GHGs emitted in California be reduced to 1990 levels by the year 2020 (this goal has been met³). GHGs as defined under AB 32 include CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆. Since AB 32 was enacted, a seventh chemical, NF₃, has also been added to the list of GHGs. CARB is the state agency charged with monitoring and regulating sources of GHGs. Pursuant to AB 32, CARB adopted regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 states the following:

“Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.”

SB 375

On September 30, 2008, SB 375 was signed by Governor Schwarzenegger. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40% of the total GHG emissions in California. SB 375 states, “Without improved land use and transportation policy, California would not be able to achieve the goals of AB 32.” SB 375 does the following: it (1) requires metropolitan planning organizations (MPOs) to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

SB 375 requires MPOs to prepare a Sustainable Communities Strategy (SCS) within the Regional Transportation Plan (RTP) that guides growth while taking into account the transportation, housing, environmental, and economic needs of the region. SB 375 uses CEQA streamlining as an incentive to encourage residential projects, which help achieve AB 32 goals to reduce GHG

³ Based upon the 2019 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2017 GHG emissions period, California emitted an average 424.1 MMTCO₂e (29). This is less than the 2020 emissions target of 431 MMTCO₂e.

emissions. Although SB 375 does not prevent CARB from adopting additional regulations, such actions are not anticipated in the foreseeable future.

Concerning CEQA, SB 375, as codified in Public Resources Code Section 21159.28, states that CEQA findings for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts, or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network, if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that CARB accepts as achieving the GHG emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
3. Incorporates the MMs required by an applicable prior environmental document.

AB 1493 - Pavley Fuel Efficiency Standards

Enacted on July 22, 2002, California AB 1493, also known as the Pavley Fuel Efficiency Standards, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phase in during the 2009 through 2016 MY. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program (LEV III) or the Advanced Clean Cars (ACC) program. The ACC program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for MY 2017 through 2025. The regulation would reduce GHGs from new cars by 34% from 2016 levels by 2025. The new rules would clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles (EV) and hydrogen fuel cell cars. The package would also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015 (SB 350)

In October 2015, the legislature approved, and Governor Jerry Brown signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for EV charging stations. Provisions for a 50% reduction in the use of petroleum statewide were removed from

the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 25% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target would be achieved through the California Public Utilities Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which would facilitate the growth of renewable energy markets in the western United States.

SB 32

On September 8, 2016, Governor Brown signed SB 32 and its companion bill, AB 197. SB 32 requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80% below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature (11).

CARB SCOPING PLAN UPDATE

In November 2017, CARB released the *Final 2017 Scoping Plan Update (2017 Scoping Plan)*, which identifies the State's post-2020 reduction strategy. The *2017 Scoping Plan* reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Key programs that the proposed Second Update builds upon include the Cap-and-Trade Regulation, the LCFS, and much cleaner cars, trucks, and freight movement, utilizing cleaner, renewable energy, and strategies to reduce CH₄ emissions from agricultural and other wastes.

The *2017 Scoping Plan* establishes a new emissions limit of 260 MMTCO₂e for the year 2030, which corresponds to a 40% decrease in 1990 levels by 2030 (36).

California's climate strategy would require contributions from all sectors of the economy, including the land base, and would include enhanced focus on zero and near-zero emission (ZE/NZE) vehicle technologies; continued investment in renewables, including solar roofs, wind, and other distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (CH₄, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries would further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California's local air pollution control and air quality management districts (air districts) to tighten emission limits on a broad spectrum of industrial sources. Major elements of the *2017 Scoping Plan* framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing zero-emission vehicles (ZEV) buses and trucks.
- LCFS, with an increased stringency (18% by 2030).
- Implementing SB 350, which expands the RPS to 50% RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing CH₄ and HCF emissions by 40% and anthropogenic black carbon emissions by 50% by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20% reduction in GHG emissions from refineries by 2030.
- Development of a Natural and Working Lands Action Plan to secure California’s land base as a net carbon sink.

Note, however, that the *2017 Scoping Plan* acknowledges that:

“[a]chieving net zero increases in GHG emissions, resulting in no contribution to GHG impacts, may not be feasible or appropriate for every project, however, and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA.”

In addition to the statewide strategies listed above, the *2017 Scoping Plan* also identifies local governments as essential partners in achieving the State’s long-term GHG reduction goals and identifies local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends that local governments achieve a community-wide goal to achieve emissions of no more than 6 metric tons of CO₂e (MTCO₂e) or less per capita by 2030 and 2 MTCO₂e or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidence-based bright-line numeric thresholds—consistent with the *2017 Scoping Plan* and the State’s long-term GHG goals—and projects with emissions over that amount may be required to incorporate on-site design features and MMs that avoid or minimize project emissions to the degree feasible; or a performance-based metric using a CAP or other plan to reduce GHG emissions is appropriate.

According to research conducted by the Lawrence Berkeley National Laboratory (LBNL) and supported by CARB, California, under its existing and proposed GHG reduction policies, could achieve the 2030 goals under SB 32. The research utilized a new, validated model known as the California LBNL GHG Analysis of Policies Spreadsheet (CALGAPS), which simulates GHG and criteria pollutant emissions in California from 2010 to 2050 in accordance to existing and future GHG-reducing policies. The CALGAPS model showed that by 2030, emissions could range from 211 to 428 MTCO₂e per year (MTCO₂e/yr), indicating that “even if all modeled policies are not implemented, reductions could be sufficient to reduce emissions 40% below the 1990 level [of SB 32].” CALGAPS analyzed emissions through 2050 even though it did not generally account for

policies that might be put in place after 2030. Although the research indicated that the emissions would not meet the State’s 80% reduction goal by 2050, various combinations of policies could allow California’s cumulative emissions to remain very low through 2050 (37) (38).

CAP-AND-TRADE PROGRAM

The *2017 Scoping Plan* identifies a Cap-and-Trade Program as one of the key strategies for California to reduce GHG emissions. According to CARB, a cap-and-trade program would help put California on the path to meet its goal of achieving a 40% reduction in GHG emissions from 1990 levels by 2030. Under cap-and-trade, an overall limit on GHG emissions from capped sectors is established, and facilities subject to the cap would be able to trade permits to emit GHGs within the overall limit.

CARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32. The Cap-and-Trade Program is designed to reduce GHG emissions from regulated entities by more than 16% between 2013 and 2020, and by an additional 40% by 2030. The statewide cap for GHG emissions from the capped sectors (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and would decline over time, achieving GHG emission reductions throughout the program’s duration.

Covered entities that emit more than 25,000 MTCO₂e/yr must comply with the Cap-and-Trade Program. Triggering of the 25,000 MTCO₂e/yr “inclusion threshold” is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of GHG Emissions (Mandatory Reporting Rule or “MRR”).

Under the Cap-and-Trade Program, CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits. Each covered entity with a compliance obligation is required to surrender “compliance instruments” for each MTCO₂e of GHG they emit. There also are requirements to surrender compliance instruments covering 30% of the prior year’s compliance obligation by November of each year (39).

The Cap-and-Trade Program provides a firm cap, which provides the highest certainty of achieving the 2030 target. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. As summarized by CARB in the *First Update to the Climate Change Scoping Plan*:

“The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions

is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative.” (40)

The Cap-and-Trade Program covers approximately 80% of California’s GHG emissions (36). The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects’ electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program’s first compliance period. The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported.

2.7.3.2 EXECUTIVE ORDERS RELATED TO GHG EMISSIONS

California’s Executive Branch has taken several actions to reduce GHGs through the use of Executive Orders. Although not regulatory, they set the tone for the state and guide the actions of state agencies.

EXECUTIVE ORDER S-3-05

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80% below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that would stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

EXECUTIVE ORDER S-01-07 (LCFS)

Governor Schwarzenegger signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California’s transportation fuels by at least 10% by 2020. CARB adopted the LCFS on April 23, 2009.

The LCFS was challenged in the U.S. District Court in Fresno in 2011. The court’s ruling issued on December 29, 2011, included a preliminary injunction against CARB’s implementation of the rule. The Ninth Circuit Court of Appeals stayed the injunction on April 23, 2012, pending final ruling on appeal, allowing CARB to continue to implement and enforce the regulation. The Ninth Circuit Court’s decision, filed September 18, 2013, vacated the preliminary injunction. In essence, the court held that LCFS adopted by CARB were not in conflict with federal law. On August 8, 2013, the Fifth District Court of Appeal (California) ruled CARB failed to comply with CEQA and the Administrative Procedure Act (APA) when adopting regulations for LCFS. In a partially published opinion, the Court of Appeal reversed the trial court’s judgment and directed issuance of a writ

of mandate setting aside Resolution 09-31 and two executive orders of CARB approving LCFS regulations promulgated to reduce GHG emissions. However, the court tailored its remedy to protect the public interest by allowing the LCFS regulations to remain operative while CARB complies with the procedural requirements it failed to satisfy.

To address the Court ruling, CARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon intensity fuels, offer additional flexibility to regulated parties, update critical technical information, simplify, and streamline program operations, and enhance enforcement. On November 16, 2015, the Office of Administrative Law (OAL) approved the Final Rulemaking Package. The new LCFS regulation became effective on January 1, 2016.

In 2018, CARB approved amendments to the regulation, which included strengthening the carbon intensity benchmarks through 2030 in compliance with the SB 32 GHG emissions reduction target for 2030. The amendments included crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector (41).

EXECUTIVE ORDER S-13-08

Executive Order S-13-08 states that “climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California’s economy, to the health and welfare of its population and to its natural resources.” Pursuant to the requirements in the Order, the *2009 California Climate Adaptation Strategy (CNRA 2009)* was adopted, which is the “...first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States.” Objectives include analyzing risks of climate change in California, identifying, and exploring strategies to adapt to climate change, and specifying a direction for future research.

EXECUTIVE ORDER B-30-15

On April 29, 2015, Governor Brown issued an executive order to establish a California GHG reduction target of 40% below 1990 levels by 2030. The Governor’s executive order aligned California’s GHG reduction targets with those of leading international governments ahead of the U.N. Climate Change Conference in Paris late 2015. The Order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40% below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80% below 1990 levels by 2050 and directs CARB to update the *2017 Scoping Plan* to express the 2030 target in terms of MMTCO₂e. The Order also requires the state’s climate adaptation plan to be updated every three years, and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this Order is not legally enforceable as to local governments and the private sector. Legislation that would update AB 32 to make post 2020 targets and requirements a mandate is in process in the State Legislature.

EXECUTIVE ORDER B-55-18 AND SB 100

SB 100 and Executive Order B-55-18 were signed by Governor Brown on September 10, 2018. Under the existing RPS, 25% of retail sales of electricity are required to be from renewable sources by December 31, 2016, 33% by December 31, 2020, 40% by December 31, 2024, 45% by December 31, 2027, and 50% by December 31, 2030. SB 100 raises California's RPS requirement to 50% renewable resources target by December 31, 2026, and to achieve a 60% target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours (kWh) of those products sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. In addition to targets under AB 32 and SB 32, Executive Order B-55-18 establishes a carbon neutrality goal for the state of California by 2045; and sets a goal to maintain net negative emissions thereafter. The Executive Order directs the California Natural Resources Agency (CNRA), California EPA (CalEPA), the California Department of Food and Agriculture (CDFA), and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

2.7.3.3 CALIFORNIA REGULATIONS AND BUILDING CODES

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

TITLE 20 CCR SECTIONS 1601 ET SEQ. – APPLIANCE EFFICIENCY REGULATIONS

The Appliance Efficiency Regulations regulate the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. 23 categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles (RV) or other mobile equipment (CEC 2012).

