Crestview Apartments

Draft Environmental Impact Report (DEIR)

Appendix E – Energy Analysis

Crestview Apartments

ENERGY ANALYSIS

CITY OF RIVERSIDE

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LIST OF ABBREVIATED TERMS

(1)	Reference
AQIA	Air Quality Impact Analysis
ARB	Air Resources Board
BACM	Best Available Control Measures
BTU	British Thermal Units
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CITY	City of Riverside
CPEP	Clean Power and Electrification Pathway
CPUC	California Public Utilities Commission
DMV	Department of Motor Vehicles
EIR	Environmental Impact Report
EMFAC	Emissions Factor
EVs	Electric Vehicles
FERC	Federal Energy Regulatory Commission
GHG	Greenhouse Gas
GPA	General Plan Amendment
GWh	Gigawatt Hour
IEPR	Integrative Energy Policy Report
ISO	Independent Service Operator
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
kBTU	Thousand British Thermal Units
LDA	Light Duty Auto
LDT1	Light Duty Truck 1
LDT2	Light Duty Truck 2
MARB	March Air Reserve Base
MPG	Miles Per Gallon
MPO	Metropolitan Planning Organization
PG&E	Pacific Gas and Electric
Project	Crestview Apartments
RPU	Riverside Public Utilities
RV	Recreational Vehicles
SCAB	South Coast Air Basin

SCAG	Southern California Association of Governments
SDG&E	San Diego Gas and Electric
sf	Square Feet
SoCalGas	Southern California Gas
TAC	Toxic Air Contaminants
TEA-21	Transportation Equity Act for the 21st Century
TIA	Traffic Impact Analysis
VMT	Vehicle Miles Traveled

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Crestview Apartments Energy Analysis* 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 (1). Table ES-1 shows the findings of significance for potential energy impacts under CEQA.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Energy Impact #1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	5.0	*Less Than Significant*	*n/a*
Energy Impact #2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	5.0	*Less Than Significant*	*n/a*
Energy Impact #3: • Decreasing overall per capita energy consumption. • Decreasing reliance on fossil fuels such as coal, natural gas and oil. • Increasing reliance on renewable energy sources	5.0	*Less Than Significant*	*n/a*

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1 INTRODUCTION

This report presents the results of the energy analysis prepared by Urban Crossroads, Inc., for the proposed Crestview Apartments (Project). The purpose of this report is to ensure that energy implication is considered by the City of Riverside, as the lead agency, and to quantify anticipated energy usage associated with construction and operation of the proposed Project, determine if the usage amounts are efficient, typical, or wasteful for the land use type, and to emphasize avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

1.1 SITE LOCATION

The proposed Crestview Apartments Project is located at the northwest corner of Sycamore Canyon Boulevard and Central Avenue in the City of Riverside, as shown on Exhibit 1-A.

The proposed Project is located approximately 237 feet southwest of Interstate 215 (I-215) / State Route 60 (SR-60). The closest airport to the Project site is March Air Reserve Base (MARB) which is located approximately 4.7 miles southeast of the Project site. The Project site is currently vacant. The closest existing residential uses include single-family residential homes to the south and multi-family uses to the west of the Project site.

1.2 PROJECT DESCRIPTION

The total development is proposed to consist of 237 multifamily residential dwelling units (DU), as shown on Exhibit 1-B.

EXHIBIT 1-A: LOCATION MAP

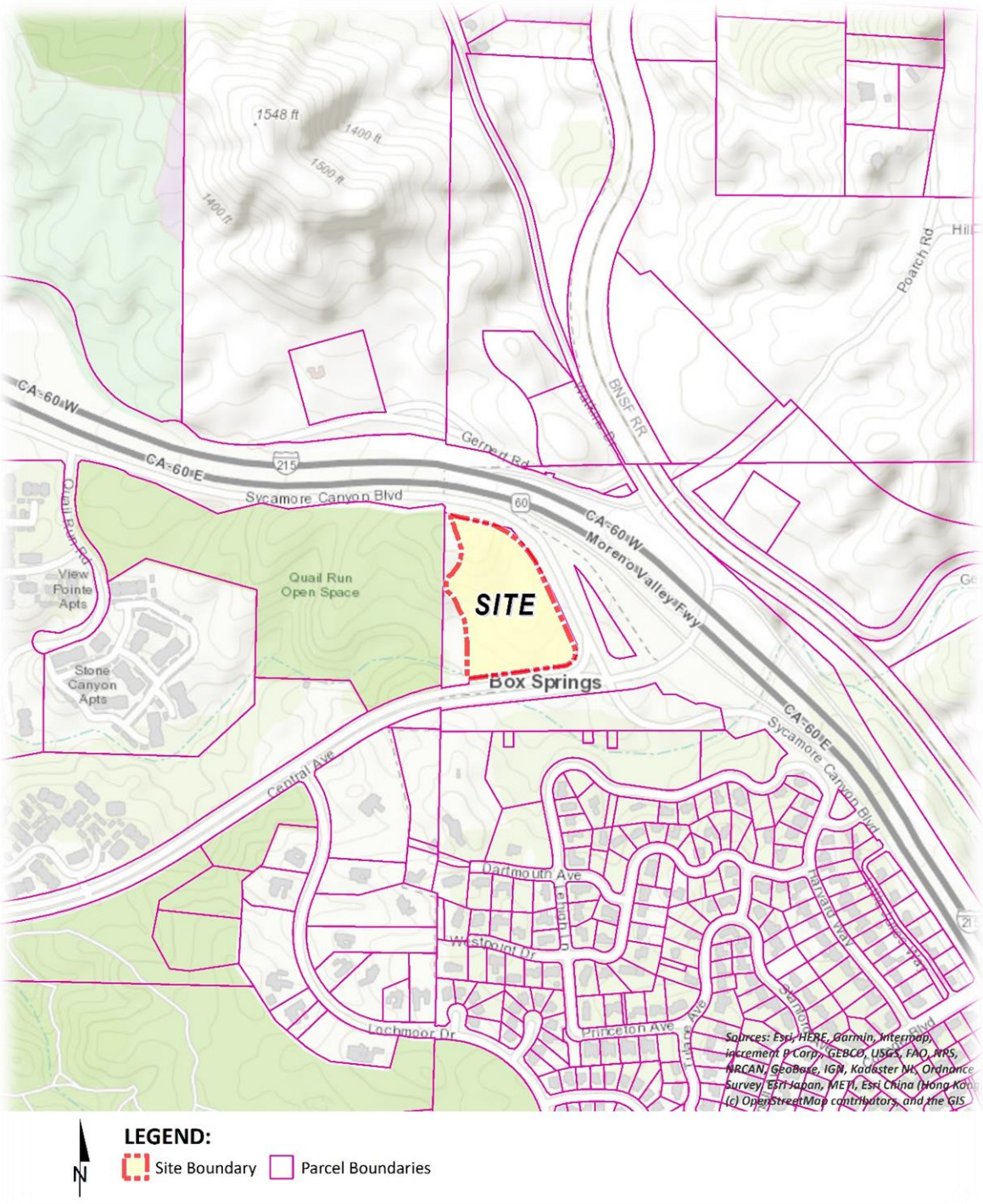
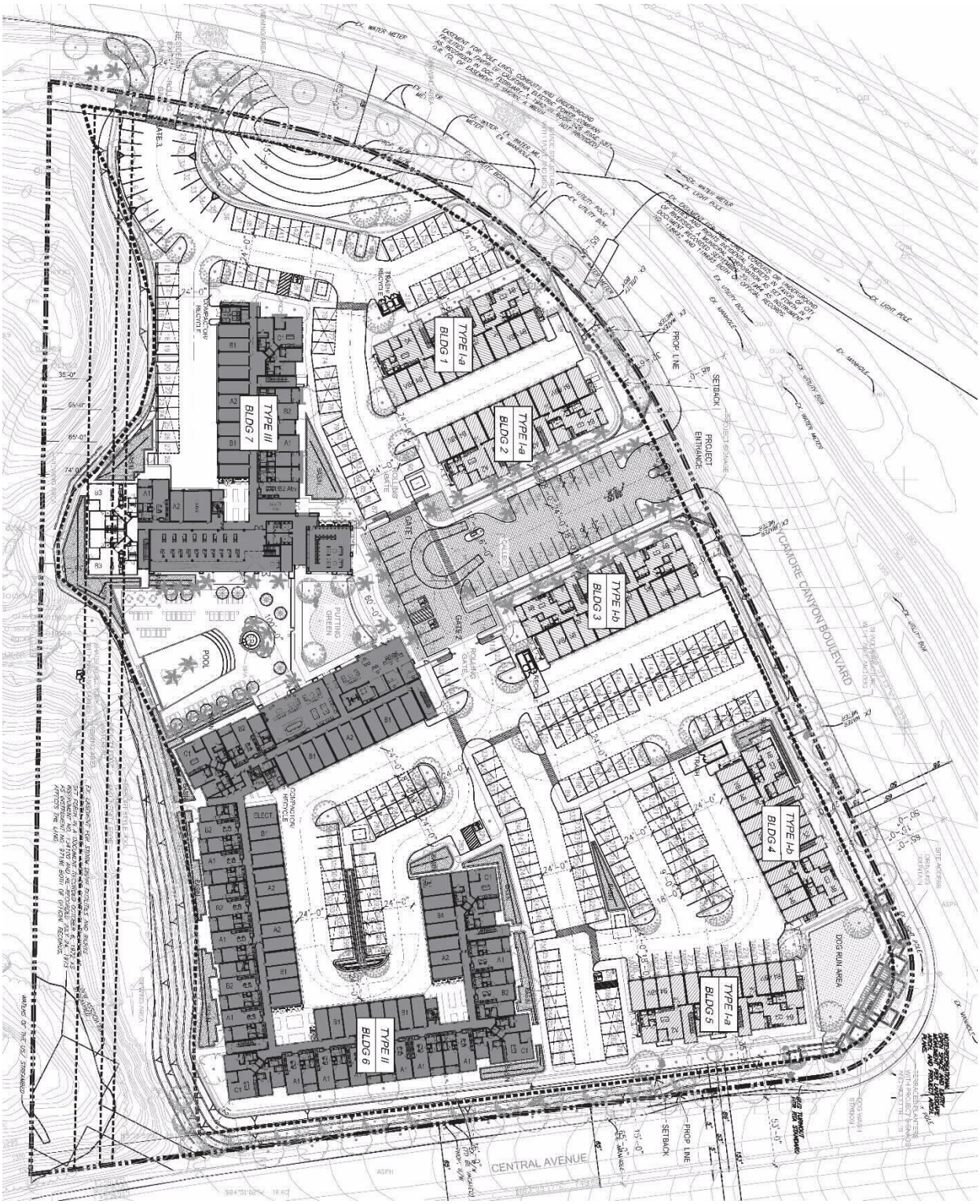


EXHIBIT 1-A: SITE PLAN



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2 EXISTING CONDITIONS

This section provides an overview of the existing energy conditions in the Project region.