TITLE 24 CCR PART 6 – CALIFORNIA ENERGY CODE

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.

TITLE 24 CCR PART 11 – CALIFORNIA GREEN BUILDING STANDARDS CODE

The 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 January 1, 2009, and is administered by the California Building Standards Commission (CBSC).

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2019 California Green Building Code Standards that became effective January 1, 2020.

Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. CALGreen recognizes that many jurisdictions have developed existing construction waste and demolition ordinances and defers to them as the ruling guidance provided they establish a minimum 65% diversion requirement.

The code also provides exemptions for areas not served by construction waste and demolition recycling infrastructure. The State Building Code provides the minimum standard that buildings must meet in order to be certified for occupancy, which is generally enforced by the local building official.

Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas (GHG) emissions. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020.

The 2019 Title 24 standards would result in less energy use, thereby reducing air pollutant emissions associated with energy consumption in the SCAB and across the State of California. For example, the 2019 Title 24 standards would require solar photovoltaic systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, and update indoor and outdoor lighting requirements for nonresidential buildings.

The CEC anticipates that single-family homes built with the 2019 standards would use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar photovoltaic systems, homes built under the 2019 standards would use about 53% less energy than homes built under the 2016 standards. Nonresidential buildings (such as the Project) would use approximately 30% less energy due to lighting upgrade requirements (19).

Because the Project would be constructed after January 1, 2020, the 2019 CALGreen standards are applicable to the Project and require, among other items (20):

- 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).

- Electric vehicle (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).
- 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 reused 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 projected 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).

CARB REFRIGERANT MANAGEMENT PROGRAM

CARB adopted a regulation in 2009 to reduce refrigerant GHG emissions from stationary sources through refrigerant leak detection and monitoring, leak repair, system retirement and retrofitting, reporting and recordkeeping, and proper refrigerant cylinder use, sale, and disposal. The regulation is set forth in sections 95380 to 95398 of Title 17, CCR. The rules implementing the regulation establish a limit on statewide GHG emissions from stationary facilities with refrigeration systems with more than 50 pounds of a high GWP refrigerant. The refrigerant management program is designed to (1) reduce emissions of high-GWP GHG refrigerants from leaky stationary, non-residential refrigeration equipment; (2) reduce emissions from the installation and servicing of refrigeration and air-conditioning appliances using high-GWP refrigerants; and (3) verify GHG emission reductions.

TRACTOR-TRAILER GHG REGULATION

The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers or retrofit their existing fleet with SmartWay verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the HD tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low rolling resistance tires. Sleeper cab tractors MY 2011 and later must be SmartWay certified. All other tractors must use SmartWay verified low rolling resistance tires. There are also requirements for trailers to have low rolling resistance tires and aerodynamic devices.

PHASE I AND 2 HEAVY-DUTY VEHICLE GHG STANDARDS

In September 2011, CARB has adopted a regulation for GHG emissions from HDTs and engines sold in California. It establishes GHG emission limits on truck and engine manufacturers and harmonizes with the EPA rule for new trucks and engines nationally. Existing HD vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer GHG Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation. The EPA rule has compliance requirements for new compression and spark ignition engines, as well as trucks from Class 2b through Class 8. Compliance requirements began with MY 2014 with

stringency levels increasing through MY 2018. The rule organizes truck compliance into three groupings, which include a) HD pickups and vans; b) vocational vehicles; and c) combination tractors. The EPA rule does not regulate trailers.

CARB staff has worked jointly with the EPA and the NHTSA on the next phase of federal GHG emission standards for medium-duty trucks (MDT) and HDT vehicles, called federal Phase 2. The federal Phase 2 standards were built on the improvements in engine and vehicle efficiency required by the Phase 1 emission standards and represent a significant opportunity to achieve further GHG reductions for 2018 and later MY HDT vehicles, including trailers. The EPA and NHTSA have proposed to roll back GHG and fuel economy standards for cars and light-duty trucks, which suggests a similar rollback of Phase 2 standards for MDT and HDT vehicles may be pursued.

SB 97 AND THE CEQA GUIDELINES UPDATE

Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states “(a) On or before July 1, 2009, the Office of Planning and Research (OPR) shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the OPR pursuant to subdivision (a).”

In 2012, Public Resources Code Section 21083.05 was amended to state:

“The Office of Planning and Research and the Natural Resources Agency shall periodically update the guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption, to incorporate new information or criteria established by the State Air Resources Board pursuant to Division 25.5 (commencing with Section 38500) of the Health and Safety Code.”

On December 28, 2018, the Natural Resources Agency announced the OAL approved the amendments to the *CEQA Guidelines* for implementing CEQA. The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing *CEQA Guidelines* to reference climate change.

Section 15064.4 was added the *CEQA Guidelines* and states that in determining the significance of a project’s GHG emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project’s emissions to the effects of climate change. A project’s incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national, or global emissions. The agency’s analysis should consider a timeframe that is appropriate for the project. The agency’s analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. Additionally, a lead agency may use a model or methodology to estimate GHG emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most

appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use (42).

2.7.4 REGIONAL

The project is within the SCAB, which is under the jurisdiction of the SCAQMD.

SCAQMD

SCAQMD is the agency responsible for air quality planning and regulation in the SCAB. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the SCAB. The Working Group developed several different options that are contained in the SCAQMD Draft Guidance Document – Interim CEQA GHG Significance Threshold, that could be applied by lead agencies. The working group has not provided additional guidance since release of the interim guidance in 2008. The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the project is less than significant:
 - Residential and commercial land use: 3,000 MTCO₂e/yr
 - Industrial land use: 10,000 MTCO₂e/yr
 - Based on land use type: residential: 3,500 MTCO₂e/yr; commercial: 1,400 MTCO₂e/yr; or mixed use: 3,000 MTCO₂e/yr
- Tier 4 has the following options:
 - Option 1: Reduce Business-as-Usual (BAU) emissions by a certain percentage; this percentage is currently undefined.

- Option 2: Early implementation of applicable AB 32 Scoping Plan measures
- Option 3: 2020 target for service populations (SP), which includes residents and employees: 4.8 MTCO₂e per SP per year for projects and 6.6 MTCO₂e per SP per year for plans;
- Option 3, 2035 target: 3.0 MTCO₂e per SP per year for projects and 4.1 MTCO₂e per SP per year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's interim thresholds used the Executive Order S-3-05-year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap CO₂ concentrations at 450 ppm, thus stabilizing global climate.

SCAQMD only has authority over GHG emissions from development projects that include air quality permits. At this time, it is unknown if the project would include stationary sources of emissions subject to SCAQMD permits. Notwithstanding, if the Project requires a stationary permit, it would be subject to the applicable SCAQMD regulations.

SCAQMD Regulation XXVII, adopted in 2009 includes the following rules:

- Rule 2700 defines terms and post global warming potentials.
- Rule 2701, SoCal Climate Solutions Exchange, establishes a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, GHG Reduction Program created a program to produce GHG emission reductions within the SCAQMD. The SCAQMD would fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

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3 PROJECT GHG IMPACT

3.1 INTRODUCTION

The Project has been evaluated to determine if it would result in a significant GHG impact. 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 GHG impacts are taken from the Initial Study Checklist in Appendix G of the State *CEQA Guidelines* (14 CCR of Regulations §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to GHG if it would (1):

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

3.3 MODELS EMPLOYED TO ANALYZE GHGS

3.3.1 CALIFORNIA EMISSIONS ESTIMATOR MODEL (CALEEMOD)

In May 2021, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the CalEEMod Version 2020.4.0. The purpose of this model is to calculate construction-source and operational-source criteria pollutants and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (43). Accordingly, the latest version of CalEEMod has been used for this Project to determine GHG emissions. Output from the model runs for construction and operational activity are provided in Appendices 3.1 through 3.4. CalEEMod includes GHG emissions from the following source categories: construction, area, energy, mobile, waste, water.

3.4 LIFE-CYCLE ANALYSIS NOT REQUIRED

A full life-cycle analysis (LCA) for construction and operational activity is not included in this analysis due to the lack of consensus guidance on LCA methodology at this time (44). Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the Project development, infrastructure, and on-going operations) depends on emission factors or econometric factors that are not well established for all processes. At this time, an LCA would be extremely speculative and thus has not been prepared.

Additionally, the SCAQMD recommends analyzing direct and indirect project GHG emissions generated within California and not life-cycle emissions because the life-cycle effects from a project could occur outside of California, might not be very well understood, or documented, and

would be challenging to mitigate (45). Additionally, the science to calculate life cycle emissions is not yet established or well defined; therefore, SCAQMD has not recommended, and is not requiring, life-cycle emissions analysis.

3.5 CONSTRUCTION EMISSIONS

Project construction activities would generate CO₂ and CH₄ emissions. The report AQIA contains detailed information regarding Project construction activities (46). As discussed in the AQIA, Construction related emissions are expected from the following construction activities:

- Demolition/Crushing
- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

3.5.1 CONSTRUCTION DURATION

For purposes of analysis, construction of Project is expected to commence in April 2022 and would last through June 2023. The construction schedule utilized in the analysis, shown in Table 3-1, *Construction Duration*, 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 stringent⁴. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (47).

TABLE 3-1: CONSTRUCTION DURATION

Phase Name	Start Date	End Date	Days
Demolition/Crushing	04/01/2022	04/28/2022	20
Site Preparation	04/29/2022	05/12/2022	10
Grading	05/13/2022	06/30/2022	35
Building Construction	07/01/2022	06/30/2023	261
Paving	06/03/2023	06/30/2023	20
Architectural Coating	03/18/2023	06/30/2023	75

3.5.2 CONSTRUCTION EQUIPMENT

Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 3-2, *Construction Equipment Assumptions*, would operate up to a total of eight (8)

⁴ As shown in the CalEEMod User’s Guide Version 2016.3.2, Section 4.3 “OFFROAD 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.

hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the City's Municipal Code.

TABLE 3-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Phase Name	Equipment	Amount	Hours Per Day
Demolition/Crushing	Concrete/Industrial Saws	2	8
	Crushing/Proc. Equipment	2	8
	Excavators	5	8
	Rubber Tired Dozers	4	8
Site Preparation	Crawler Tractors	7	8
	Rubber Tired Dozers	5	8
Grading	Crawler Tractors	4	8
	Excavators	4	8
	Graders	2	8
	Rubber Tired Dozers	2	8
	Scrapers	4	8
Building Construction	Cranes	2	8
	Crawler Tractors	5	8
	Forklifts	5	8
	Generator Sets	2	8
	Welders	2	8
Paving	Pavers	4	8
	Paving Equipment	4	8
	Rollers	4	8
Architectural Coating	Air Compressors	2	8

3.5.3 CONSTRUCTION EMISSIONS SUMMARY

For construction phase Project emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SCAQMD recommends calculating the total GHG emissions for the construction activities, dividing it by a 30-year Project life then adding that number to the annual operational phase GHG emissions (48). As such, construction emissions were amortized over a 30-year period and added to the annual operational phase GHG emissions. The amortized construction emissions are presented in Table 3-3, *Amortized Annual Construction Emissions*.

TABLE 3-3: AMORTIZED ANNUAL CONSTRUCTION EMISSIONS

Year	Emissions (MT/yr)			
	CO ₂	CH ₄	N ₂ O	Total CO ₂ e ⁵
2022	1,332.45	0.24	0.06	1,355.38
2023	873.63	0.14	0.03	885.01
Total GHG Emissions	2,206.08	0.37	0.08	2,240.40
Amortized Construction Emissions (MTCO₂e)	73.54	0.01	0.00	74.68

Source CalEEMod annual construction-source emissions are presented in Appendix 3.1.

3.6 OPERATIONAL EMISSIONS

Operational activities associated with the Project would result in emissions of CO₂, CH₄, and N₂O from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- Transportation Refrigeration Units (TRU) Emissions
- On-Site Cargo Handling Equipment Emissions
- Water Supply, Treatment, and Distribution
- Solid Waste

3.6.1 AREA SOURCE EMISSIONS

LANDSCAPE MAINTENANCE EQUIPMENT

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shredders/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.

3.6.2 ENERGY SOURCE EMISSIONS

COMBUSTION EMISSIONS ASSOCIATED WITH NATURAL GAS AND ELECTRICITY

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO₂ and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building; the building energy use emissions do not include street lighting⁶. GHGs are also emitted

⁵ CalEEMod reports the most common GHGs emitted which include CO₂, CH₄, and N₂O. These GHGs are then converted into the CO₂e by multiplying the individual GHG by the GWP.

⁶ The CalEEMod emissions inventory model does not include indirect emission related to street lighting. Indirect emissions related to street lighting are expected to be negligible and cannot be accurately quantified at this time as there is insufficient information as to the number and type of street lighting that would occur.

during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions. Per information provided by the Project applicant, no natural gas would be used as a result of the Project. As such, GHG emissions associated with the natural gas have not been quantified. Electricity usage associated with the Project were calculated by CalEEMod using default parameters.

3.6.3 MOBILE SOURCE EMISSIONS

The Project GHG emissions derive primarily from vehicle trips generated by the Project, including employee trips to and from the site and truck trips associated with the proposed uses. Trip characteristics available from the *Birtcher Logistics Center Rialto (MC2020-0031) Traffic Analysis* were utilized in this analysis (49). The Project is expected to generate a total of approximately 1,752 two-way vehicular trips per day (876 inbound and 876 outbound) which includes 700 two-way truck trips per day (350 inbound and 350 outbound) (49) which also includes 140 two-way truck trips with TRUs per day. This health risk assessment study evaluates the potential impacts resulting from diesel exhaust from the 700 two-way truck trips including 140 two-way truck trips with TRUs, generated by the Project.

APPROACH FOR ANALYSIS OF THE PROJECT

In order to determine emissions from passenger car vehicles, the CalEEMod defaults were utilized for trip length and trip purpose for the proposed industrial land uses. For the proposed industrial uses, it is important to note that although the *Birtcher Logistics Center Rialto (MC2020-0031) Traffic Analysis* does not breakdown passenger cars by type, this analysis assumes that passenger cars include Light-Duty-Auto vehicles (LDA), Light-Duty-Trucks (LDT1⁷ & LDT2⁸), Medium-Duty-Vehicles (MDV), and Motorcycles (MCY) vehicle types. In order to account for emissions generated by passenger cars, the following fleet mix was utilized in this analysis:

TABLE 3-4: PASSENGER CAR FLEET MIX

Land Use	Vehicle Type	%
Warehouse/Cold Storage	LDA	57.81
	LDT1	6.00
	LDT2	18.53
	MDV	14.94
	MCY	2.72

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.

The passenger car trip length was derived from base year and cumulative year San Bernardino Transportation Analysis Model (SBTAM) results by using straight-line interpolation to the Project's opening year.

⁷ 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.

⁸ Vehicles under the LDT2 category have a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs.

To determine emissions from trucks for the proposed industrial uses, the analysis incorporated the SCAQMD recommended truck trip length of 40 miles⁹ and an assumption of 100% primary trips for the proposed industrial land uses. In order to be consistent with the *Birtcher Logistics Center Rialto (MC2020-0031) 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 *Birtcher Logistics Center Rialto Trip Generation Assessment*. Heavy trucks are broken down by truck type (or axle type) and are categorized as either Light-Heavy-Duty Trucks (LHDT1¹⁰ & LHDT2¹¹)/2-axle, Medium-Heavy-Duty Trucks (MHDT)/3-axle, and Heavy-Heavy-Duty Trucks (HHDT)/4+-axle. In order to account for emissions generated by trucks, the following fleet mix was utilized in this analysis:

TABLE 3-5: TRUCK FLEET MIX

Land Use	Vehicle Type	%
Warehouse	LHDT1	1.55
	LHDT2	0.41
	MHDT	28.04
	HHDT	70.00
Cold Storage	LHDT1	1.69
	LHDT2	0.45
	MHDT	27.86
	HHDT	70.00

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.

3.6.4 ON-SITE CARGO HANDLING EQUIPMENT EMISSIONS

It is common for industrial warehouse buildings to require cargo handling equipment to move empty containers and empty chassis to and from the various pieces of cargo handling equipment that receive and distribute containers. For this particular Project, on-site modeled operational equipment includes up to two (2) 200 horsepower (hp), compressed natural gas or gasoline-powered tractors/loaders/backhoes operating at 4 hours a day for 365 days of the year.

3.6.5 TRU 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 140 two-way truck trips have the potential to include TRUs (approximately 20% 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

⁹ 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)

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

¹¹ Vehicles under the LHDT2 category have a GVWR of 10,001 to 14,000 lbs.

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.

3.6.6 WATER SUPPLY, TREATMENT AND DISTRIBUTION

Indirect GHG emissions result from the production of electricity used to convey, treat, and distribute water and wastewater. The amount of electricity required to convey, treat, and distribute water depends on the volume of water as well as the sources of the water. Unless otherwise noted, CalEEMod default parameters were used.

3.6.7 SOLID WASTE

Industrial land uses would result in the generation and disposal of solid waste. A percentage of this waste would be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted would be disposed of at a landfill. GHG emissions from landfills are associated with the anaerobic breakdown of material. GHG emissions associated with the disposal of solid waste associated with the proposed Project were calculated by CalEEMod using default parameters.

3.6.8 EMISSIONS SUMMARY

EXISTING GHG EMISSIONS

The site is currently occupied by a variety of users and is developed with approximately 24,271 sf of existing buildings. The estimated GHG emissions from the existing development are summarized on Table 3-6, *Emissions From Existing Development*.

PROJECT GHG EMISSIONS

The annual GHG emissions associated with the operation of the proposed Project are summarized in Table 3-7, *Project GHG Emissions*. As shown in Table 3-7, construction and operation of the Project would generate a net total of approximately 14,903.75 MTCO₂e/yr.

TABLE 3-6: EMISSIONS FROM EXISTING DEVELOPMENT

Emission Source	Emissions (MT/yr)			
	CO ₂	CH ₄	N ₂ O	Total CO ₂ e
Area Source	1.71E-03	0.00	0.00	1.82E-03
Energy Source	12.59	8.90E-04	1.50E-04	12.66
Mobile Source	1,475.88	0.05	0.21	1,538.59
Waste	4.63	0.27	0.00	11.47
Water Usage	14.74	0.18	4.45E-03	20.67
Total CO₂e (All Sources)	1,583.38			

Source: CalEEMod existing operational-source emissions are presented in Appendix 3.3.

TABLE 3-7: PROJECT GHG EMISSIONS

Emission Source	Emissions (MT/yr)			
	CO ₂	CH ₄	N ₂ O	Total CO ₂ e
Annual construction-related emissions amortized over 30 years	73.54	0.01	0.00	74.68
Area Source	0.04	9.00E-05	0.00	0.04
Energy Source	1,178.85	0.08	0.01	1,185.18
Mobile Source	13,633.68	0.49	1.93	14,220.68
TRUs				246.29
On-Site Equipment	101.50	0.03	0.00	102.32
Waste	94.00	5.56	0.00	232.88
Water Usage	304.80	3.73	0.09	425.06
Total CO₂e (All Sources)	16,487.13			
<i>Existing Emissions</i>	<i>1,583.38</i>			
Net Emissions	14,903.75			

Source: CalEEMod output, See Appendices 3.1 through 3.2 for detailed model outputs.

3.7 GHG EMISSIONS FINDINGS AND RECOMMENDATIONS

3.7.1 GHG IMPACT 1

Would the Project generate GHG emissions either directly or indirectly, that may have a significant impact on the environment?

A numerical threshold for determining the significance of GHG emissions in the SCAB has not been established by the SCAQMD for Projects where it is not the lead agency. As an interim threshold based on guidance provided in the CAPCOA *CEQA and Climate Change* handbook, the City has opted to use a non-zero threshold approach based on Approach 2 of the

handbook. Threshold 2.5 (Unit-Based Thresholds Based on Market Capture) establishes a numerical threshold based on capture of approximately 90% of emissions from future development. The latest threshold developed by SCAQMD using this method is 3,000 MTCO₂e/yr for all projects (50).

The Project will result in approximately 14,903.75 MTCO₂e/yr. As such, the Project would exceed the SCAQMD’s numeric threshold of 3,000 MTCO₂e/yr if it were applied. Thus, the Project would have the potential to result in a cumulatively considerable impact with respect to GHG emissions.

Project operational-source GHG emissions exceedances of applicable SCAQMD numeric threshold are therefore considered significant and unavoidable. Moreover, more than 88% of all operational-source emissions (by weight) would be generated by Project mobile sources (traffic). Neither the Project Applicant nor the Lead Agency (City of Rialto) can substantively or materially affect reductions in Project mobile-source emissions beyond the regulatory requirements. As such, although mitigation measures are required to reduce impacts to the maximum extent feasible, Project operational-source GHG emissions exceedances of applicable SCAQMD numeric thresholds would be significant and unavoidable.

The Project would have the potential to generate direct or indirect GHG emissions that would result in a significant impact on the environment.

3.7.2 GHG IMPACT 2

Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

The Project’s consistency with SB 32 (2017 Scoping Plan) is discussed below.

SB 32/2017 SCOPING PLAN CONSISTENCY

The 2017 Scoping Plan Update reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Table 3-7, 2017 Scoping Plan Consistency Summary, summarizes the project’s consistency with the 2017 Scoping Plan. As summarized, the project would not conflict with any of the provisions of the Scoping Plan and in fact supports seven of the action categories.

TABLE 3-7: 2017 SCOPING PLAN CONSISTENCY SUMMARY¹²

Action	Responsible Parties	Consistency
Implement SB 350 by 2030		
Increase the Renewables Portfolio Standard to 50% of retail sales by 2030 and ensure grid reliability.	CPUC, CEC, CARB	Consistent. The Project would use energy from Southern California Edison (SCE). SCE has committed to diversify the portfolio of energy sources by increasing energy from wind and solar sources. The Project

¹² Source California Air Resources Board, California’s 2017 Climate Change Scoping Plan, November 2017 and CARB, Climate Change Scoping Plan, December 2008.