2.1 OVERVIEW

The most recent data for California's estimated total energy consumption is from 2017 and natural gas consumption is from 2018, released by the United States (U.S.) Energy Information Administration's (EIA) California State Profile and Energy Estimates in 2020 and included:

- Approximately 7,881 trillion British Thermal Unit (BTU) of energy was consumed;
- Approximately 683 million barrels of petroleum;
- Approximately 2,137 billion cubic feet of natural gas;
- Approximately 1 million short tons of coal (2)

The California Energy Commission's (CEC) Transportation Energy Demand Forecast 2018-2030 was released in order to support the 2017 Integrated Energy Policy Report. The Transportation energy Demand Forecast 2018-2030 lays out graphs and data supporting their projections of California's future transportation energy demand. The projected inputs consider expected variable changes in fuel prices, income, population, and other variables. Predictions regarding fuel demand included:

- Gasoline demand in the transportation sector is expected to decline from approximately 15.8 billion gallons in 2017 to between 12.3 billion and 12.7 billion gallons in 2030 (3)
- Diesel demand in the transportation sector is expected to rise, increasing from approximately 3.7 billion diesel gallons in 2015 to approximately 4.7 billion in 2030 (3)
    - Data from the Department of Energy states that approximately 3.9 billion gallons of diesel fuel were consumed in 2017 (4)

The most recent data provided by the EIA for energy use in California by demand sector is from 2017 and is reported as follows:

- Approximately 40.3% transportation;
- Approximately 23.1% industrial;
- Approximately 18.0% residential; and
- Approximately 18.7% commercial (5)

In 2018, total system electric generation for California was 285,488 gigawatt hours (GWh). California's massive electricity in-state generation system generated approximately 194,842 GWh which accounted for approximately 68% of the electricity it uses; the rest was imported from the Pacific Northwest (14%) and the U.S. Southwest (18%) (6). Natural gas is the main source for electricity generation at 47% of the total in-state electric generation system power as shown in Table 2-1.

TABLE 2-1: TOTAL ELECTRICITY SYSTEM POWER (CALIFORNIA 2018)

Fuel Type	California In-State Generation	Percent of California In-State	Northwest Imports (GWh)	Southwest Imports (GWh)	California Power Mix (GWh)	Percent California Power Mix
Coal	294	0.15%	399	8,740	9,433	3.30%
Large Hydro	22,096	11.34%	7,418	985	30,499	10.68%
Natural Gas	90,691	46.54%	49	8,904	99,644	34.91%
Nuclear	18,268	9.38%	0	7,573	25,841	9.05%
Oil	35	0.02%	0	0	35	0.01%
Other	430	0.22%	0	9	439	0.15%
Renewables	63,028	32.35%	14,074	12,400	89,502	31.36%
Biomass	5,909	3.03%	772	26	6,707	2.35%
Geothermal	11,528	5.92%	171	1,269	12,968	4.54%
Small Hydro	4,248	2.18%	334	1	4,583	1.61%
Solar	27,265	13.99%	174	5,094	32,533	11.40%
Wind	14,078	7.23%	12,623	6,010	32,711	11.46%
Unspecified Sources of Power	N/A	N/A	17,576	12,519	30,095	10.54%
Total	**194,842**	**100%**	**39,517**	**51,130**	**285,488**	**100%**

Source: https://www.energy.ca.gov/almanac/electricity_data/total_system_power.html

An updated summary of, and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below:

- California was the seventh-largest producer of crude oil among the 50 states in 2018, and, as of January 2019, it ranked third in oil refining capacity.
- California is the largest consumer of jet fuel among the 50 states and accounted for one-fifth of the nation's jet fuel consumption in 2018. (7)
- California's total energy consumption is second highest in the nation, but, in 2018, the state's per capita energy consumption was the fourth-lowest, due in part to its mild climate and its energy efficiency programs. (8)
- In 2018, California ranked first in the nation as a producer of electricity from solar, geothermal, and biomass resources and fourth in the nation in conventional hydroelectric power generation.
- In 2018, large- and small-scale solar photovoltaic (PV) and solar thermal installations provided 19% of California's net electricity generation (9).

As indicated above, California is one of the nation's leading energy-producing states, and California's per capita energy use is among the nation's most efficient. Given the nature of the Project, the remainder of this discussion will focus on the three sources of energy that are most relevant to the project—namely, electricity, natural gas, and transportation fuel for vehicle trips associated with the uses planned for the Project.

2.2 ELECTRICITY

The Southern California region's electricity reliability has been of concern for the past several years due to the planned retirement of aging facilities that depend upon once-through cooling technologies, as well as the June 2013 retirement of the San Onofre Nuclear Generating Station. While the once-through cooling phase-out has been ongoing since the May 2010 adoption of the State Water Resources Control Board's once-through cooling policy, the retirement of San Onofre complicated the situation. California ISO studies had revealed the extent to which the Southern California Air Basin (SCAB) region was vulnerable to low-voltage and post-transient voltage instability concerns. A preliminary plan to address these issues was detailed in the 2013 Integrative Energy Policy Report (2013 IEPR) after a collaborative process with other energy agencies, utilities, and air districts (10). If the resource development outlined in the preliminary plan continues as detailed, reliability in Southern California would likely be assured; however, tight resource margins have led energy agencies and the ARB to develop a contingency plan. This contingency plan was discussed at a public workshop in Los Angeles on August 20, 2014 and is detailed within this Section (11). Similarly, the 2019 and 2019 IEPR's identify broad strategies that are aimed at maintaining electricity system reliability.

California's electricity industry is an organization of traditional utilities, private generating companies, and state agencies, each with a variety of roles and responsibilities to ensure that electrical power is provided to consumers. The California Independent Service Operator (ISO) is a nonprofit public benefit corporation and is the impartial operator of the State's wholesale power grid and is charged with maintaining grid reliability, and to direct uninterrupted electrical energy supplies to California's homes and communities. While utilities still own transmission assets, the ISO routes electrical power along these assets, maximizing the use of the transmission system and its power generation resources. The ISO matches buyers and sellers of electricity to ensure that sufficient power is available to meet demand. To these ends, every five minutes the ISO forecasts electrical demands, accounts for operating reserves, and assigns the lowest cost power plant unit to meet demands while ensuring adequate system transmission capacities and capabilities (12).

Part of the ISO's charge is to plan and coordinate grid enhancements to ensure that electrical power is provided to California consumers. To this end, transmission owners (investor-owned utilities such as RPU) file annual transmission expansion/modification plans to accommodate the State's growing electrical needs. The ISO reviews and either approves or denies the proposed additions. In addition, and perhaps most importantly, the ISO works with other areas in the western United States electrical grid to ensure that adequate power supplies are available to the State. In this manner, continuing reliable and affordable electrical power is assured to existing and new consumers throughout the State.

Electricity is provided to the Project by Riverside Public Utilities (RPU). RPU derives electricity from varied sources including natural gas, coal, nuclear, biomass, geothermal, solar, wind, and hydroelectric. Table 2-2 identifies RPU's specific proportional shares of electricity sources in 2018. As indicated in Table 2-2, the 2017 RPU Power Mix has renewable energy at 34% of the overall energy resources (13). Power content mixes are generally released in July each year, though 2019 data is not available at this time.

TABLE 2-2: RPU 2018 POWER CONTENT MIX

Energy Resources	2018 RPU Power Mix
Eligible Renewable	**34%**
Biomass & waste	0%
Geothermal	18%
Eligible Hydroelectric	0%
Solar	12%
Wind	4%
Coal	**29%**
Large Hydroelectric	**1%**
Natural Gas	**4%**
Nuclear	**4%**
Other	**0%**
Unspecified Sources of power*	27%
Total	**100%**

* "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources

2.3 NATURAL GAS

The usage associated with natural gas use were calculated using the California Emissions Estimator Model (CalEEMod). The following summary of natural gas resources and service providers, delivery systems, and associated regulation is excerpted from information provided by the California Public Utilities Commission (CPUC).

> *"The CPUC regulates natural gas utility service for approximately 10.8 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller natural gas utilities. The CPUC also regulates independent storage operators: Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.*
>
> *The vast majority of California's natural gas customers are residential and small commercial customers, referred to as "core" customers, who accounted for approximately 32% of the natural gas delivered by California utilities in 2012. Large consumers, like electric generators and industrial customers, referred to as "noncore"*

customers, accounted for approximately 68% of the natural gas delivered by California utilities in 2012.

The CPUC regulates the California utilities' natural gas rates and natural gas services, including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing. Most of the natural gas used in California comes from out-of-state natural gas basins. In 2012, California customers received 35% of their natural gas supply from basins located in the Southwest, 16% from Canada, 40% from the Rocky Mountains, and 9% from basins located within California. California gas utilities may soon also begin receiving biogas into their pipeline systems.

Natural gas from out-of-state production basins is delivered into California via the interstate natural gas pipeline system. The major interstate pipelines that deliver out-of-state natural gas to California consumers are the Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline, Ruby Pipeline, Questar Southern Trails and Mojave Pipeline. Another pipeline, the North Baja – Baja Norte Pipeline, takes gas off the El Paso Pipeline at the California/Arizona border, and delivers that gas through California into Mexico. While the Federal Energy Regulatory Commission (FERC) regulates the transportation of natural gas on the interstate pipelines, the CPUC often participates in FERC regulatory proceedings to represent the interests of California natural gas consumers.

Most of the natural gas transported via the interstate pipelines, as well as some of the California-produced natural gas, is delivered into the PG&E and SoCalGas intrastate natural gas transmission pipeline systems (commonly referred to as California's "backbone" natural gas pipeline system). Natural gas on the utilities' backbone pipeline systems is then delivered into the local transmission and distribution pipeline systems, or to natural gas storage fields. Some large noncore customers take natural gas directly off the high-pressure backbone pipeline systems, while core customers and other noncore customers take natural gas off the utilities' distribution pipeline systems. The CPUC has regulatory jurisdiction over 150,000 miles of utility-owned natural gas pipelines, which transported 82% of the total amount of natural gas delivered to California's gas consumers in 2012.

SDG&E and Southwest Gas' southern division are wholesale customers of SoCalGas, and currently receive all of their natural gas from the SoCalGas system (Southwest Gas also provides natural gas distribution service in the Lake Tahoe area). Some other municipal wholesale customers are the cities of Palo Alto, Long Beach, and Vernon, which are not regulated by the CPUC.

Some of the natural gas delivered to California customers may be delivered directly to them without being transported over the regulated utility systems. For example, the Kern River/Mojave pipeline system can deliver natural gas directly to some large customers, "bypassing" the utilities' systems. Much of California-produced natural gas is also delivered directly to large consumers.

RPU and SoCalGas own and operate several natural gas storage fields that are located in northern and southern California. These storage fields, and four independently owned storage utilities – Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage – help meet peak seasonal natural gas demand and allow California natural gas customers to secure natural gas supplies more efficiently.