Action	Responsible Parties	Consistency
		would not interfere with or obstruct SCE energy source diversification efforts.
Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.		Consistent. The Project would be constructed in compliance with current California Building Code requirements. Specifically, new buildings must achieve compliance with 2019 Building and Energy Efficiency Standards and the 2019 California Green Building Standards requirements. The proposed Project includes energy efficient field lighting and fixtures that meet the current Title 24 Standards throughout the Project Site and would be a modern development with energy efficient boilers, heaters, and air conditioning systems.
Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in Integrated Resource Planning (IRP) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly- owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.		
Implement Mobile Source Strategy (Cleaner Technology and Fuels)		
At least 1.5 million zero emission and plug-in hybrid light-duty EVs by 2025.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation (Caltrans), CEC, OPR, Local Agencies	Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB zero emission and plug-in hybrid light-duty EV 2025 targets. As this is a CARB enforced standard, vehicles that access the Project are required to comply with the standards and would therefore comply with the strategy.
At least 4.2 million zero emission and plug-in hybrid light-duty EVs by 2030.		Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB zero emission and plug-in hybrid light-duty EV 2030 targets. As this is a CARB enforced standard, vehicles that access the Project are required to comply with the standards and would therefore comply with the strategy.
Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.		Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to further increase GHG stringency on all light-duty

Action	Responsible Parties	Consistency
		vehicles beyond existing Advanced Clean cars regulations. As this is a CARB enforced standard, vehicles that access the Project are required to comply with the standards and would therefore comply with the strategy.
Medium- and Heavy-Duty GHG Phase 2.		Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to implement Medium- and Heavy-Duty GHG Phase 2. As this is a CARB enforced standard, vehicles that access the Project are required to comply with the standards and would therefore comply with the strategy.
Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20% of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100% of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NO _x standard.		Not applicable. This measure is not within the purview of this Project.
Last Mile Delivery: New regulation that would result in the use of low NO _x or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5% of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10% in 2025 and remaining flat through 2030.		Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to improve last mile delivery emissions.
Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document “Potential VMT Reduction Strategies for Discussion.”		Consistent. This Project would not obstruct or interfere with implementation of SB 375 and would therefore not conflict with this measure.
	CARB	

Action	Responsible Parties	Consistency
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).		Consistent. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to improve last mile delivery emissions.
Harmonize project performance with emissions reductions and increase competitiveness of transit and active transportation modes (e.g., via guideline documents, funding programs, project selection, etc.).	CalSTA, SGC, OPR, CARB, Governor’s Office of Business and Economic Development (GO-Biz), California Infrastructure and Economic Development Bank (IBank), Department of Finance (DOF), California Transportation Commission (CTC), Caltrans	Consistent. Although this is directed towards CARB and Caltrans, the proposed Project would be designed to promote and support pedestrian activity on-site and in the Project Site area.
By 2019, develop pricing policies to support low-GHG transportation (e.g., low-emission vehicle zones for heavy duty, road user, parking pricing, transit discounts).	CalSTA, Caltrans, CTC, OPR, SGC, CARB	Not applicable. This measure is not within the purview of this Project.
Implement California Sustainable Freight Action Plan		
Improve freight system efficiency.	CalSTA, CalEPA, CNRA, CARB, Caltrans, CEC, GO-Biz	Consistent. This measure would apply to all trucks accessing the Project site, this may include existing trucks or new trucks that are part of the statewide goods movement sector.
Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.		Not applicable. This measure is not within the purview of this Project.
Adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18%.	CARB	

Action	Responsible Parties	Consistency
		Consistent. When adopted, this measure would apply to all fuel purchased and used by the Project in the state. The Project would not obstruct or interfere with agency efforts to adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18%.
Implement the Short-Lived Climate Pollutant Strategy (SLPS) by 2030		
40% reduction in methane and hydrofluorocarbon emissions below 2013 levels.	CARB, CalRecycle, CDFA, California State Water Resource Control Board (SWRCB), Local Air Districts	Consistent. The Project would be required to comply with this measure and reduce any Project-source SLPS emissions accordingly. The Project would not obstruct or interfere agency efforts to reduce SLPS emissions.
50% reduction in black carbon emissions below 2013 levels.		Not applicable. This measure is not within the purview of this Project.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	CARB, CalRecycle, CDFA, SWRCB, Local Air Districts	Not applicable. This measure is not within the purview of this Project.
Implement the post-2020 Cap-and-Trade Program with declining annual caps.	CARB	Consistent. The Project would be required to comply with any applicable Cap-and-Trade Program provisions. The Project would not obstruct or interfere agency efforts to implement the post-2020 Cap-and-Trade Program.
By 2018, develop Integrated Natural and Working Lands Implementation Plan to secure California’s land base as a net carbon sink		
Protect land from conversion through conservation easements and other incentives.	CNRA, Departments Within CDFA, CalEPA, CARB	Not applicable. This measure is not within the purview of this Project. However, the Project site is not an identified property that needs to be conserved.
Increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity.		Consistent. The Project site is vacant disturbed property and does not comprise an area that would effectively provide for

Action	Responsible Parties	Consistency
		carbon sequestration. The Project would not obstruct or interfere agency efforts to increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity.
Utilize wood and agricultural products to increase the amount of carbon stored in the natural and built environments.		Consistent. To the extent appropriate for the proposed industrial buildings, wood products would be used in construction, including for the roof structure. Additionally, the proposed Project includes landscaping.
Establish scenario projections to serve as the foundation for the Implementation Plan.		Not applicable. This measure is not within the purview of this Project.
Implement Forest Carbon Plan	CNRA, California Department of Forestry and Fire Protection (CAL FIRE), CalEPA and Departments Within	Not applicable. This measure is not within the purview of this Project.
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State Agencies & Local Agencies	Not applicable. This measure is not within the purview of this Project.

As shown above, the Project would not conflict with any of the *2017 Scoping Plan* elements as any regulations adopted would apply directly or indirectly to the Project. Further, recent studies show that the State’s existing and proposed regulatory framework would allow the State to reduce its GHG emissions level to 40% below 1990 levels by 2030 (37).

The Project would not have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

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5 CERTIFICATIONS

The contents of this GHG study report represent an accurate depiction of the GHG impacts associated with the proposed Birtcher Logistics Center Rialto Project. The information contained in this GHG 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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EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June, 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Planned Communities and Urban Infill – Urban Land Institute • June 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August 2007
AB2588 Regulatory Standards – Trinity Consultants • November 2006
Air Dispersion Modeling – Lakes Environmental • June 2006

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APPENDIX 3.1:

CALEEMOD PROJECT CONSTRUCTION EMISSIONS MODEL OUTPUTS

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Birtcher Logistics Center Rialto (Construction - Mitigated)

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	393.93	1000sqft	9.04	393,928.00	0
Refrigerated Warehouse-No Rail	98.48	1000sqft	2.26	98,482.00	0
Parking Lot	295.00	Space	2.54	110,210.00	0
City Park	2.44	Acre	2.44	106,470.00	0
Other Asphalt Surfaces	205.11	1000sqft	4.71	205,112.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Project Area is 20.99 acres

Construction Phase - Construction anticipated to start on April 1, 2022 and end June 30, 2023

Off-road Equipment - Construction equipment adjusted based on CalEEMod defaults and scaled up based on the size of the Project

Off-road Equipment - Construction equipment adjusted based on CalEEMod defaults and scaled up based on the size of the Project

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Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Construction equipment adjusted based on CalEEMod defaults and scaled up based on the size of the Project

Grading - Analysis conservatively assumes that up to 21 acres (entire Project site) can be disturbed per day

Demolition -

Trips and VMT - Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Demolition/Crushing, Site Preparation, Grading, and Building Construction

Architectural Coating - Rule 1113

Vehicle Trips - Construction run only

Energy Use - Construction run only

Water And Wastewater - Construction run only

Solid Waste - Construction run only

Construction Off-road Equipment Mitigation - MM AQ-1: Tier 3 engines for all equipment operating at >150 HP

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	75.00
tblConstructionPhase	NumDays	370.00	261.00
tblConstructionPhase	PhaseEndDate	1/25/2024	6/30/2023
tblConstructionPhase	PhaseEndDate	11/30/2023	6/30/2023

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	PhaseEndDate	12/28/2023	6/30/2023
tblConstructionPhase	PhaseStartDate	12/29/2023	3/18/2023
tblConstructionPhase	PhaseStartDate	12/1/2023	6/3/2023
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	2.37	0.00
tblEnergyUse	LightingElect	1.17	0.00
tblEnergyUse	NT24E	36.52	0.00
tblEnergyUse	NT24E	0.82	0.00
tblEnergyUse	NT24NG	48.51	0.00
tblEnergyUse	NT24NG	0.03	0.00
tblEnergyUse	T24E	0.95	0.00
tblEnergyUse	T24E	0.33	0.00
tblEnergyUse	T24NG	3.22	0.00
tblEnergyUse	T24NG	1.98	0.00
tblGrading	AcresOfGrading	280.00	735.00
tblGrading	AcresOfGrading	60.00	210.00
tblLandUse	LandUseSquareFeet	118,000.00	110,210.00
tblLandUse	LandUseSquareFeet	106,460.64	106,470.00
tblLandUse	LotAcreage	2.65	2.54
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	OffRoadEquipmentType		Crushing/Proc. Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblSolidWaste	SolidWasteGenerationRate	0.21	0.00
tblSolidWaste	SolidWasteGenerationRate	92.57	0.00
tblSolidWaste	SolidWasteGenerationRate	370.29	0.00
tblTripsAndVMT	VendorTripNumber	0.00	9.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	150.00	120.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	PR_TP	92.00	0.00
tblVehicleTrips	PR_TP	92.00	0.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	2.12	0.00

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	ST_TR	1.74	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	2.12	0.00
tblVehicleTrips	SU_TR	1.74	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	2.12	0.00
tblVehicleTrips	WD_TR	1.74	0.00
tblWater	IndoorWaterUseRate	22,773,500.00	0.00
tblWater	IndoorWaterUseRate	91,096,312.50	0.00
tblWater	OutdoorWaterUseRate	2,907,214.49	0.00

2.0 Emissions Summary

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.6995	6.9886	4.9245	0.0147	1.9198	0.2704	2.1902	0.4594	0.2519	0.7113	0.0000	1,332.451 4	1,332.451 4	0.2367	0.0571	1,355.385 7
2023	2.4933	3.7062	3.5400	9.7300e-003	0.3578	0.1493	0.5071	0.0962	0.1399	0.2361	0.0000	873.6298	873.6298	0.1380	0.0266	885.0150
Maximum	2.4933	6.9886	4.9245	0.0147	1.9198	0.2704	2.1902	0.4594	0.2519	0.7113	0.0000	1,332.451 4	1,332.451 4	0.2367	0.0571	1,355.385 7

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.4281	5.2258	6.2416	0.0147	0.9888	0.1950	1.1838	0.2440	0.1927	0.4366	0.0000	1,332.450 5	1,332.450 5	0.2367	0.0571	1,355.384 7
2023	2.3844	3.1133	4.3303	9.7300e-003	0.3578	0.1235	0.4813	0.0962	0.1209	0.2171	0.0000	873.6292	873.6292	0.1380	0.0266	885.0144
Maximum	2.3844	5.2258	6.2416	0.0147	0.9888	0.1950	1.1838	0.2440	0.1927	0.4366	0.0000	1,332.450 5	1,332.450 5	0.2367	0.0571	1,355.384 7

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	11.91	22.03	-24.90	0.00	40.87	24.12	38.27	38.78	19.96	30.99	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-1-2022	6-30-2022	3.3561	2.3852
2	7-1-2022	9-30-2022	2.1545	1.6211
3	10-1-2022	12-31-2022	2.1625	1.6291
4	1-1-2023	3-31-2023	2.1541	1.8071
5	4-1-2023	6-30-2023	4.0231	3.6722
		Highest	4.0231	3.6722

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.0345	1.2000e-004	0.0127	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0247	0.0247	6.0000e-005	0.0000	0.0263
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.0345	1.2000e-004	0.0127	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0247	0.0247	6.0000e-005	0.0000	0.0263

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.0345	1.2000e-004	0.0127	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0247	0.0247	6.0000e-005	0.0000	0.0263
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.0345	1.2000e-004	0.0127	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0247	0.0247	6.0000e-005	0.0000	0.0263

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition/Crushing	Demolition	4/1/2022	4/28/2022	5	20	
2	Site Preparation	Site Preparation	4/29/2022	5/12/2022	5	10	
3	Grading	Grading	5/13/2022	6/30/2022	5	35	

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Building Construction	Building Construction	7/1/2022	6/30/2023	5	261
5	Paving	Paving	6/3/2023	6/30/2023	5	20
6	Architectural Coating	Architectural Coating	3/18/2023	6/30/2023	5	75

Acres of Grading (Site Preparation Phase): 210

Acres of Grading (Grading Phase): 735

Acres of Paving: 7.25

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 738,615; Non-Residential Outdoor: 246,205; Striped Parking Area: 18,919 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	2	8.00	78	0.48
Demolition/Crushing	Concrete/Industrial Saws	2	8.00	81	0.73
Building Construction	Cranes	2	8.00	231	0.29
Demolition/Crushing	Excavators	5	8.00	158	0.38
Grading	Excavators	4	8.00	158	0.38
Building Construction	Forklifts	5	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Grading	Graders	2	8.00	187	0.41
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	4	8.00	132	0.36
Paving	Rollers	4	8.00	80	0.38
Demolition/Crushing	Rubber Tired Dozers	4	8.00	247	0.40
Grading	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	5	8.00	247	0.40
Grading	Scrapers	4	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Demolition/Crushing	Crushing/Proc. Equipment	2	8.00	85	0.78
Site Preparation	Crawler Tractors	7	8.00	212	0.43
Grading	Crawler Tractors	4	8.00	212	0.43
Building Construction	Crawler Tractors	5	8.00	212	0.43

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition/Crushing	13	33.00	9.00	6,134.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	12	30.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	16	40.00	16.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	16	384.00	120.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	30.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	77.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition/Crushing - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6638	0.0000	0.6638	0.1005	0.0000	0.1005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0604	0.5611	0.4660	8.7000e-004		0.0276	0.0276		0.0259	0.0259	0.0000	75.5014	75.5014	0.0184	0.0000	75.9618
Total	0.0604	0.5611	0.4660	8.7000e-004	0.6638	0.0276	0.6914	0.1005	0.0259	0.1264	0.0000	75.5014	75.5014	0.0184	0.0000	75.9618

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0114	0.4418	0.1101	1.8000e-003	0.0528	4.3900e-003	0.0572	0.0145	4.2000e-003	0.0187	0.0000	178.2547	178.2547	7.6200e-003	0.0283	186.8631
Vendor	1.5000e-004	4.1500e-003	1.4700e-003	2.0000e-005	5.7000e-004	5.0000e-005	6.1000e-004	1.6000e-004	4.0000e-005	2.1000e-004	0.0000	1.6343	1.6343	4.0000e-005	2.4000e-004	1.7075
Worker	1.2400e-003	9.8000e-004	0.0117	3.0000e-005	3.6200e-003	2.0000e-005	3.6400e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.9025	2.9025	8.0000e-005	8.0000e-005	2.9294
Total	0.0128	0.4469	0.1233	1.8500e-003	0.0570	4.4600e-003	0.0615	0.0156	4.2600e-003	0.0199	0.0000	182.7914	182.7914	7.7400e-003	0.0286	191.5000

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition/Crushing - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2589	0.0000	0.2589	0.0392	0.0000	0.0392	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0315	0.4051	0.5370	8.7000e-004		0.0187	0.0187		0.0187	0.0187	0.0000	75.5013	75.5013	0.0184	0.0000	75.9617
Total	0.0315	0.4051	0.5370	8.7000e-004	0.2589	0.0187	0.2775	0.0392	0.0187	0.0579	0.0000	75.5013	75.5013	0.0184	0.0000	75.9617

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0114	0.4418	0.1101	1.8000e-003	0.0528	4.3900e-003	0.0572	0.0145	4.2000e-003	0.0187	0.0000	178.2547	178.2547	7.6200e-003	0.0283	186.8631
Vendor	1.5000e-004	4.1500e-003	1.4700e-003	2.0000e-005	5.7000e-004	5.0000e-005	6.1000e-004	1.6000e-004	4.0000e-005	2.1000e-004	0.0000	1.6343	1.6343	4.0000e-005	2.4000e-004	1.7075
Worker	1.2400e-003	9.8000e-004	0.0117	3.0000e-005	3.6200e-003	2.0000e-005	3.6400e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.9025	2.9025	8.0000e-005	8.0000e-005	2.9294
Total	0.0128	0.4469	0.1233	1.8500e-003	0.0570	4.4600e-003	0.0615	0.0156	4.2600e-003	0.0199	0.0000	182.7914	182.7914	7.7400e-003	0.0286	191.5000

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2619	0.0000	0.2619	0.0948	0.0000	0.0948	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0381	0.4295	0.1703	4.9000e-004		0.0184	0.0184		0.0169	0.0169	0.0000	42.7900	42.7900	0.0138	0.0000	43.1360
Total	0.0381	0.4295	0.1703	4.9000e-004	0.2619	0.0184	0.2803	0.0948	0.0169	0.1117	0.0000	42.7900	42.7900	0.0138	0.0000	43.1360

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.1500e-003	4.1000e-004	0.0000	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.4540	0.4540	1.0000e-005	7.0000e-005	0.4743
Worker	5.7000e-004	4.4000e-004	5.3200e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.4000e-004	0.0000	1.3193	1.3193	4.0000e-005	4.0000e-005	1.3315
Total	6.1000e-004	1.5900e-003	5.7300e-003	1.0000e-005	1.8000e-003	2.0000e-005	1.8200e-003	4.9000e-004	2.0000e-005	5.0000e-004	0.0000	1.7733	1.7733	5.0000e-005	1.1000e-004	1.8058

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1021	0.0000	0.1021	0.0370	0.0000	0.0370	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0120	0.2313	0.2592	4.9000e-004		8.7700e-003	8.7700e-003		8.7700e-003	8.7700e-003	0.0000	42.7899	42.7899	0.0138	0.0000	43.1359
Total	0.0120	0.2313	0.2592	4.9000e-004	0.1021	8.7700e-003	0.1109	0.0370	8.7700e-003	0.0457	0.0000	42.7899	42.7899	0.0138	0.0000	43.1359

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.1500e-003	4.1000e-004	0.0000	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.4540	0.4540	1.0000e-005	7.0000e-005	0.4743
Worker	5.7000e-004	4.4000e-004	5.3200e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.4000e-004	0.0000	1.3193	1.3193	4.0000e-005	4.0000e-005	1.3315
Total	6.1000e-004	1.5900e-003	5.7300e-003	1.0000e-005	1.8000e-003	2.0000e-005	1.8200e-003	4.9000e-004	2.0000e-005	5.0000e-004	0.0000	1.7733	1.7733	5.0000e-005	1.1000e-004	1.8058

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6005	0.0000	0.6005	0.1579	0.0000	0.1579	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1497	1.6616	1.0214	2.5000e-003		0.0667	0.0667		0.0614	0.0614	0.0000	219.8078	219.8078	0.0711	0.0000	221.5851
Total	0.1497	1.6616	1.0214	2.5000e-003	0.6005	0.0667	0.6673	0.1579	0.0614	0.2193	0.0000	219.8078	219.8078	0.0711	0.0000	221.5851

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8000e-004	0.0129	4.5700e-003	5.0000e-005	1.7700e-003	1.5000e-004	1.9100e-003	5.1000e-004	1.4000e-004	6.5000e-004	0.0000	5.0844	5.0844	1.4000e-004	7.5000e-004	5.3122
Worker	2.6400e-003	2.0700e-003	0.0248	7.0000e-005	7.6800e-003	4.0000e-005	7.7200e-003	2.0400e-003	4.0000e-005	2.0800e-003	0.0000	6.1567	6.1567	1.8000e-004	1.8000e-004	6.2138
Total	3.1200e-003	0.0150	0.0294	1.2000e-004	9.4500e-003	1.9000e-004	9.6300e-003	2.5500e-003	1.8000e-004	2.7300e-003	0.0000	11.2411	11.2411	3.2000e-004	9.3000e-004	11.5260

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2342	0.0000	0.2342	0.0616	0.0000	0.0616	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0615	1.1882	1.4132	2.5000e-003		0.0469	0.0469		0.0469	0.0469	0.0000	219.8076	219.8076	0.0711	0.0000	221.5848
Total	0.0615	1.1882	1.4132	2.5000e-003	0.2342	0.0469	0.2811	0.0616	0.0469	0.1085	0.0000	219.8076	219.8076	0.0711	0.0000	221.5848

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8000e-004	0.0129	4.5700e-003	5.0000e-005	1.7700e-003	1.5000e-004	1.9100e-003	5.1000e-004	1.4000e-004	6.5000e-004	0.0000	5.0844	5.0844	1.4000e-004	7.5000e-004	5.3122
Worker	2.6400e-003	2.0700e-003	0.0248	7.0000e-005	7.6800e-003	4.0000e-005	7.7200e-003	2.0400e-003	4.0000e-005	2.0800e-003	0.0000	6.1567	6.1567	1.8000e-004	1.8000e-004	6.2138
Total	3.1200e-003	0.0150	0.0294	1.2000e-004	9.4500e-003	1.9000e-004	9.6300e-003	2.5500e-003	1.8000e-004	2.7300e-003	0.0000	11.2411	11.2411	3.2000e-004	9.3000e-004	11.5260

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3267	3.4364	2.0876	5.0200e-003		0.1475	0.1475		0.1379	0.1379	0.0000	434.6023	434.6023	0.1151	0.0000	437.4800
Total	0.3267	3.4364	2.0876	5.0200e-003		0.1475	0.1475		0.1379	0.1379	0.0000	434.6023	434.6023	0.1151	0.0000	437.4800

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0134	0.3620	0.1284	1.4700e-003	0.0496	4.1000e-003	0.0537	0.0143	3.9200e-003	0.0182	0.0000	142.7249	142.7249	3.8500e-003	0.0211	149.1199
Worker	0.0948	0.0744	0.8925	2.4000e-003	0.2758	1.4800e-003	0.2773	0.0732	1.3600e-003	0.0746	0.0000	221.2193	221.2193	6.3000e-003	6.3600e-003	223.2712
Total	0.1082	0.4365	1.0209	3.8700e-003	0.3254	5.5800e-003	0.3309	0.0876	5.2800e-003	0.0928	0.0000	363.9442	363.9442	0.0102	0.0275	372.3911

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1984	2.5014	2.8530	5.0200e-003		0.1105	0.1105		0.1086	0.1086	0.0000	434.6018	434.6018	0.1151	0.0000	437.4795
Total	0.1984	2.5014	2.8530	5.0200e-003		0.1105	0.1105		0.1086	0.1086	0.0000	434.6018	434.6018	0.1151	0.0000	437.4795

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0134	0.3620	0.1284	1.4700e-003	0.0496	4.1000e-003	0.0537	0.0143	3.9200e-003	0.0182	0.0000	142.7249	142.7249	3.8500e-003	0.0211	149.1199
Worker	0.0948	0.0744	0.8925	2.4000e-003	0.2758	1.4800e-003	0.2773	0.0732	1.3600e-003	0.0746	0.0000	221.2193	221.2193	6.3000e-003	6.3600e-003	223.2712
Total	0.1082	0.4365	1.0209	3.8700e-003	0.3254	5.5800e-003	0.3309	0.0876	5.2800e-003	0.0928	0.0000	363.9442	363.9442	0.0102	0.0275	372.3911