California's regulated utilities do not own any natural gas production facilities. All of the natural gas sold by these utilities must be purchased from suppliers and/or marketers. The price of natural gas sold by suppliers and marketers was deregulated by the FERC in the mid-1980's and is determined by "market forces." However, the CPUC decides whether California's utilities have taken reasonable steps in order to minimize the cost of natural gas purchased on behalf of their core customers." (14)

As indicated in the preceding discussions, natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available via existing delivery systems, thereby increasing the availability and reliability of resources in total. The CPUC oversees utility purchases and transmission of natural gas to ensure reliable and affordable natural gas deliveries to existing and new consumers throughout the State.

2.4 TRANSPORTATION ENERGY RESOURCES

The Project would generate additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. In March 2019, the Department of Motor Vehicles (DMV) identified 36.4 million registered vehicles in California (15), and those vehicles consume an estimated 17.8 billion gallons of fuel each year[1]. Gasoline (and other vehicle fuels) are commercially provided commodities and would be available to the Project patrons and employees via commercial outlets.

California's on-road transportation system includes 394,383 land miles, more than 27.5 million passenger vehicles and light trucks, and almost 8.1 million medium- and heavy-duty vehicles (15). While gasoline consumption has been declining since 2008 it is still by far the dominant fuel. Petroleum comprises about 91% of all transportation energy use, excluding fuel consumed for aviation and most marine vessels (16). Nearly 17.8 billion gallons of on-highway fuel are burned each year, including 14.6 billion gallons of gasoline (including ethanol) and 3.2 billion gallons of diesel fuel (including biodiesel and renewable diesel). In 2019, Californians also used 194 million cubic feet of natural gas as a transportation fuel (17), or the equivalent of 183 billion gallons of gasoline.

[1] Fuel consumptions estimated utilizing information from EMFAC2017.

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3 REGULATORY BACKGROUND

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. On the state level, the CPUC and the California Energy Commission (CEC) are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below.

3.1 FEDERAL REGULATIONS

3.1.1 INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT OF 1991 (ISTEA)

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

3.1.2 THE TRANSPORTATION EQUITY ACT FOR THE 21ST CENTURY (TEA-21)

The Transportation Equity Act for the 21st Century (TEA-21) was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

3.2 CALIFORNIA REGULATIONS

3.2.1 INTEGRATED ENERGY POLICY REPORT

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code § 25301a]). The Energy Commission prepares these assessments and associated policy

recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The 2019 IEPR was adopted January 31, 2020, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2019 IEPR focuses on a variety of topics such as including the environmental performance of the electricity generation system, landscape-scale planning, the response to the gas leak at the Aliso Canyon natural gas storage facility, transportation fuel supply reliability issues, updates on Southern California electricity reliability, methane leakage, climate adaptation activities for the energy sector, climate and sea level rise scenarios, and the California Energy Demand Forecast. (18) The 2020 IEPR Update is currently in progress but is not anticipated to be adopted until February 2021. (19).

3.2.2 State of California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce Vehicle Miles Traveled (VMT) and accommodate pedestrian and bicycle access.

3.2.3 California Code Title 24, Part 6, Energy Efficiency Standards

California Code of Regulations (CCR) Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, 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. 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 and as such are applicable to building permit applications submitted on or after that date. The 2019 Title 24 standards require solar PV systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, update indoor and outdoor lighting for nonresidential buildings. The CEC anticipates that single-family homes built with the 2019 standards will use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar PV systems, homes built under the 2019 standards will about 53% less energy than homes built under the 2016 standards. Nonresidential buildings will use approximately 30% less energy due to lighting upgrades (20).

3.2.4 CALIFORNIA'S RENEWABLE PORTFOLIO STANDARD (RPS).

First established in 2002 under Senate Bill (SB) 1078, California's Renewable Portfolio Standards (RPS) requires retail sellers of electric services to increase procurement from eligible renewable resources to 33 percent of total retail sales by 2020 (21).

3.2.5 AB 1493 PAVLEY REGULATIONS AND FUEL EFFICIENCY STANDARDS

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Under this legislation, CARB adopted regulations to reduce GHG emissions from non-commercial passenger vehicles (cars and light-duty trucks). Although aimed at reducing GHG emissions, specifically, a co-benefit of the Pavley standards is an improvement in fuel efficiency and consequently a reduction in fuel consumption.

3.2.6 SB 350— CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015.

In October 2015, the legislature approved, and the Governor signed, SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the renewables portfolio standard (RPS), higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024, and 25 percent by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the 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 will facilitate the growth of renewable energy markets in the western United States (California Leginfo 2015).

3.2.7 CITY OF RIVERSIDE RESTORATIVE GROWTHPRINT CLIMATE ACTION PLAN

The City of Riverside collaborated with the Western Riverside Council of Governments (WRCOG) on a Subregional Climate Action Plan (CAP). The City of Riverside Restorative Growthprint Climate Action Plan (RRG CAP) builds on the WRCOG Subregional CAP commitments and provides the City GHG reduction goals beyond 2020 to 2035.

The RRG-CAP contains measures that promote energy efficiency and renewable energy for municipal operations and the community .

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4 PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES

4.1 EVALUATION CRITERIA

In compliance with Appendix G of the *State CEQA Guidelines* (1), this report analyzes the project's anticipated energy use to determine if the Project would:

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

In addition, Appendix F of the *State CEQA Guidelines* (22), states that the means of achieving the goal of energy conservation includes the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- Increasing reliance on renewable energy sources.

4.2 METHODOLOGY

Information from the CalEEMod 2016.3.2 outputs for the *Crestview Apartments Air Quality Impact Analysis* (Urban Crossroads, Inc.) (AQIA) was utilized in this analysis, detailing Project related construction equipment, transportation energy demands, and facility energy demands (23).

4.2.1 CALIFORNIA EMISSIONS ESTIMATOR MODEL

On October 17, 2017, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model (CalEEMod) v2016.3.2. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$) and GHG emissions from direct and indirect sources as well as energy usage. (24). Accordingly, the latest version of CalEEMod has been used to determine the proposed Project's anticipated transportation and facility energy demands. Output from the model runs for construction and operational activity are provided in Appendix 4.1.

4.2.2 EMISSION FACTORS MODEL

On August 19, 2019, the EPA approved the 2017 version of the Emission Factor model (EMFAC) web database for use in State Implementation Plan and transportation conformity analyses. EMFAC2017 is a mathematical model that was developed to calculate emission rates, fuel consumption, and VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources (25). This study utilizes summer, winter, and annual EMFAC2017 emission factors in order to derive vehicle emissions associated with Project operational activities, which vary by season.

4.2.3 LAND USES MODELED IN CALEEMOD

The Project is located on 9.77 acres. The total development is proposed to consist of 237 multifamily residential DU.

CalEEMod does not provide an extensive selection of land use subtype categories, land uses that most closely fit the Project will be utilized (26). For purposes of analysis, the following land uses were modeled consistent with the *Crestview Apartments Traffic Impact Analysis* (Urban Crossroads, Inc.) (TIA) (27):

- 75 DU Apartments Low Rise[2]
- 162 DU Apartments Mid Rise[3]
- 428 Space Parking Lot[4] on 0.82 acres

4.2.4 CONSTRUCTION ACTIVITIES

Construction related energy usage is expected from the following construction activities:

- Site Preparation (including Blasting)
- Crushing
- Grading
- Building Construction
- Paving
- Architectural Coating

Construction Vehicle Trips

Construction worker vehicles traveling to and from the Project site, as well as vendor trips (construction materials delivered to the Project site) were estimated based on information from CalEEMod defaults. The number of worker, hauling, and vendor trips are presented below in Table 4-1.

[2] The User's Guide defines Apartments Low Rise as apartment units located in rental buildings that have 1 to 2 levels. As the building or unit area has not been provided, the CalEEMod default lot acreage and floor surface area of 4.69 acres and 75,000 square feet will be used.

[3] Apartments Mid Rise are defined in the User's Guide as apartments in rental buildings that have between 3 and 10 levels. As the building or unit area has not been provided, the CalEEMod default lot acreage and floor surface area of 4.26 acres and 162,000 square feet will be used.

[4] As indicated on the site plan, the total Project will provide 428 parking spaces. For purposes of analysis, the remaining 0.82 acres will be used to analyze the 428 parking spaces.

TABLE 4-1: CONSTRUCTION TRIP ASSUMPTIONS

Phase Name	Trips			Trip Length		
	Worker (Trips/Day)	Vendor (Trips/Day)	Hauling (Total)	Worker	Vendor	Hauling
Site Preparation (Including Blasting)	18	0	0	14.7	6.9	20
Crushing	3	0	0	14.7	6.9	20
Grading	15	0	3,750	14.7	6.9	23[1]
Building Construction	186	31	0	14.7	6.9	20
Paving	15	0	0	14.7	6.9	20
Architectural Coating	37	0	0	14.7	6.9	20

[1] CalEEMod does not distinguish different trip lengths for import and export activities. As such, a weighted trip length is used for hauling trips.

4.2.5 CONSTRUCTION DURATION

Construction is expected to commence in October 2021 and will last through April 2023. The duration of construction activity represents a reasonable approximation as required per *CEQA Guidelines*. While crushing and grading will occur concurrently, they involve different equipment so they will be listed as a separate phase for the purpose of the Project analysis. The duration of construction activity was based on information provided by the Project applicant. The Project is anticipated to be fully built and occupied in 2023.

TABLE 4-2: CONSTRUCTION DURATION

Phase Name	Start Date	End Date	Days
Site Preparation (Including Blasting)	10/04/2021	10/15/2021	10
Crushing	10/16/2021	11/12/2021	20
Grading	11/13/2021	12/10/2021	20
Building Construction	12/11/2021	02/03/2023	300
Paving	02/04/2023	03/03/2023	20
Architectural Coating	03/04/2023	04/30/2023	40

Source: Construction activity based upon information provided by the Project applicant.

4.2.6 CONSTRUCTION EQUIPMENT

Site specific construction fleet may vary due to specific project needs at the time of construction. The associated construction equipment by phase is detailed in Table 4-3. The associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines*.

TABLE 4-3: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Phase Name	Equipment	Amount	Hours Per Day
Site Preparation	Crawler Tractors	4	8
	Rubber Tired Dozers	3	8
Crushing	Generator Set	1	8
Grading	Crawler Tractors	3	8
	Excavators	1	8
	Graders	1	8
	Rubber Tired Dozers	1	8
Building Construction	Cranes	1	8
	Crawler Tractors	3	8
	Forklifts	3	8
	Generator Sets	1	8
	Welders	1	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8

Source: CalEEMod model output, See Appendix 4.1 detailed model outputs. Engine ratings were based on CalEEMod default parameters.