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2962	3.0111	2.0349	4.9800e-003		0.1284	0.1284		0.1201	0.1201	0.0000	431.0592	431.0592	0.1136	0.0000	433.9001
Total	0.2962	3.0111	2.0349	4.9800e-003		0.1284	0.1284		0.1201	0.1201	0.0000	431.0592	431.0592	0.1136	0.0000	433.9001

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.8000e-003	0.2878	0.1165	1.4000e-003	0.0492	2.0600e-003	0.0513	0.0142	1.9700e-003	0.0162	0.0000	135.9408	135.9408	3.5400e-003	0.0201	142.0159
Worker	0.0870	0.0649	0.8122	2.3000e-003	0.2737	1.3800e-003	0.2751	0.0727	1.2700e-003	0.0740	0.0000	213.7471	213.7471	5.6100e-003	5.8000e-003	215.6156
Total	0.0958	0.3527	0.9287	3.7000e-003	0.3229	3.4400e-003	0.3263	0.0869	3.2400e-003	0.0901	0.0000	349.6879	349.6879	9.1500e-003	0.0259	357.6315

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1873	2.4182	2.8251	4.9800e-003		0.1026	0.1026		0.1011	0.1011	0.0000	431.0587	431.0587	0.1136	0.0000	433.8996
Total	0.1873	2.4182	2.8251	4.9800e-003		0.1026	0.1026		0.1011	0.1011	0.0000	431.0587	431.0587	0.1136	0.0000	433.8996

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.8000e-003	0.2878	0.1165	1.4000e-003	0.0492	2.0600e-003	0.0513	0.0142	1.9700e-003	0.0162	0.0000	135.9408	135.9408	3.5400e-003	0.0201	142.0159
Worker	0.0870	0.0649	0.8122	2.3000e-003	0.2737	1.3800e-003	0.2751	0.0727	1.2700e-003	0.0740	0.0000	213.7471	213.7471	5.6100e-003	5.8000e-003	215.6156
Total	0.0958	0.3527	0.9287	3.7000e-003	0.3229	3.4400e-003	0.3263	0.0869	3.2400e-003	0.0901	0.0000	349.6879	349.6879	9.1500e-003	0.0259	357.6315

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0207	0.2038	0.2917	4.6000e-004		0.0102	0.0102		9.3900e-003	9.3900e-003	0.0000	40.0537	40.0537	0.0130	0.0000	40.3776
Paving	9.5000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0302	0.2038	0.2917	4.6000e-004		0.0102	0.0102		9.3900e-003	9.3900e-003	0.0000	40.0537	40.0537	0.0130	0.0000	40.3776

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0500e-003	7.8000e-004	9.7600e-003	3.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.5691	2.5691	7.0000e-005	7.0000e-005	2.5915
Total	1.0500e-003	7.8000e-004	9.7600e-003	3.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.5691	2.5691	7.0000e-005	7.0000e-005	2.5915

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0207	0.2038	0.2917	4.6000e-004		0.0102	0.0102		9.3900e-003	9.3900e-003	0.0000	40.0537	40.0537	0.0130	0.0000	40.3775
Paving	9.5000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0302	0.2038	0.2917	4.6000e-004		0.0102	0.0102		9.3900e-003	9.3900e-003	0.0000	40.0537	40.0537	0.0130	0.0000	40.3775

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0500e-003	7.8000e-004	9.7600e-003	3.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.5691	2.5691	7.0000e-005	7.0000e-005	2.5915
Total	1.0500e-003	7.8000e-004	9.7600e-003	3.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.5691	2.5691	7.0000e-005	7.0000e-005	2.5915

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.0409					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.1303	0.1811	3.0000e-004		7.0800e-003	7.0800e-003		7.0800e-003	7.0800e-003	0.0000	25.5325	25.5325	1.5300e-003	0.0000	25.5707
Total	2.0601	0.1303	0.1811	3.0000e-004		7.0800e-003	7.0800e-003		7.0800e-003	7.0800e-003	0.0000	25.5325	25.5325	1.5300e-003	0.0000	25.5707

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0101	7.5100e-003	0.0940	2.7000e-004	0.0317	1.6000e-004	0.0318	8.4100e-003	1.5000e-004	8.5600e-003	0.0000	24.7274	24.7274	6.5000e-004	6.7000e-004	24.9435
Total	0.0101	7.5100e-003	0.0940	2.7000e-004	0.0317	1.6000e-004	0.0318	8.4100e-003	1.5000e-004	8.5600e-003	0.0000	24.7274	24.7274	6.5000e-004	6.7000e-004	24.9435

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.0409					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.1303	0.1811	3.0000e-004		7.0800e-003	7.0800e-003		7.0800e-003	7.0800e-003	0.0000	25.5325	25.5325	1.5300e-003	0.0000	25.5707
Total	2.0601	0.1303	0.1811	3.0000e-004		7.0800e-003	7.0800e-003		7.0800e-003	7.0800e-003	0.0000	25.5325	25.5325	1.5300e-003	0.0000	25.5707

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0101	7.5100e-003	0.0940	2.7000e-004	0.0317	1.6000e-004	0.0318	8.4100e-003	1.5000e-004	8.5600e-003	0.0000	24.7274	24.7274	6.5000e-004	6.7000e-004	24.9435
Total	0.0101	7.5100e-003	0.0940	2.7000e-004	0.0317	1.6000e-004	0.0318	8.4100e-003	1.5000e-004	8.5600e-003	0.0000	24.7274	24.7274	6.5000e-004	6.7000e-004	24.9435

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Other Asphalt Surfaces	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Parking Lot	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Refrigerated Warehouse-No Rail	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Unrefrigerated Warehouse-No Rail	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.0345	1.2000e-004	0.0127	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0247	0.0247	6.0000e-005	0.0000	0.0263
Unmitigated	2.0345	1.2000e-004	0.0127	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0247	0.0247	6.0000e-005	0.0000	0.0263

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2326					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8007					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1800e-003	1.2000e-004	0.0127	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0247	0.0247	6.0000e-005	0.0000	0.0263
Total	2.0345	1.2000e-004	0.0127	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0247	0.0247	6.0000e-005	0.0000	0.0263

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2326					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8007					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1800e-003	1.2000e-004	0.0127	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0247	0.0247	6.0000e-005	0.0000	0.0263
Total	2.0345	1.2000e-004	0.0127	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.0247	0.0247	6.0000e-005	0.0000	0.0263

7.0 Water Detail

7.1 Mitigation Measures Water

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

Birtcher Logistics Center Rialto (Construction - Mitigated) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

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APPENDIX 3.2:

CALEEMOD EXISTING OPERATIONAL EMISSIONS MODEL OUTPUTS

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Birtcher Logistics Center Rialto (Existing Operations)

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	24.27	1000sqft	0.56	24,271.00	0
User Defined Industrial	24.27	User Defined Unit	0.00	0.00	0
Other Asphalt Surfaces	20.43	Acre	20.43	889,930.80	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	390.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Existing building area based on the total SF of demolished building

Construction Phase - Operations run only

Off-road Equipment - Operations run only

Vehicle Trips - Trip characteristics based on information provided in the Traffic Analysis

Fleet Mix - Passenger Car Mix estimated based on the CalEEMod default fleet mix and the ratio of the vehicle classes (LDA, LDT1, LDT2, MDV, & MCY). Truck Mix based on information in the Traffic Analysis

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblFleetMix	HHD	0.02	0.00

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFleetMix	HHD	0.02	0.68
tblFleetMix	LDA	0.54	0.58
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.06	0.06
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.17	0.19
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.04
tblFleetMix	LHD2	7.1960e-003	0.00
tblFleetMix	LHD2	7.1960e-003	0.01
tblFleetMix	MCY	0.03	0.03
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.14	0.15
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MH	5.0710e-003	0.00
tblFleetMix	MH	5.0710e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.26
tblFleetMix	OBUS	5.5900e-004	0.00
tblFleetMix	OBUS	5.5900e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	UBUS	2.5400e-004	0.00
tblFleetMix	UBUS	2.5400e-004	0.00
tblLandUse	LandUseSquareFeet	24,270.00	24,271.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	8.32
tblVehicleTrips	CW_TL	16.60	40.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	1.74	6.34
tblVehicleTrips	ST_TR	0.00	3.13
tblVehicleTrips	SU_TR	1.74	6.34
tblVehicleTrips	SU_TR	0.00	3.13
tblVehicleTrips	WD_TR	1.74	6.34
tblVehicleTrips	WD_TR	0.00	3.13

2.0 Emissions Summary

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

		Highest	
--	--	---------	--

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1689	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7100e-003	1.7100e-003	0.0000	0.0000	1.8200e-003
Energy	2.6000e-004	2.3900e-003	2.0100e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	12.5894	12.5894	8.9000e-004	1.5000e-004	12.6564
Mobile	0.1222	2.4722	1.3969	0.0152	0.6630	0.0258	0.6888	0.1842	0.0246	0.2089	0.0000	1,475.8786	1,475.8786	0.0539	0.2059	1,538.5880
Waste						0.0000	0.0000		0.0000	0.0000	4.6302	0.0000	4.6302	0.2736	0.0000	11.4712
Water						0.0000	0.0000		0.0000	0.0000	1.7806	12.9603	14.7409	0.1840	4.4500e-003	20.6666
Total	0.2914	2.4746	1.3998	0.0152	0.6630	0.0260	0.6889	0.1842	0.0248	0.2090	6.4108	1,501.4301	1,507.8409	0.5124	0.2105	1,583.3841

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1689	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7100e-003	1.7100e-003	0.0000	0.0000	1.8200e-003
Energy	2.6000e-004	2.3900e-003	2.0100e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	12.5894	12.5894	8.9000e-004	1.5000e-004	12.6564
Mobile	0.1222	2.4722	1.3969	0.0152	0.6630	0.0258	0.6888	0.1842	0.0246	0.2089	0.0000	1,475.8786	1,475.8786	0.0539	0.2059	1,538.5880
Waste						0.0000	0.0000		0.0000	0.0000	4.6302	0.0000	4.6302	0.2736	0.0000	11.4712
Water						0.0000	0.0000		0.0000	0.0000	1.7806	12.9603	14.7409	0.1840	4.4500e-003	20.6666
Total	0.2914	2.4746	1.3998	0.0152	0.6630	0.0260	0.6889	0.1842	0.0248	0.2090	6.4108	1,501.4301	1,507.8409	0.5124	0.2105	1,583.3841

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/1/2022	3/31/2022	5	0	

Acres of Grading (Site Preparation Phase): 0

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Acres of Grading (Grading Phase): 0

Acres of Paving: 20.43

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1222	2.4722	1.3969	0.0152	0.6630	0.0258	0.6888	0.1842	0.0246	0.2089	0.0000	1,475.8786	1,475.8786	0.0539	0.2059	1,538.5880
Unmitigated	0.1222	2.4722	1.3969	0.0152	0.6630	0.0258	0.6888	0.1842	0.0246	0.2089	0.0000	1,475.8786	1,475.8786	0.0539	0.2059	1,538.5880

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	153.87	153.87	153.87	465,998	465,998
User Defined Industrial	75.97	75.97	75.97	1,106,052	1,106,052
Total	229.84	229.84	229.84	1,572,050	1,572,050