4.3 CONSTRUCTION ENERGY DEMANDS

4.3.1 CONSTRUCTION EQUIPMENT ELECTRICITY USAGE ESTIMATES

The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity consumption during construction of the proposed Project. Based on the 2019 National Construction Estimator, Richard Pray (2019) (28), the typical power cost per 1,000 square feet (sf) of building construction per month is estimated to be $2.38. For the Crestview Apartments development, the Project plans to develop consist of 237 multifamily residential DUs (75 multifamily housing low rise and 162 multifamily housing mid- rise) and 428 parking spaces which will be constructed within an 18-month period. It should be noted that specific building and unit areas have not been provided. As such, the CalEEMod default square footage of 75,000 sf for the 75 DU multifamily housing low rise, 162,000 sf for the 162 DU multifamily housing mid-rise, and 35,719 sf of parking space will be used. Based on Table 4-5, the total power cost of the on-site electricity usage during the construction of the proposed Project is estimated to be approximately $11,388.75. Additionally, as of January 1, 2019, RPU's domestic service rate schedule for residential uses (which was not updated in 2020) is $0.11 per kWh of electricity. (29). As shown on Table 4-6, the total electricity usage from on-site Project construction related activities are estimated to be approximately 105,740 kWh.

TABLE 4-4: PROJECT CONSTRUCTION POWER COST

Land Use	Power Cost (per 1,000 sf of building per month of construction)	Total Building Size (1,000 sf)	Construction Duration (months)	Project Construction Power Cost
Multifamily Housing (Low Rise)	$2.32	75.000	18	$3,132.00
Multifamily Housing (Mid Rise)	$2.32	162.000	18	$6,765.12
Parking	$2.32	35.719	18	$1,491.63
TOTAL PROJECT CONSTRUCTION POWER COST				***$11,388.75***

TABLE 4-5: PROJECT CONSTRUCTION ELECTRICITY USAGE

Land Use	Cost per kWh	Project Construction Electricity Usage (kWh)
Multifamily Housing (Low Rise)	$0.11	28,473
Multifamily Housing (Mid Rise)	$0.11	61,501
Parking	$0.09	15,766
TOTAL PROJECT CONSTRUCTION ELECTRICITY USAGE (kWh)		***105,740***

[1]Assumes the Project will be under the domestic service rate under RPU

4.3.2 CONSTRUCTION EQUIPMENT FUEL ESTIMATES

Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. Project construction activity timeline estimates, construction equipment schedules, equipment power ratings, load factors, and associated fuel consumption estimates are presented in Table 4-6. Eight-hour daily use of all equipment is assumed. The aggregate fuel consumption rate for all equipment is estimated at 18.5 hp-hr-gal., obtained from California Air Resources Board (CARB) 2018 Emissions Factors Tables and cited fuel consumption rate factors presented in Table D-24 of the Moyer guidelines (30). For the purposes of this analysis, the calculations are based on all construction equipment being diesel-powered which is standard practice consistent with industry standards. Diesel fuel would be supplied by existing commercial fuel providers serving the City and region.

As presented in Table 4-6, Project construction activities would consume an estimated 78,767 gallons of diesel fuel. Project construction would represent a “single-event” diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

TABLE 4-6: CONSTRUCTION EQUIPMENT FUEL CONSUMPTION ESTIMATES

Phase Name	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption (gal. diesel fuel)
Site Preparation (10 days)	Crawler Tractors	212	4	8	0.43	2,917	1,577
	Rubber Tired Dozers	247	3	8	0.40	2,371	1,282
Crushing (20 days)	Generator Sets	1,050	1	8	0.74	6,216	6,720
Grading (20 days)	Crawler Tractors	212	3	8	0.43	2,188	2,365
	Excavators	158	1	8	0.38	480	519
	Graders	187	1	8	0.41	613	663
	Rubber Tired Dozers	247	1	8	0.40	790	854
Building Construction (310 days)	Cranes	231	1	8	0.29	536	8,980
	Crawler Tractors	212	3	8	0.43	2,188	36,661
	Forklifts	89	3	8	0.20	427	7,158
	Generator Sets	84	1	8	0.74	497	8,333
	Welders	46	1	8	0.45	166	2,775
Paving (20 days)	Pavers	130	2	8	0.42	874	944
	Paving Equipment	132	2	8	0.36	760	822
	Rollers	80	2	8	0.38	486	526
Architectural Coating (40 days)	Air Compressors	78	1	8	0.48	300	648
CONSTRUCTION FUEL DEMAND (GALLONS DIESEL FUEL)							***78,767***

4.3.3 CONSTRUCTION WORKER FUEL ESTIMATES

It is assumed that all construction worker trips are from light duty autos (LDA) along area roadways. With respect to estimated VMT, the construction worker trips would generate an estimated 856,569 VMT (23). Data regarding Project related construction worker trips were based on CalEEMod 2016.3.2 model defaults utilized within the AQIA. Output from the model runs for construction activity are provided in Appendix 4.1. As previously stated, vehicle fuel efficiencies for LDAs were estimated using information generated within the 2017 version of the EMFAC developed by the CARB. EMFAC2017 was run for the LDA vehicle class within the California sub-area for the 2021 through 2023 calendar years. Data from EMFAC2017 is shown in Appendix 4.2.

As generated by EMFAC2017, an aggregated fuel economy of LDAs ranging from model year 1974 to model years 2021 through 2023 are estimated to have fuel efficiencies of 31.83 miles per gallon (mpg), 32.77 mpg, and 33.79 mpg, respectively. Table 4-7 provides an estimated annual fuel consumption resulting from the Project generated by LDAs related to construction worker trips. Based on Table 4-7, it is estimated that 26,099 gallons of fuel will be consumed related to construction worker trips during full construction of the proposed Project.

TABLE 4-7: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES

Phase Name	Worker Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2021					
Site Preparation (10 days)	3	14.7	441	31.83	14
Crushing (20 days)	18	14.7	5,292	31.83	166
Grading (20 days)	15	14.7	4,410	31.83	139
Building Construction (15 days)	186	14.7	41,013	31.83	1,288
2022					
Building Construction (260 days)	186	14.7	710,892	32.77	21,694
2023					
Building Construction (25 days)	186	14.7	68,355	33.79	2,023
Paving (20 days)	15	14.7	4,410	33.79	131
Architectural Coating (40days)	37	14.7	21,756	33.79	644
TOTAL CONSTRUCTION WORKER FUEL CONSUMPTION					***26,099***

Project construction worker trips would represent a "single-event" gasoline fuel demand and would not require on-going or permanent commitment of fuel resources for this purpose.

4.3.4 CONSTRUCTION VENDOR/HAULING FUEL ESTIMATES

With respect to estimated VMT, the construction vendor trips would generate an estimated 1,566,240 VMT along area roadways (23). It is assumed that 50% of all vendor trips are from Medium-Heavy-Duty-Trucks (MHDT), 50% are from Heavy-Heavy-Duty Trucks (HHDT), and 100% of hauling trips are from HHDT. These assumptions are consistent with the 2016.3.2 CalEEMod defaults utilized within the within the AQIA (23). Vehicle fuel efficiencies for MHDTs and HHDTs were estimated using information generated within EMFAC2017. For purposes of this analysis, EMFAC2017 was run for the MHDT and HHDT vehicle class within the California sub-area for the 2021 through 2023 calendar years. Data from EMFAC2017 is shown in Appendix 4.2.

As generated by EMFAC2017, an aggregated fuel economy of MHDTs ranging from model year 1974 to model years 2021 through 2023 are estimated to have fuel efficiencies of 10.02 mpg, 10.34 mpg, and 10.74 mpg, respectively. Additionally, HHDTs are estimated to have fuel efficiencies of 6.89 mpg, 7.06 mpg, and 7.44 mpg, respectively. Based on Table 4-8, it is estimated that 3,199 gallons of fuel will be consumed related to construction vendor trips (MHDTs) during full construction of the proposed Project. Table 4-9 shows the estimated fuel economy of HHDTs accessing the Project site. Based on Table 4-9, fuel consumption from construction vendor trips (HHDTs) will total approximately 222,507 gallons. The total fuel consumption from construction vendor trips (MHDTs and HHDTs) is 225,706 gallons. Project construction vendor trips would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

TABLE 4-8: CONSTRUCTION VENDOR FUEL CONSUMPTION ESTIMATES (MHDT)

Phase Name	Vendor Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2021					
Building Construction (15 days)	16	6.9	1,656	10.02	165
2022					
Building Construction (260 days)	16	6.9	28,704	10.34	2,776
2023					
Building Construction (25 days)	16	6.9	2,760	10.74	257
				PROJECT MHDT TOTAL	***3,199***

TABLE 4-9: CONSTRUCTION VENDOR/HAULING FUEL CONSUMPTION ESTIMATES (HHDT)

Phase Name	Vendor Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Vendor					
2021					
Building Construction (15 days)	16	6.9	1,656	6.89	240
2022					
Building Construction (260 days)	16	6.9	28,704	7.06	4,065
2023					
Building Construction (25 days)	16	6.9	2,760	7.44	371
Hauling					
2021					
Grading (20 days)	3,750	20	1,500,000	6.89	217,831
				PROJECT HHDT TOTAL	***222,507***

4.3.5 CONSTRUCTION ENERGY EFFICIENCY/CONSERVATION MEASURES

The equipment used for Project construction would conform to CARB regulations and California emissions standards. There are no unusual Project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the Project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

The Project would utilize construction contractors which practice compliance with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants (TAC). Compliance with anti-idling and emissions regulations would result in a more efficient use of construction-related energy and the minimization or elimination of wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additionally, certain incidental construction-source energy efficiencies would likely accrue through implementation of California regulations and best available control measures (BACM). More specifically, California Code of Regulations Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of

construction equipment. To this end, "grading plans shall reference the requirement that a sign shall be posted on-site stating that construction workers need to shut off engines at or before five minutes of idling." In this manner, construction equipment operators are informed that engines are to be turned off at or prior to five minutes of idling. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

Indirectly, construction energy efficiencies and energy conservation would be achieved for the proposed development through energy efficiencies realized from bulk purchase, transport and use of construction materials.

A full analysis related to the energy needed to form construction materials is not included in this analysis due to a lack of detailed Project-specific information on construction materials. At this time, an analysis of the energy needed to create Project-related construction materials would be extremely speculative and thus has not been prepared.

In general, the construction processes promote conservation and efficient use of energy by reducing raw materials demands, with related reduction in energy demands associated with raw materials extraction, transportation, processing and refinement. Use of materials in bulk reduces energy demands associated with preparation and transport of construction materials as well as the transport and disposal of construction waste and solid waste in general, with corollary reduced demands on area landfill capacities and energy consumed by waste transport and landfill operations.

4.4 OPERATIONAL ENERGY DEMANDS

Energy consumption in support of or related to Project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the Project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

4.4.1 TRANSPORTATION ENERGY DEMANDS

Energy that would be consumed by Proposed Project-generated traffic is a function of total VMT and estimated vehicle fuel economies of vehicles accessing the Project site. The following vehicle subcategories included in this analysis are consistent with CalEEMod and EMFAC.

LIGHT-DUTY AUTOS

With respect to estimated VMT, and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 2,281,579 annual VMT along area roadways for all LDAs with full build-out of the Project (23). Table 4-10 provides an estimated range of annual fuel consumption resulting from Project generated LDAs. Based on Table 4-10, it is estimated that 67,530 gallons of fuel will be consumed from Project generated LDA trips.