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	8.32	8.40	6.90	100.00	0.00	0.00	100	0	0
User Defined Industrial	40.00	8.40	6.90	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Unrefrigerated Warehouse-No Rail	0.578100	0.060000	0.185300	0.149400	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.027200	0.000000	0.000000
User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.041500	0.011100	0.263200	0.684200	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	9.9861	9.9861	8.4000e-004	1.0000e-004	10.0376
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	9.9861	9.9861	8.4000e-004	1.0000e-004	10.0376
NaturalGas Mitigated	2.6000e-004	2.3900e-003	2.0100e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.6033	2.6033	5.0000e-005	5.0000e-005	2.6188
NaturalGas Unmitigated	2.6000e-004	2.3900e-003	2.0100e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.6033	2.6033	5.0000e-005	5.0000e-005	2.6188

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	48784.7	2.6000e-004	2.3900e-003	2.0100e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.6033	2.6033	5.0000e-005	5.0000e-005	2.6188
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		2.6000e-004	2.3900e-003	2.0100e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.6033	2.6033	5.0000e-005	5.0000e-005	2.6188

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	48784.7	2.6000e-004	2.3900e-003	2.0100e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.6033	2.6033	5.0000e-005	5.0000e-005	2.6188
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		2.6000e-004	2.3900e-003	2.0100e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.6033	2.6033	5.0000e-005	5.0000e-005	2.6188

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	56308.7	9.9861	8.4000e-004	1.0000e-004	10.0376
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		9.9861	8.4000e-004	1.0000e-004	10.0376

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	56308.7	9.9861	8.4000e-004	1.0000e-004	10.0376
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		9.9861	8.4000e-004	1.0000e-004	10.0376

6.0 Area Detail

6.1 Mitigation Measures Area

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1689	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7100e-003	1.7100e-003	0.0000	0.0000	1.8200e-003
Unmitigated	0.1689	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7100e-003	1.7100e-003	0.0000	0.0000	1.8200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0236					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1452					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7100e-003	1.7100e-003	0.0000	0.0000	1.8200e-003
Total	0.1689	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7100e-003	1.7100e-003	0.0000	0.0000	1.8200e-003

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0236					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1452					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7100e-003	1.7100e-003	0.0000	0.0000	1.8200e-003
Total	0.1689	1.0000e-005	8.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7100e-003	1.7100e-003	0.0000	0.0000	1.8200e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	14.7409	0.1840	4.4500e-003	20.6666
Unmitigated	14.7409	0.1840	4.4500e-003	20.6666

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	5.61244 / 0	14.7409	0.1840	4.4500e-003	20.6666
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		14.7409	0.1840	4.4500e-003	20.6666

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	5.61244 / 0	14.7409	0.1840	4.4500e-003	20.6666
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		14.7409	0.1840	4.4500e-003	20.6666

8.0 Waste Detail

8.1 Mitigation Measures Waste

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	4.6302	0.2736	0.0000	11.4712
Unmitigated	4.6302	0.2736	0.0000	11.4712

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	22.81	4.6302	0.2736	0.0000	11.4712
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		4.6302	0.2736	0.0000	11.4712

Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	22.81	4.6302	0.2736	0.0000	11.4712
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		4.6302	0.2736	0.0000	11.4712

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number
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Birtcher Logistics Center Rialto (Existing Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

11.0 Vegetation

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APPENDIX 3.3:

CALEEMOD PROJECT OPERATIONAL EMISSIONS MODEL OUTPUTS (WAREHOUSE)

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Birtcher Logistics Center Rialto (Warehouse Operations)

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	393.93	1000sqft	9.04	393,928.00	0
User Defined Industrial	393.93	User Defined Unit	0.00	0.00	0
Other Asphalt Surfaces	205.11	1000sqft	4.71	205,112.00	0
Parking Lot	295.00	Space	2.54	110,210.00	0
City Park	2.44	Acre	2.44	106,470.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	390.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Project Area (without Cold Storage) is 18.73 acres

Construction Phase - Operations run only

Off-road Equipment - Operations run only

Vehicle Trips - Trip characteristics based on information provided in the Traffic Analysis

Operational Off-Road Equipment - Based on SCAQMD High Cube Warehouse Truck Trip Study White Paper Summary of Business Survey Results (2014)

Fleet Mix - Passenger Car Mix estimated based on the CalEEMod default fleet mix and the ratio of the vehicle classes (LDA, LDT1, LDT2, MDV, & MCY). Truck Mix based on information in the Traffic Analysis

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.70
tblFleetMix	LDA	0.54	0.58
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.06	0.06
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.17	0.19
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.02
tblFleetMix	LHD2	7.1960e-003	0.00
tblFleetMix	LHD2	7.1960e-003	4.1000e-003
tblFleetMix	MCY	0.03	0.03
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.14	0.15
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MH	5.0710e-003	0.00
tblFleetMix	MH	5.0710e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.28
tblFleetMix	OBUS	5.5900e-004	0.00
tblFleetMix	OBUS	5.5900e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	UBUS	2.5400e-004	0.00
tblFleetMix	UBUS	2.5400e-004	0.00
tblLandUse	LandUseSquareFeet	393,930.00	393,928.00

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LandUseSquareFeet	205,110.00	205,112.00
tblLandUse	LandUseSquareFeet	118,000.00	110,210.00
tblLandUse	LandUseSquareFeet	106,286.40	106,470.00
tblLandUse	LotAcreage	2.65	2.54
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperFuelType	Diesel	CNG
tblOperationalOffRoadEquipment	OperHorsePower	97.00	200.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	10.18
tblVehicleTrips	CW_TL	16.60	40.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	1.74	2.14

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	ST_TR	0.00	1.42
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	1.74	2.14
tblVehicleTrips	SU_TR	0.00	1.42
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	1.74	2.14
tblVehicleTrips	WD_TR	0.00	1.42

2.0 Emissions Summary

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

		Highest	
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2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6333	1.5000e-004	0.0165	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0320	0.0320	8.0000e-005	0.0000	0.0341
Energy	4.2700e-003	0.0388	0.0326	2.3000e-004		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003	0.0000	211.1724	211.1724	0.0151	2.5000e-003	212.2950
Mobile	0.7787	18.2227	9.4339	0.1118	4.7768	0.1907	4.9675	1.3296	0.1822	1.5118	0.0000	10,907.9508	10,907.9508	0.3924	1.5432	11,377.6248
Offroad	0.0403	0.3782	0.2735	1.1600e-003		0.0137	0.0137		0.0126	0.0126	0.0000	101.5038	101.5038	0.0328	0.0000	102.3246
Waste						0.0000	0.0000		0.0000	0.0000	75.2082	0.0000	75.2082	4.4447	0.0000	186.3250
Water						0.0000	0.0000		0.0000	0.0000	28.9007	216.0892	244.9899	2.9866	0.0723	341.2007
Total	2.4565	18.6398	9.7564	0.1132	4.7768	0.2074	4.9842	1.3296	0.1979	1.5274	104.1088	11,436.7483	11,540.8571	7.8716	1.6180	12,219.8041

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.6333	1.5000e-004	0.0165	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0320	0.0320	8.0000e-005	0.0000	0.0341
Energy	4.2700e-003	0.0388	0.0326	2.3000e-004		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003	0.0000	211.1724	211.1724	0.0151	2.5000e-003	212.2950
Mobile	0.7787	18.2227	9.4339	0.1118	4.7768	0.1907	4.9675	1.3296	0.1822	1.5118	0.0000	10,907.9508	10,907.9508	0.3924	1.5432	11,377.6248
Offroad	0.0403	0.3782	0.2735	1.1600e-003		0.0137	0.0137		0.0126	0.0126	0.0000	101.5038	101.5038	0.0328	0.0000	102.3246
Waste						0.0000	0.0000		0.0000	0.0000	75.2082	0.0000	75.2082	4.4447	0.0000	186.3250
Water						0.0000	0.0000		0.0000	0.0000	28.9007	216.0892	244.9899	2.9866	0.0723	341.2007
Total	2.4565	18.6398	9.7564	0.1132	4.7768	0.2074	4.9842	1.3296	0.1979	1.5274	104.1088	11,436.7483	11,540.8571	7.8716	1.6180	12,219.8041

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/1/2022	3/31/2022	5	0	

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 7.25

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7787	18.2227	9.4339	0.1118	4.7768	0.1907	4.9675	1.3296	0.1822	1.5118	0.0000	10,907.9508	10,907.9508	0.3924	1.5432	11,377.6248
Unmitigated	0.7787	18.2227	9.4339	0.1118	4.7768	0.1907	4.9675	1.3296	0.1822	1.5118	0.0000	10,907.9508	10,907.9508	0.3924	1.5432	11,377.6248

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	843.01	843.01	843.01	3,123,791	3,123,791
User Defined Industrial	559.38	559.38	559.38	8,144,582	8,144,582
Total	1,402.39	1,402.39	1,402.39	11,268,373	11,268,373

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	10.18	8.40	6.90	100.00	0.00	0.00	100	0	0

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	40.00	8.40	6.90	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.537785	0.055838	0.172353	0.139003	0.027705	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Other Asphalt Surfaces	0.537785	0.055838	0.172353	0.139003	0.027705	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Parking Lot	0.537785	0.055838	0.172353	0.139003	0.027705	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Unrefrigerated Warehouse-No Rail	0.578100	0.060000	0.185300	0.149400	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.027200	0.000000	0.000000
User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.015500	0.004100	0.280400	0.700000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	168.9192	168.9192	0.0143	1.7300e-003	169.7907
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	168.9192	168.9192	0.0143	1.7300e-003	169.7907
Natural Gas Mitigated	4.2700e-003	0.0388	0.0326	2.3000e-004		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003	0.0000	42.2532	42.2532	8.1000e-004	7.7000e-004	42.5043
Natural Gas Unmitigated	4.2700e-003	0.0388	0.0326	2.3000e-004		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003	0.0000	42.2532	42.2532	8.1000e-004	7.7000e-004	42.5043

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	791795	4.2700e-003	0.0388	0.0326	2.3000e-004		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003	0.0000	42.2532	42.2532	8.1000e-004	7.7000e-004	42.5043
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		4.2700e-003	0.0388	0.0326	2.3000e-004		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003	0.0000	42.2532	42.2532	8.1000e-004	7.7000e-004	42.5043

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	791795	4.2700e-003	0.0388	0.0326	2.3000e-004		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003	0.0000	42.2532	42.2532	8.1000e-004	7.7000e-004	42.5043
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		4.2700e-003	0.0388	0.0326	2.3000e-004		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003	0.0000	42.2532	42.2532	8.1000e-004	7.7000e-004	42.5043

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	38573.5	6.8408	5.8000e-004	7.0000e-005	6.8761
Unrefrigerated Warehouse-No Rail	913913	162.0784	0.0137	1.6600e-003	162.9145
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		168.9192	0.0143	1.7300e-003	169.7907

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	38573.5	6.8408	5.8000e-004	7.0000e-005	6.8761
Unrefrigerated Warehouse-No Rail	913913	162.0784	0.0137	1.6600e-003	162.9145
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		168.9192	0.0143	1.7300e-003	169.7907

6.0 Area Detail

6.1 Mitigation Measures Area

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.6333	1.5000e-004	0.0165	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0320	0.0320	8.0000e-005	0.0000	0.0341
Unmitigated	1.6333	1.5000e-004	0.0165	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0320	0.0320	8.0000e-005	0.0000	0.0341

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1870					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4448					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.5300e-003	1.5000e-004	0.0165	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0320	0.0320	8.0000e-005	0.0000	0.0341
Total	1.6333	1.5000e-004	0.0165	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0320	0.0320	8.0000e-005	0.0000	0.0341

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1870					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4448					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.5300e-003	1.5000e-004	0.0165	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0320	0.0320	8.0000e-005	0.0000	0.0341
Total	1.6333	1.5000e-004	0.0165	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0320	0.0320	8.0000e-005	0.0000	0.0341

7.0 Water Detail

7.1 Mitigation Measures Water

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	244.9899	2.9866	0.0723	341.2007
Unmitigated	244.9899	2.9866	0.0723	341.2007

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 2.90721	5.7281	4.8000e-004	6.0000e-005	5.7577
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	91.0963 / 0	239.2618	2.9861	0.0722	335.4431
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		244.9899	2.9866	0.0723	341.2007

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 2.90721	5.7281	4.8000e-004	6.0000e-005	5.7577
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	91.0963 / 0	239.2618	2.9861	0.0722	335.4431
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		244.9899	2.9866	0.0723	341.2007

8.0 Waste Detail

8.1 Mitigation Measures Waste

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	75.2082	4.4447	0.0000	186.3250
Unmitigated	75.2082	4.4447	0.0000	186.3250

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.21	0.0426	2.5200e-003	0.0000	0.1056
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	370.29	75.1655	4.4422	0.0000	186.2194
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		75.2082	4.4447	0.0000	186.3250

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.21	0.0426	2.5200e-003	0.0000	0.1056
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	370.29	75.1655	4.4422	0.0000	186.2194
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		75.2082	4.4447	0.0000	186.3250

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	2	4.00	365	200	0.37	CNG

Birtcher Logistics Center Rialto (Warehouse Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Tractors/Loaders/Backhoes	0.0403	0.3782	0.2735	1.1600e-003		0.0137	0.0137		0.0126	0.0126	0.0000	101.5038	101.5038	0.0328	0.0000	102.3246
Total	0.0403	0.3782	0.2735	1.1600e-003		0.0137	0.0137		0.0126	0.0126	0.0000	101.5038	101.5038	0.0328	0.0000	102.3246

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

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APPENDIX 3.4:

CALEEMOD PROJECT OPERATIONAL EMISSIONS MODEL OUTPUTS (COLD STORAGE)

Birtcher Logistics Center Rialto (Cold Storage Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Birtcher Logistics Center Rialto (Cold Storage Operations)

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Refrigerated Warehouse-No Rail	98.48	1000sqft	2.26	98,482.00	0
User Defined Industrial	98.48	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Operations run only

Off-road Equipment - Operations run only

Vehicle Trips - Trip characteristics based on information provided in the Traffic Analysis

Fleet Mix - Passenger Car Mix estimated based on the CalEEMod default fleet mix and the ratio of the vehicle classes (LDA, LDT1, LDT2, MDV, & MCY). Truck Mix based on information in the Traffic Analysis

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.70

Birtcher Logistics Center Rialto (Cold Storage Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFleetMix	LDA	0.54	0.58
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.06	0.06
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.17	0.19
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.02
tblFleetMix	LHD2	7.1960e-003	0.00
tblFleetMix	LHD2	7.1960e-003	4.5000e-003
tblFleetMix	MCY	0.03	0.03
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.14	0.15
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MH	5.0710e-003	0.00
tblFleetMix	MH	5.0710e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.28
tblFleetMix	OBUS	5.5900e-004	0.00
tblFleetMix	OBUS	5.5900e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	UBUS	2.5400e-004	0.00
tblFleetMix	UBUS	2.5400e-004	0.00
tblLandUse	LandUseSquareFeet	98,480.00	98,482.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00

Birtcher Logistics Center Rialto (Cold Storage Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	CW_TL	16.60	10.18
tblVehicleTrips	CW_TL	16.60	40.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	2.12	2.14
tblVehicleTrips	ST_TR	0.00	1.42
tblVehicleTrips	SU_TR	2.12	2.14
tblVehicleTrips	SU_TR	0.00	1.42
tblVehicleTrips	WD_TR	2.12	2.14
tblVehicleTrips	WD_TR	0.00	1.42

2.0 Emissions Summary

Birtcher Logistics Center Rialto (Cold Storage Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

Birther Logistics Center Rialto (Cold Storage Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

		Highest		
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2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4017	2.0000e-005	2.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.8900e-003	4.8900e-003	1.0000e-005	0.0000	5.2100e-003
Energy	0.0275	0.2497	0.2098	1.5000e-003		0.0190	0.0190		0.0190	0.0190	0.0000	967.6798	967.6798	0.0639	0.0121	972.8850
Mobile	0.1949	4.5572	2.3606	0.0279	1.1940	0.0477	1.2417	0.3323	0.0456	0.3779	0.0000	2,725.7256	2,725.7256	0.0981	0.3855	2,843.0569
Waste						0.0000	0.0000		0.0000	0.0000	18.7909	0.0000	18.7909	1.1105	0.0000	46.5536
Water						0.0000	0.0000		0.0000	0.0000	7.2250	52.5889	59.8139	0.7465	0.0181	83.8586
Total	0.6241	4.8069	2.5729	0.0294	1.1940	0.0667	1.2606	0.3323	0.0646	0.3969	26.0159	3,745.9993	3,772.0151	2.0191	0.4157	3,946.3593

Birtcher Logistics Center Rialto (Cold Storage Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4017	2.0000e-005	2.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.8900e-003	4.8900e-003	1.0000e-005	0.0000	5.2100e-003
Energy	0.0275	0.2497	0.2098	1.5000e-003		0.0190	0.0190		0.0190	0.0190	0.0000	967.6798	967.6798	0.0639	0.0121	972.8850
Mobile	0.1949	4.5572	2.3606	0.0279	1.1940	0.0477	1.2417	0.3323	0.0456	0.3779	0.0000	2,725.7256	2,725.7256	0.0981	0.3855	2,843.0569
Waste						0.0000	0.0000		0.0000	0.0000	18.7909	0.0000	18.7909	1.1105	0.0000	46.5536
Water						0.0000	0.0000		0.0000	0.0000	7.2250	52.5889	59.8139	0.7465	0.0181	83.8586
Total	0.6241	4.8069	2.5729	0.0294	1.1940	0.0667	1.2606	0.3323	0.0646	0.3969	26.0159	3,745.9993	3,772.0151	2.0191	0.4157	3,946.3593

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/1/2022	3/31/2022	5	0	

Acres of Grading (Site Preparation Phase): 0

Birtcher Logistics Center Rialto (Cold Storage Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Birtcher Logistics Center Rialto (Cold Storage Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

Birtcher Logistics Center Rialto (Cold Storage Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1949	4.5572	2.3606	0.0279	1.1940	0.0477	1.2417	0.3323	0.0456	0.3779	0.0000	2,725.7256	2,725.7256	0.0981	0.3855	2,843.0569
Unmitigated	0.1949	4.5572	2.3606	0.0279	1.1940	0.0477	1.2417	0.3323	0.0456	0.3779	0.0000	2,725.7256	2,725.7256	0.0981	0.3855	2,843.0569

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Refrigerated Warehouse-No Rail	210.75	210.75	210.75	780,928	780,928
User Defined Industrial	139.84	139.84	139.84	2,036,094	2,036,094
Total	350.59	350.59	350.59	2,817,022	2,817,022

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Refrigerated Warehouse-No	10.18	8.40	6.90	100.00	0.00	0.00	100	0	0
User Defined Industrial	40.00	8.40	6.90	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Refrigerated Warehouse-No Rail	0.578100	0.060000	0.185300	0.149400	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.027200	0.000000	0.000000

Bircher Logistics Center Rialto (Cold Storage Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.016900	0.004500	0.278600	0.700000	0.000000	0.000000	0.000000	0.000000	0.000000
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5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	695.8193	695.8193	0.0587	7.1200e-003	699.4089
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	695.8193	695.8193	0.0587	7.1200e-003	699.4089
NaturalGas Mitigated	0.0275	0.2497	0.2098	1.5000e-003		0.0190	0.0190		0.0190	0.0190	0.0000	271.8605	271.8605	5.2100e-003	4.9800e-003	273.4761
NaturalGas Unmitigated	0.0275	0.2497	0.2098	1.5000e-003		0.0190	0.0190		0.0190	0.0190	0.0000	271.8605	271.8605	5.2100e-003	4.9800e-003	273.4761

Bircher Logistics Center Rialto (Cold Storage Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Refrigerated Warehouse-No Rail	5.09447e+006	0.0275	0.2497	0.2098	1.5000e-003		0.0190	0.0190		0.0190	0.0190	0.0000	271.8605	271.8605	5.2100e-003	4.9800e-003	273.4761
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0275	0.2497	0.2098	1.5000e-003		0.0190	0.0190		0.0190	0.0190	0.0000	271.8605	271.8605	5.2100e-003	4.9800e-003	273.4761

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Refrigerated Warehouse-No Rail	5.09447e+006	0.0275	0.2497	0.2098	1.5000e-003		0.0190	0.0190		0.0190	0.0190	0.0000	271.8605	271.8605	5.2100e-003	4.9800e-003	273.4761
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0275	0.2497	0.2098	1.5000e-003		0.0190	0.0190		0.0190	0.0190	0.0000	271.8605	271.8605	5.2100e-003	4.9800e-003	273.4761

Birther Logistics Center Rialto (Cold Storage Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-No Rail	3.92352e+006	695.8193	0.0587	7.1200e-003	699.4089
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		695.8193	0.0587	7.1200e-003	699.4089

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Refrigerated Warehouse-No Rail	3.92352e+006	695.8193	0.0587	7.1200e-003	699.4089
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		695.8193	0.0587	7.1200e-003	699.4089

6.0 Area Detail

Birtcher Logistics Center Rialto (Cold Storage Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4017	2.0000e-005	2.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.8900e-003	4.8900e-003	1.0000e-005	0.0000	5.2100e-003
Unmitigated	0.4017	2.0000e-005	2.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.8900e-003	4.8900e-003	1.0000e-005	0.0000	5.2100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0457					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3559					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.3000e-004	2.0000e-005	2.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.8900e-003	4.8900e-003	1.0000e-005	0.0000	5.2100e-003
Total	0.4017	2.0000e-005	2.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.8900e-003	4.8900e-003	1.0000e-005	0.0000	5.2100e-003

Birtcher Logistics Center Rialto (Cold Storage Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0457					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3559					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.3000e-004	2.0000e-005	2.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.8900e-003	4.8900e-003	1.0000e-005	0.0000	5.2100e-003
Total	0.4017	2.0000e-005	2.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.8900e-003	4.8900e-003	1.0000e-005	0.0000	5.2100e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Birtcher Logistics Center Rialto (Cold Storage Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	59.8139	0.7465	0.0181	83.8586
Unmitigated	59.8139	0.7465	0.0181	83.8586

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-No Rail	22.7735 / 0	59.8139	0.7465	0.0181	83.8586
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		59.8139	0.7465	0.0181	83.8586

Birtcher Logistics Center Rialto (Cold Storage Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Refrigerated Warehouse-No Rail	22.7735 / 0	59.8139	0.7465	0.0181	83.8586
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		59.8139	0.7465	0.0181	83.8586

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	18.7909	1.1105	0.0000	46.5536
Unmitigated	18.7909	1.1105	0.0000	46.5536

Birtcher Logistics Center Rialto (Cold Storage Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-No Rail	92.57	18.7909	1.1105	0.0000	46.5536
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		18.7909	1.1105	0.0000	46.5536

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Refrigerated Warehouse-No Rail	92.57	18.7909	1.1105	0.0000	46.5536
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		18.7909	1.1105	0.0000	46.5536

9.0 Operational Offroad

Bircher Logistics Center Rialto (Cold Storage Operations) - San Bernardino-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

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