TABLE 4-10: PROJECT-GENERATED LDA VEHICLE TRAFFIC ANNUAL FUEL CONSUMPTION

Annual VMT	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
2,281,579	33.79	67,530

LIGHT-DUTY TRUCKS

With respect to estimated VMT, and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 150,761 annual VMT along area roadways for all Light-Duty Trucks (LDT1)[5] vehicles with full build-out of the Project (23). Table 4-11 provides an estimated range of annual fuel consumption resulting from Project generated LDT1s. Based on Table 4-11, it is estimated that 5,312 gallons of fuel will be consumed from Project generated LDT1 trips.

TABLE 4-11: PROJECT-GENERATED LDT1 VEHICLE TRAFFIC ANNUAL FUEL CONSUMPTION

Annual VMT	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
150,761	28.38	5,312

Additionally, the Project would generate an estimated 777,292 annual VMT along area roadways for all LDT2[6] vehicles with full build-out of the Project (23). Table 4-12 provides an estimated range of annual fuel consumption resulting from Project generated LDT2s. Based on Table 4-12, it is estimated that 28,766 gallons of fuel will be consumed from Project generated LDT2 trips.

TABLE 4-12: PROJECT-GENERATED LDT2 VEHICLE TRAFFIC ANNUAL FUEL CONSUMPTION

Annual VMT	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
777,292	27.02	28,766

MEDIUM-DUTY TRUCKS

With respect to estimated VMT, and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 468,060 annual VMT along area roadways for all Medium-Duty Trucks (MDV) vehicles with full build-out of the Project (23). Table 4-13 provides an estimated range of annual fuel consumption resulting from Project generated MDVs. Based on Table 4-13, it is estimated that 21,816 gallons of fuel will be consumed from Project generated MDV trips.

[5] 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.

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

TABLE 4-13: PROJECT-GENERATED MDV VEHICLE TRAFFIC ANNUAL FUEL CONSUMPTION

Annual VMT	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
468,060	21.45	21,816

LIGHT-HEAVY DUTY TRUCKS

With respect to estimated VMT, and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 59,406 annual VMT along area roadways for all Light-Heavy-Duty Trucks (LHDT1)[7] vehicles with full build-out of the Project (23). Table 4-14 provides an estimated range of annual fuel consumption resulting from Project generated LHDT1s. Based on Table 4-14, it is estimated that 4,075 gallons of fuel will be consumed from Project generated LHDT1 trips.

TABLE 4-14: PROJECT-GENERATED LHDT1 TRAFFIC ANNUAL FUEL CONSUMPTION

Annual VMT	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
59,406	14.58	4,075

Additionally, the Project would generate an estimated 19,988 annual VMT along area roadways for all LHDT2[8] vehicles with full build-out of the Project (23). Table 4-15 provides an estimated range of annual fuel consumption resulting from Project generated LHDT2s. Based on Table 4-15, it is estimated that 1,310 gallons of fuel will be consumed from Project generated LHDT2 trips.

TABLE 4-15: PROJECT-GENERATED LHDT2 TRAFFIC ANNUAL FUEL CONSUMPTION

Annual VMT	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
19,988	15.26	1,310

MEDIUM-HEAVY DUTY TRUCKS

With respect to estimated VMT, and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 73,213 annual VMT along area roadways for all MHDTs with full build-out of the Project (23). Table 4-16 provides an estimated range of annual fuel consumption resulting from Project generated MHDTs. Based on Table 4-16, it is estimated that 6,818 gallons of fuel will be consumed from Project generated MHDT trips.

[7] Vehicles under the LHDT1 category have a GVWR of 8,501 to 10,000 lbs.
[8] Vehicles under the LHDT2 category have a GVWR of 10,001 to 14,000 lbs.

TABLE 4-16: PROJECT-GENERATED MHDT TRAFFIC ANNUAL FUEL CONSUMPTION

Annual VMT	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
73,213	10.74	6,818

HEAVY-HEAVY DUTY TRUCKS

With respect to estimated VMT, and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 291,681 annual VMT along area roadways for all HHDTs with full build-out of the Project (23). Table 4-17 provides an estimated range of annual fuel consumption resulting from Project generated HHDTs. Based on Table 4-17, it is estimated that 39,227 gallons of fuel will be consumed from Project generated HHDT trips.

TABLE 4-17: PROJECT-GENERATED HHDT TRAFFIC ANNUAL FUEL CONSUMPTION

Annual VMT	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
291,681	7.44	39,227

OTHER BUSES

With respect to estimated VMT, and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 5,860 annual VMT along area roadways for all Other Buses (OBUS) with full build-out of the Project (23). Table 4-18 provides an estimated range of annual fuel consumption resulting from Project generated OBUS vehicles. Based on Table 4-18, it is estimated that 884 gallons of fuel will be consumed from Project generated OBUS trips.

TABLE 4-18: PROJECT-GENERATED OBUS TRAFFIC ANNUAL FUEL CONSUMPTION

Annual VMT	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
5,860	6.63	884

URBAN BUSES

With respect to estimated VMT, and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 4,770 annual VMT along area roadways for all Urban Buses (UBUS) with full build-out of the Project (23). Table 4-19 provides an estimated range of annual fuel consumption resulting from Project generated UBUS vehicles. Based on Table 4-19, it is estimated that 961 gallons of fuel will be consumed from Project generated UBUS trips.

TABLE 4-19: PROJECT-GENERATED UBUS TRAFFIC ANNUAL FUEL CONSUMPTION

Annual VMT	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
4,770	4.97	961

MOTORCYCLES

With respect to estimated VMT, and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 18,748 annual VMT along area roadways for all Motorcycles (MCY) with full build-out of the Project (23). Table 4-20 provides an estimated range of annual fuel consumption resulting from Project generated MCY vehicles. Based on Table 4-20, it is estimated that 495 gallons of fuel will be consumed from Project generated MCY trips.

TABLE 4-20: PROJECT-GENERATED MCY TRAFFIC ANNUAL FUEL CONSUMPTION

Annual VMT	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
18,748	37.90	495

SCHOOL BUSES

With respect to estimated VMT, and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 3,818 annual VMT along area roadways for all School Buses (SBUS) with full build-out of the Project (23). Table 4-21 provides an estimated range of annual fuel consumption resulting from Project generated SBUS vehicles. Based on Table 4-21, it is estimated that 474 gallons of fuel will be consumed from Project generated SBUS trips.

TABLE 4-21: PROJECT-GENERATED SBUS TRAFFIC ANNUAL FUEL CONSUMPTION

Annual VMT	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
3,818	8.06	474

MOTOR HOMES

With respect to estimated VMT, and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 3,735 annual VMT along area roadways for all Motor Homes (MH) with full build-out of the Project (23). Table 4-22 provides an estimated range of annual fuel consumption resulting from Project generated MH vehicles. Based on Table 4-22, it is estimated that 605 gallons of fuel will be consumed from Project generated MH trips.

TABLE 4-22: PROJECT-GENERATED MH TRAFFIC ANNUAL FUEL CONSUMPTION

Annual VMT	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
3,735	6.17	605

As summarized on Table 4-23 the Project will result in 4,158,911 annual VMT and an estimated annual fuel consumption of 178,273 gallons of fuel.

TABLE 4-23: TOTAL PROJECT-GENERATED TRAFFIC ANNUAL FUEL CONSUMPTION (ALL VEHICLES)

Vehicle Type	Annual VMT	Estimated Annual Fuel Consumption (gallons)
LDA	2,281,579	67,530
LDT1	150,761	5,312
LDT2	777,292	28,766
MDV	468,060	21,816
LHDT1	59,406	4,075
LHDT2	19,988	1,310
MHDT	73,213	6,818
HHD T	291,681	39,227
OBUS	5,860	884
UBUS	4,770	961
MCY	18,748	495
SBUS	3,818	474
MH	3,735	605
TOTAL (ALL VEHICLES)	***4,158,911***	***178,273***

4.4.2 FACILITY ENERGY DEMANDS

Project building operations and Project site maintenance activities would result in the consumption of natural gas and electricity. Natural gas would be supplied to the Project by SoCalGas; electricity would be supplied to the Project by RPU. Annual natural gas and electricity demands of the Project are summarized in Table 4-24.

TABLE 4-24: PROJECT ANNUAL OPERATIONAL ENERGY DEMAND SUMMARY

Natural Gas Demand	kBTU/year
Multifamily Housing (Low Rise)	788,694
Multifamily Housing (Mid Rise)	1,644,160
Parking Lot	0
TOTAL PROJECT NATURAL GAS DEMAND	***2,432,854***
Electricity Demand	**kWh/year**
Multifamily Housing (Low Rise)	297,442
Multifamily Housing (Mid Rise)	610,011
Parking Lot	12,502
TOTAL PROJECT ELECTRICITY DEMAND	***919,955***

4.4.3 Operational Energy Efficiency/Conservation Measures

Energy efficiency/energy conservation attributes of the Project would be complemented by increasingly stringent state and federal regulatory actions addressing vehicle fuel economies and vehicle emissions standards; and enhanced building/utilities energy efficiencies mandated under California building codes (e.g., Title 24, California Green Building Standards Code).

It should also be noted that the Project would not result in a substantial increase in demand or transmission service, resulting in the need for new or expanded sources of energy supply or new or expanded energy delivery systems or infrastructure because it would be served by the existing electric utility lines in the Project vicinity.

Enhanced Vehicle Fuel Efficiencies

Project annual fuel consumption estimates presented previously in Table 4-23 represent likely potential maximums that would occur for the Project. Under subsequent future conditions, average fuel economies of vehicles accessing the Project site can be expected to improve as older, less fuel-efficient vehicles are removed from circulation, and in response to fuel economy and emissions standards imposed on newer vehicles entering the circulation system.

The amount of fuel consumed by the Project can be expected to improve as older, less fuel-efficient vehicles are removed from circulation, and in response to fuel economy and emissions standards imposed on newer vehicles entering the circulation system.

4.5 Summary

4.5.1 Construction Energy Demands

The estimated power cost of on-site electricity usage during the construction of the proposed Project is assumed to be approximately $11,388.75. Additionally, based on the assumed power cost, it is estimated that the total electricity usage during construction, after full Project build-out, will be approximately 105,740 kWh.

Construction equipment used by the Project would result in single event consumption of approximately 82,717 gallons of diesel fuel. Construction equipment use of fuel would not be atypical for the type of construction proposed because there are no aspects of the Project's proposed construction process that are unusual or energy-intensive, and Project construction equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies.

CCR Title 13, Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Best available control measures inform construction equipment operators of this requirement. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

Construction worker trips for full construction of the proposed Project would result in the estimated fuel consumption of 26,987 gallons of fuel. Additionally, fuel consumption from construction vendor trips (MHDTs) will total approximately 3,310 gallons. Fuel consumption from vendor and hauling trips (HHDTs) would total 249,108 gallons. As such, the fuel consumption from vendor and hauling trips would be 252,419 gallons. Diesel fuel would be supplied by City and regional commercial vendors. Indirectly, construction energy efficiencies and energy conservation would be achieved through the use of bulk purchases, transport and use of construction materials. The 2019 IEPR released by the CEC has shown that fuel efficiencies are getting better within on and off-road vehicle engines due to more stringent government requirements (19). As supported by the preceding discussions, Project construction energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

4.5.2 Operational Energy Demands

Transportation Energy Demands

Annual vehicular trips and related VMT generated by the operational of the Project would result in an estimated 184,777 gallons of fuel consumption per year for LDAs for the year 2022.

Fuel would be provided by current and future commercial vendors. Trip generation and VMT generated by the Project are consistent with other residential uses of similar scale and configuration, as reflected respectively in the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Ed., 2017); and CalEEMod. That is, the Project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT, nor associated excess and wasteful vehicle energy consumption.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of LDAs to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. The Project would implement sidewalks, facilitating and encouraging pedestrian access. Facilitating pedestrian and bicycle access would reduce VMT and associated energy consumption. In compliance with the California Green Building

Standards Code, the Project would promote the use of bicycles as an alternative mean of transportation by providing short-term and/or long-term bicycle parking accommodations. As supported by the preceding discussions, Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

FACILITY ENERGY DEMANDS

Project facility operational energy demands are estimated at: 2,432,854 kBTU/year of natural gas; and 919,955 kWh/year of electricity. Natural gas would be supplied to the Project by SoCalGas; electricity would be supplied by RPU. The Project proposes conventional residential uses reflecting contemporary energy efficient/energy conserving designs and operational programs. Uses proposed by the Project are not inherently energy intensive, and the Project energy demands in total would be comparable to, or less than, other residential projects of similar scale and configuration.

Implementation of these project design features, including required Title 24 standards will ensure that the Project energy demands would not be considered inefficient, wasteful, or otherwise unnecessary.

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5 CONCLUSIONS

5.1.1 ENERGY IMPACT 1

Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

As supported by the preceding analyses, Project operations would not result in the inefficient, wasteful or unnecessary consumption of energy. Further, the energy demands of the Project can be accommodated within the context of available resources and energy delivery systems. The Project would therefore not cause or result in the need for additional energy producing or transmission facilities. The Project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California.

5.1.2 ENERGY IMPACT 2

Energy Impact-Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The Project's consistency with the applicable state and local plans is discussed below.

CONSISTENCY WITH IEPR

Electricity would be provided to the Project by RPU and natural gas is provided by SoCalGas. RPU's Strategic Plan: 2017-2021 and SoCalGas 2018 Corporate Sustainability Report build on existing state programs and policies. As such, the Project is consistent with, and would not otherwise interfere with, nor obstruct implementation the goals presented in the 2019 IEPR.

Additionally, the Project will comply with the applicable Title 24 standards which would ensure that the Project energy demands would not be inefficient, wasteful, or otherwise unnecessary. As such, development of the proposed Project would support the goals presented in the 2019 IEPR.

CONSISTENCY WITH STATE OF CALIFORNIA ENERGY PLAN

The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access, acts to reduce VMT, takes advantage of existing infrastructure systems, and promotes land use compatibilities through the introduction of residential uses on a commercial-designated site. It should be noted that Project's proposed residential uses will generate less traffic than if the Project site were developed consistent with the commercial land use designation (retail, sales, service and office use). The Project therefore supports urban design and planning processes identified under the State of California Energy Plan, is consistent with, and would not otherwise interfere with, nor obstruct implementation of the State of California Energy Plan.

CONSISTENCY WITH CALIFORNIA CODE TITLE 24, PART 6, ENERGY EFFICIENCY STANDARDS

The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020. The analysis herein assumes compliance with the 2019 Title 24 Standards.

CONSISTENCY WITH RPS

California's Renewable Portfolio Standard is not applicable to the Project as it is a statewide measure that establishes a renewable energy mix. No feature of the Project would interfere with implementation of the requirements under RPS.

CONSISTENCY WITH AB 1493

AB 1493 is not applicable to the Project as it is a statewide measure establishing vehicle emissions standards. No feature of the Project would interfere with implementation of the requirements under AB 1493.

CONSISTENCY WITH SB 350

This measure is not directly applicable to development projects, but the proposed Project would use energy from Southern California Edison, which has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources. No feature of the Project would interfere with implementation of SB 350. Refer to Tables 3-5 and 3.6 in the Greenhouse Gas Analysis Report for an analysis of the Project's consistency with SB 350.

CONSISTENCY WITH CITY OF RRG CAP

The Project would implement energy-saving features and operational programs, consistent with the reduction measures set forth in the RRG CAP.

5.1.3 ENERGY IMPACT 3

- ***Decreasing overall per capita energy consumption.***
- ***Decreasing reliance on fossil fuels such as coal, natural gas and oil.***
- ***Increasing reliance on renewable energy sources.***

As previously stated, the proposed Project is subject to California Building Code requirements. New buildings must achieve compliance with 2019 Building and Energy Efficiency Standards and the 2019 California Green Building Standards requirements.

The CEC anticipates that single-family homes built with the 2019 standards will use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar PV systems, homes built under the 2019 standards will use about 53% less energy than homes built under the 2016 standards. Nonresidential buildings will use approximately 30% less energy due to lighting upgrades compared to the prior code (20).

On this basis, the Project would decrease overall per capital energy consumption, reliance on fossil fuels such as coal, natural gas, and oil, and increases reliance on renewable energy sources.

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7 CERTIFICATIONS

The contents of this energy report represent an accurate depiction of the environmental impacts associated with the proposed Crestview Apartments Project. The information contained in this energy report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 336-5987.

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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

Environmental Site Assessment – American Society for Testing and Materials • June 2013
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 ANNUAL EMISSIONS MODEL OUTPUTS

12585 Crestview Apartments

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	428.00	Space	0.82	35,719.00	0
Apartments Low Rise	75.00	Dwelling Unit	4.69	75,000.00	239
Apartments Mid Rise	162.00	Dwelling Unit	4.26	162,000.00	515

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2023
Utility Company	Riverside Public Utilities				
CO2 Intensity (lb/MWhr)	1325.65	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Per parcel number and TIA analysis

Construction Phase - Per 18 month site plan provided by Project Applicant

Off-road Equipment - 8 hour workday

Off-road Equipment - Per standard procedure

Off-road Equipment - Per standard procedure

Off-road Equipment -

Off-road Equipment - Per standard procedure

Trips and VMT - Weighted Trip Length of 23 miles

Grading - Per equipment grading capabilities

Architectural Coating - Rule 1103

Vehicle Trips - 10th Generation ITE

Vehicle Emission Factors - EMFAC2017

Vehicle Emission Factors - EMFAC2017

Vehicle Emission Factors - EMFAC2017

Woodstoves - Rule 445

Energy Use - Title 24 2019

Construction Off-road Equipment Mitigation - Rule 403

Off-road Equipment - Based on information provided by the Project Applicant, there will be 1 crushers on-site

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tblEnergyUse	T24NG	9,544.50	4,485.92
tblEnergyUse	T24NG	8,764.08	4,119.12
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tblFireplaces	NumberGas	137.70	162.00
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tblFireplaces	NumberNoFireplace	16.20	0.00
tblFireplaces	NumberWood	3.75	0.00
tblFireplaces	NumberWood	8.10	0.00
tblGrading	AcresOfGrading	40.00	50.00
tblGrading	AcresOfGrading	20.00	35.00
tblGrading	MaterialExported	0.00	10,000.00
tblGrading	MaterialImported	0.00	20,000.00
tblLandUse	LandUseSquareFeet	171,200.00	35,719.00
tblLandUse	LotAcreage	3.85	0.82
tblLandUse	Population	215.00	239.00
tblLandUse	Population	463.00	515.00
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tblOffRoadEquipment	UsageHours	7.00	8.00

12585 Crestview Apartments - Riverside-South Coast County, Annual

tblTripsAndVMT	HaulingTripLength	20.00	23.00
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tblVehicleEF	LDA	0.10	0.09
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	8.0650e-003	6.8280e-003
tblVehicleEF	LDA	0.04	0.22
tblVehicleEF	LDA	0.06	0.19
tblVehicleEF	LDA	2.2980e-003	2.4260e-003

tblVehicleEF	LDA	5.6100e-004	5.1000e-004
tblVehicleEF	LDA	0.04	0.05
tblVehicleEF	LDA	0.10	0.09
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.01	9.9440e-003
tblVehicleEF	LDA	0.04	0.22
tblVehicleEF	LDA	0.06	0.21
tblVehicleEF	LDT1	9.2940e-003	5.7490e-003
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	1.18	1.23
tblVehicleEF	LDT1	2.73	2.29
tblVehicleEF	LDT1	295.40	306.77
tblVehicleEF	LDT1	68.37	65.39
tblVehicleEF	LDT1	0.11	0.10
tblVehicleEF	LDT1	0.17	0.26
tblVehicleEF	LDT1	2.2770e-003	1.9040e-003
tblVehicleEF	LDT1	3.3510e-003	2.5710e-003
tblVehicleEF	LDT1	2.0960e-003	1.7520e-003
tblVehicleEF	LDT1	3.0820e-003	2.3640e-003
tblVehicleEF	LDT1	0.18	0.16
tblVehicleEF	LDT1	0.30	0.22
tblVehicleEF	LDT1	0.12	0.11
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.18	0.73
tblVehicleEF	LDT1	0.19	0.37
tblVehicleEF	LDT1	2.9680e-003	2.9210e-003
tblVehicleEF	LDT1	7.3100e-004	6.2300e-004

tblVehicleEF	LDT1	0.18	0.16
tblVehicleEF	LDT1	0.30	0.23
tblVehicleEF	LDT1	0.12	0.11
tblVehicleEF	LDT1	0.03	0.04
tblVehicleEF	LDT1	0.18	0.74
tblVehicleEF	LDT1	0.21	0.40
tblVehicleEF	LDT1	0.01	6.4140e-003
tblVehicleEF	LDT1	0.01	0.06
tblVehicleEF	LDT1	1.43	1.45
tblVehicleEF	LDT1	2.40	1.92
tblVehicleEF	LDT1	320.93	328.53
tblVehicleEF	LDT1	68.37	64.60
tblVehicleEF	LDT1	0.11	0.09
tblVehicleEF	LDT1	0.16	0.24
tblVehicleEF	LDT1	2.2770e-003	1.9040e-003
tblVehicleEF	LDT1	3.3510e-003	2.5710e-003
tblVehicleEF	LDT1	2.0960e-003	1.7520e-003
tblVehicleEF	LDT1	3.0820e-003	2.3640e-003
tblVehicleEF	LDT1	0.36	0.30
tblVehicleEF	LDT1	0.37	0.26
tblVehicleEF	LDT1	0.24	0.22
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.18	0.72
tblVehicleEF	LDT1	0.16	0.31
tblVehicleEF	LDT1	3.2270e-003	3.1280e-003
tblVehicleEF	LDT1	7.2500e-004	6.1500e-004
tblVehicleEF	LDT1	0.36	0.30

tblVehicleEF	LDT1	0.37	0.26
tblVehicleEF	LDT1	0.24	0.22
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.18	0.72
tblVehicleEF	LDT1	0.18	0.34
tblVehicleEF	LDT1	8.9360e-003	5.6560e-003
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	1.11	1.19
tblVehicleEF	LDT1	2.78	2.28
tblVehicleEF	LDT1	287.77	303.10
tblVehicleEF	LDT1	68.37	65.36
tblVehicleEF	LDT1	0.11	0.10
tblVehicleEF	LDT1	0.17	0.26
tblVehicleEF	LDT1	2.2770e-003	1.9040e-003
tblVehicleEF	LDT1	3.3510e-003	2.5710e-003
tblVehicleEF	LDT1	2.0960e-003	1.7520e-003
tblVehicleEF	LDT1	3.0820e-003	2.3640e-003
tblVehicleEF	LDT1	0.16	0.16
tblVehicleEF	LDT1	0.33	0.26
tblVehicleEF	LDT1	0.10	0.11
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.21	0.86
tblVehicleEF	LDT1	0.19	0.36
tblVehicleEF	LDT1	2.8910e-003	2.8860e-003
tblVehicleEF	LDT1	7.3200e-004	6.2200e-004
tblVehicleEF	LDT1	0.16	0.16
tblVehicleEF	LDT1	0.33	0.26

tblVehicleEF	LDT1	0.10	0.11
tblVehicleEF	LDT1	0.03	0.04
tblVehicleEF	LDT1	0.21	0.86
tblVehicleEF	LDT1	0.21	0.40
tblVehicleEF	LDT2	4.7540e-003	3.1840e-003
tblVehicleEF	LDT2	5.7630e-003	0.06
tblVehicleEF	LDT2	0.68	0.79
tblVehicleEF	LDT2	1.27	2.60
tblVehicleEF	LDT2	330.23	322.49
tblVehicleEF	LDT2	76.02	69.04
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.10	0.26
tblVehicleEF	LDT2	1.6020e-003	1.3550e-003
tblVehicleEF	LDT2	2.3660e-003	1.8060e-003
tblVehicleEF	LDT2	1.4730e-003	1.2480e-003
tblVehicleEF	LDT2	2.1760e-003	1.6600e-003
tblVehicleEF	LDT2	0.06	0.08
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.39
tblVehicleEF	LDT2	0.08	0.28
tblVehicleEF	LDT2	3.3070e-003	3.0700e-003
tblVehicleEF	LDT2	7.8100e-004	6.5700e-004
tblVehicleEF	LDT2	0.06	0.08
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.05	0.07

tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.39
tblVehicleEF	LDT2	0.09	0.31
tblVehicleEF	LDT2	5.3890e-003	3.5750e-003
tblVehicleEF	LDT2	5.0030e-003	0.05
tblVehicleEF	LDT2	0.83	0.95
tblVehicleEF	LDT2	1.13	2.17
tblVehicleEF	LDT2	359.32	343.18
tblVehicleEF	LDT2	76.02	68.20
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.10	0.24
tblVehicleEF	LDT2	1.6020e-003	1.3550e-003
tblVehicleEF	LDT2	2.3660e-003	1.8060e-003
tblVehicleEF	LDT2	1.4730e-003	1.2480e-003
tblVehicleEF	LDT2	2.1760e-003	1.6600e-003
tblVehicleEF	LDT2	0.12	0.15
tblVehicleEF	LDT2	0.12	0.14
tblVehicleEF	LDT2	0.10	0.13
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.39
tblVehicleEF	LDT2	0.07	0.24
tblVehicleEF	LDT2	3.6000e-003	3.2670e-003
tblVehicleEF	LDT2	7.7900e-004	6.4900e-004
tblVehicleEF	LDT2	0.12	0.15
tblVehicleEF	LDT2	0.12	0.14
tblVehicleEF	LDT2	0.10	0.13
tblVehicleEF	LDT2	0.02	0.02

tblVehicleEF	LDT2	0.06	0.39
tblVehicleEF	LDT2	0.07	0.27
tblVehicleEF	LDT2	4.5710e-003	3.1320e-003
tblVehicleEF	LDT2	5.9350e-003	0.06
tblVehicleEF	LDT2	0.63	0.77
tblVehicleEF	LDT2	1.30	2.58
tblVehicleEF	LDT2	321.50	318.99
tblVehicleEF	LDT2	76.02	69.01
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.10	0.25
tblVehicleEF	LDT2	1.6020e-003	1.3550e-003
tblVehicleEF	LDT2	2.3660e-003	1.8060e-003
tblVehicleEF	LDT2	1.4730e-003	1.2480e-003
tblVehicleEF	LDT2	2.1760e-003	1.6600e-003
tblVehicleEF	LDT2	0.05	0.08
tblVehicleEF	LDT2	0.11	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.07	0.46
tblVehicleEF	LDT2	0.08	0.28
tblVehicleEF	LDT2	3.2190e-003	3.0370e-003
tblVehicleEF	LDT2	7.8200e-004	6.5700e-004
tblVehicleEF	LDT2	0.05	0.08
tblVehicleEF	LDT2	0.11	0.13
tblVehicleEF	LDT2	0.04	0.07
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.07	0.46

tblVehicleEF	LDT2	0.09	0.31
tblVehicleEF	LHD1	4.9950e-003	4.5410e-003
tblVehicleEF	LHD1	8.5970e-003	4.4200e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.14	0.17
tblVehicleEF	LHD1	0.81	0.60
tblVehicleEF	LHD1	2.14	0.89
tblVehicleEF	LHD1	9.25	9.36
tblVehicleEF	LHD1	596.36	619.96
tblVehicleEF	LHD1	29.33	9.99
tblVehicleEF	LHD1	0.09	0.08
tblVehicleEF	LHD1	1.91	1.39
tblVehicleEF	LHD1	0.93	0.28
tblVehicleEF	LHD1	9.6600e-004	1.0130e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	7.9000e-004	2.1100e-004
tblVehicleEF	LHD1	9.2400e-004	9.6900e-004
tblVehicleEF	LHD1	2.5590e-003	2.5170e-003
tblVehicleEF	LHD1	0.01	9.8330e-003
tblVehicleEF	LHD1	7.2700e-004	1.9400e-004
tblVehicleEF	LHD1	3.6750e-003	2.3920e-003
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.8430e-003	1.2620e-003
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.31	0.44

tblVehicleEF	LHD1	0.23	0.07
tblVehicleEF	LHD1	9.2000e-005	9.0000e-005
tblVehicleEF	LHD1	5.8420e-003	6.0260e-003
tblVehicleEF	LHD1	3.3400e-004	9.9000e-005
tblVehicleEF	LHD1	3.6750e-003	2.3920e-003
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.8430e-003	1.2620e-003
tblVehicleEF	LHD1	0.08	0.07
tblVehicleEF	LHD1	0.31	0.44
tblVehicleEF	LHD1	0.25	0.07
tblVehicleEF	LHD1	4.9950e-003	4.5540e-003
tblVehicleEF	LHD1	8.7610e-003	4.4900e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.14	0.17
tblVehicleEF	LHD1	0.82	0.61
tblVehicleEF	LHD1	2.04	0.84
tblVehicleEF	LHD1	9.25	9.36
tblVehicleEF	LHD1	596.36	619.98
tblVehicleEF	LHD1	29.33	9.91
tblVehicleEF	LHD1	0.09	0.08
tblVehicleEF	LHD1	1.80	1.31
tblVehicleEF	LHD1	0.90	0.27
tblVehicleEF	LHD1	9.6600e-004	1.0130e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	7.9000e-004	2.1100e-004

tblVehicleEF	LHD1	9.2400e-004	9.6900e-004
tblVehicleEF	LHD1	2.5590e-003	2.5170e-003
tblVehicleEF	LHD1	0.01	9.8330e-003
tblVehicleEF	LHD1	7.2700e-004	1.9400e-004
tblVehicleEF	LHD1	6.8550e-003	4.2440e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	3.4810e-003	2.4050e-003
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.32	0.44
tblVehicleEF	LHD1	0.22	0.06
tblVehicleEF	LHD1	9.2000e-005	9.0000e-005
tblVehicleEF	LHD1	5.8420e-003	6.0260e-003
tblVehicleEF	LHD1	3.3200e-004	9.8000e-005
tblVehicleEF	LHD1	6.8550e-003	4.2440e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	3.4810e-003	2.4050e-003
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.32	0.44
tblVehicleEF	LHD1	0.24	0.07
tblVehicleEF	LHD1	4.9950e-003	4.5430e-003
tblVehicleEF	LHD1	8.5850e-003	4.4280e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.14	0.17
tblVehicleEF	LHD1	0.81	0.60
tblVehicleEF	LHD1	2.14	0.88

tblVehicleEF	LHD1	9.25	9.36
tblVehicleEF	LHD1	596.36	619.96
tblVehicleEF	LHD1	29.33	9.98
tblVehicleEF	LHD1	0.09	0.08
tblVehicleEF	LHD1	1.89	1.37
tblVehicleEF	LHD1	0.92	0.28
tblVehicleEF	LHD1	9.6600e-004	1.0130e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	7.9000e-004	2.1100e-004
tblVehicleEF	LHD1	9.2400e-004	9.6900e-004
tblVehicleEF	LHD1	2.5590e-003	2.5170e-003
tblVehicleEF	LHD1	0.01	9.8330e-003
tblVehicleEF	LHD1	7.2700e-004	1.9400e-004
tblVehicleEF	LHD1	3.2380e-003	2.4970e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.6810e-003	1.3210e-003
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.33	0.47
tblVehicleEF	LHD1	0.23	0.07
tblVehicleEF	LHD1	9.2000e-005	9.0000e-005
tblVehicleEF	LHD1	5.8420e-003	6.0260e-003
tblVehicleEF	LHD1	3.3400e-004	9.9000e-005
tblVehicleEF	LHD1	3.2380e-003	2.4970e-003
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.02	0.03

tblVehicleEF	LHD1	1.6810e-003	1.3210e-003
tblVehicleEF	LHD1	0.08	0.07
tblVehicleEF	LHD1	0.33	0.47
tblVehicleEF	LHD1	0.25	0.07
tblVehicleEF	LHD2	3.3070e-003	2.7700e-003
tblVehicleEF	LHD2	3.5370e-003	3.2640e-003
tblVehicleEF	LHD2	6.6670e-003	7.1780e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.40	0.44
tblVehicleEF	LHD2	1.03	0.48
tblVehicleEF	LHD2	14.34	14.92
tblVehicleEF	LHD2	592.89	614.92
tblVehicleEF	LHD2	22.93	6.42
tblVehicleEF	LHD2	0.11	0.12
tblVehicleEF	LHD2	1.29	1.52
tblVehicleEF	LHD2	0.46	0.16
tblVehicleEF	LHD2	1.2850e-003	1.5130e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.5700e-004	9.8000e-005
tblVehicleEF	LHD2	1.2290e-003	1.4470e-003
tblVehicleEF	LHD2	2.7020e-003	2.7370e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.2800e-004	9.1000e-005
tblVehicleEF	LHD2	1.3090e-003	1.1190e-003
tblVehicleEF	LHD2	0.03	0.03
tblVehicleEF	LHD2	0.01	0.01

tblVehicleEF	LHD2	7.0300e-004	6.1300e-004
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.07	0.19
tblVehicleEF	LHD2	0.09	0.04
tblVehicleEF	LHD2	1.4000e-004	1.4200e-004
tblVehicleEF	LHD2	5.7620e-003	5.9160e-003
tblVehicleEF	LHD2	2.4800e-004	6.4000e-005
tblVehicleEF	LHD2	1.3090e-003	1.1190e-003
tblVehicleEF	LHD2	0.03	0.03
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	7.0300e-004	6.1300e-004
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.07	0.19
tblVehicleEF	LHD2	0.10	0.04
tblVehicleEF	LHD2	3.3070e-003	2.7770e-003
tblVehicleEF	LHD2	3.5730e-003	3.2860e-003
tblVehicleEF	LHD2	6.4430e-003	6.9030e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.40	0.45
tblVehicleEF	LHD2	0.98	0.45
tblVehicleEF	LHD2	14.34	14.92
tblVehicleEF	LHD2	592.89	614.93
tblVehicleEF	LHD2	22.93	6.38
tblVehicleEF	LHD2	0.11	0.12
tblVehicleEF	LHD2	1.22	1.43
tblVehicleEF	LHD2	0.45	0.15
tblVehicleEF	LHD2	1.2850e-003	1.5130e-003

tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.5700e-004	9.8000e-005
tblVehicleEF	LHD2	1.2290e-003	1.4470e-003
tblVehicleEF	LHD2	2.7020e-003	2.7370e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.2800e-004	9.1000e-005
tblVehicleEF	LHD2	2.4680e-003	1.9920e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	1.3130e-003	1.1680e-003
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.07	0.20
tblVehicleEF	LHD2	0.09	0.03
tblVehicleEF	LHD2	1.4000e-004	1.4200e-004
tblVehicleEF	LHD2	5.7620e-003	5.9160e-003
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tblVehicleEF	LHD2	2.4680e-003	1.9920e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.3130e-003	1.1680e-003
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.07	0.20
tblVehicleEF	LHD2	0.10	0.04
tblVehicleEF	LHD2	3.3070e-003	2.7710e-003
tblVehicleEF	LHD2	3.5300e-003	3.2670e-003
tblVehicleEF	LHD2	6.7050e-003	7.1290e-003

tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.40	0.44
tblVehicleEF	LHD2	1.03	0.47
tblVehicleEF	LHD2	14.34	14.92
tblVehicleEF	LHD2	592.89	614.92
tblVehicleEF	LHD2	22.93	6.42
tblVehicleEF	LHD2	0.11	0.12
tblVehicleEF	LHD2	1.28	1.49
tblVehicleEF	LHD2	0.46	0.16
tblVehicleEF	LHD2	1.2850e-003	1.5130e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.5700e-004	9.8000e-005
tblVehicleEF	LHD2	1.2290e-003	1.4470e-003
tblVehicleEF	LHD2	2.7020e-003	2.7370e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.2800e-004	9.1000e-005
tblVehicleEF	LHD2	1.0230e-003	1.1350e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	5.9800e-004	6.3500e-004
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.08	0.21
tblVehicleEF	LHD2	0.09	0.03
tblVehicleEF	LHD2	1.4000e-004	1.4200e-004
tblVehicleEF	LHD2	5.7620e-003	5.9160e-003
tblVehicleEF	LHD2	2.4800e-004	6.3000e-005

tblVehicleEF	LHD2	1.0230e-003	1.1350e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.9800e-004	6.3500e-004
tblVehicleEF	LHD2	0.06	0.06
tblVehicleEF	LHD2	0.08	0.21
tblVehicleEF	LHD2	0.10	0.04
tblVehicleEF	MCY	0.43	0.31
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	18.81	18.85
tblVehicleEF	MCY	9.70	8.64
tblVehicleEF	MCY	166.71	207.60
tblVehicleEF	MCY	45.36	60.36
tblVehicleEF	MCY	1.12	1.13
tblVehicleEF	MCY	0.31	0.26
tblVehicleEF	MCY	1.8630e-003	1.7970e-003
tblVehicleEF	MCY	3.2830e-003	2.7750e-003
tblVehicleEF	MCY	1.7410e-003	1.6800e-003
tblVehicleEF	MCY	3.0870e-003	2.6090e-003
tblVehicleEF	MCY	1.69	1.43
tblVehicleEF	MCY	0.83	0.79
tblVehicleEF	MCY	0.92	0.76
tblVehicleEF	MCY	2.11	2.11
tblVehicleEF	MCY	0.55	1.77
tblVehicleEF	MCY	2.05	1.83
tblVehicleEF	MCY	2.0360e-003	2.0540e-003
tblVehicleEF	MCY	6.7200e-004	5.9700e-004

tblVehicleEF	MCY	1.69	1.43
tblVehicleEF	MCY	0.83	0.79
tblVehicleEF	MCY	0.92	0.76
tblVehicleEF	MCY	2.61	2.61
tblVehicleEF	MCY	0.55	1.77
tblVehicleEF	MCY	2.23	2.00
tblVehicleEF	MCY	0.42	0.31
tblVehicleEF	MCY	0.13	0.21
tblVehicleEF	MCY	19.51	18.83
tblVehicleEF	MCY	9.10	7.90
tblVehicleEF	MCY	166.71	207.41
tblVehicleEF	MCY	45.36	58.44
tblVehicleEF	MCY	0.97	0.97
tblVehicleEF	MCY	0.29	0.25
tblVehicleEF	MCY	1.8630e-003	1.7970e-003
tblVehicleEF	MCY	3.2830e-003	2.7750e-003
tblVehicleEF	MCY	1.7410e-003	1.6800e-003
tblVehicleEF	MCY	3.0870e-003	2.6090e-003
tblVehicleEF	MCY	3.35	2.75
tblVehicleEF	MCY	1.23	1.09
tblVehicleEF	MCY	2.09	1.72
tblVehicleEF	MCY	2.09	2.07
tblVehicleEF	MCY	0.55	1.74
tblVehicleEF	MCY	1.84	1.61
tblVehicleEF	MCY	2.0460e-003	2.0530e-003
tblVehicleEF	MCY	6.5600e-004	5.7800e-004
tblVehicleEF	MCY	3.35	2.75

tblVehicleEF	MCY	1.23	1.09
tblVehicleEF	MCY	2.09	1.72
tblVehicleEF	MCY	2.59	2.56
tblVehicleEF	MCY	0.55	1.74
tblVehicleEF	MCY	2.00	1.75
tblVehicleEF	MCY	0.42	0.31
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	18.37	18.30
tblVehicleEF	MCY	9.67	8.43
tblVehicleEF	MCY	166.71	206.64
tblVehicleEF	MCY	45.36	59.88
tblVehicleEF	MCY	1.12	1.09
tblVehicleEF	MCY	0.31	0.26
tblVehicleEF	MCY	1.8630e-003	1.7970e-003
tblVehicleEF	MCY	3.2830e-003	2.7750e-003
tblVehicleEF	MCY	1.7410e-003	1.6800e-003
tblVehicleEF	MCY	3.0870e-003	2.6090e-003
tblVehicleEF	MCY	1.59	1.64
tblVehicleEF	MCY	1.02	1.05
tblVehicleEF	MCY	0.73	0.76
tblVehicleEF	MCY	2.11	2.09
tblVehicleEF	MCY	0.63	2.02
tblVehicleEF	MCY	2.06	1.79
tblVehicleEF	MCY	2.0290e-003	2.0450e-003
tblVehicleEF	MCY	6.7200e-004	5.9300e-004
tblVehicleEF	MCY	1.59	1.64
tblVehicleEF	MCY	1.02	1.05

tblVehicleEF	MCY	0.73	0.76
tblVehicleEF	MCY	2.61	2.59
tblVehicleEF	MCY	0.63	2.02
tblVehicleEF	MCY	2.24	1.95
tblVehicleEF	MDV	9.8990e-003	4.1640e-003
tblVehicleEF	MDV	0.01	0.08
tblVehicleEF	MDV	1.15	0.92
tblVehicleEF	MDV	2.62	3.01
tblVehicleEF	MDV	458.82	406.42
tblVehicleEF	MDV	104.21	86.29
tblVehicleEF	MDV	0.13	0.09
tblVehicleEF	MDV	0.25	0.33
tblVehicleEF	MDV	1.6580e-003	1.4180e-003
tblVehicleEF	MDV	2.3780e-003	1.8620e-003
tblVehicleEF	MDV	1.5280e-003	1.3080e-003
tblVehicleEF	MDV	2.1870e-003	1.7120e-003
tblVehicleEF	MDV	0.11	0.10
tblVehicleEF	MDV	0.19	0.15
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.11	0.46
tblVehicleEF	MDV	0.20	0.38
tblVehicleEF	MDV	4.5960e-003	3.8690e-003
tblVehicleEF	MDV	1.0880e-003	8.2200e-004
tblVehicleEF	MDV	0.11	0.10
tblVehicleEF	MDV	0.19	0.15
tblVehicleEF	MDV	0.09	0.09

tblVehicleEF	MDV	0.04	0.02
tblVehicleEF	MDV	0.11	0.46
tblVehicleEF	MDV	0.22	0.41
tblVehicleEF	MDV	0.01	4.6800e-003
tblVehicleEF	MDV	0.01	0.07
tblVehicleEF	MDV	1.41	1.10
tblVehicleEF	MDV	2.31	2.51
tblVehicleEF	MDV	498.05	428.48
tblVehicleEF	MDV	104.21	85.29
tblVehicleEF	MDV	0.13	0.08
tblVehicleEF	MDV	0.24	0.31
tblVehicleEF	MDV	1.6580e-003	1.4180e-003
tblVehicleEF	MDV	2.3780e-003	1.8620e-003
tblVehicleEF	MDV	1.5280e-003	1.3080e-003
tblVehicleEF	MDV	2.1870e-003	1.7120e-003
tblVehicleEF	MDV	0.21	0.19
tblVehicleEF	MDV	0.22	0.17
tblVehicleEF	MDV	0.16	0.17
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.11	0.45
tblVehicleEF	MDV	0.17	0.32
tblVehicleEF	MDV	4.9910e-003	4.0790e-003
tblVehicleEF	MDV	1.0820e-003	8.1200e-004
tblVehicleEF	MDV	0.21	0.19
tblVehicleEF	MDV	0.22	0.17
tblVehicleEF	MDV	0.16	0.17
tblVehicleEF	MDV	0.04	0.03

tblVehicleEF	MDV	0.11	0.45
tblVehicleEF	MDV	0.19	0.35
tblVehicleEF	MDV	9.5100e-003	4.0920e-003
tblVehicleEF	MDV	0.02	0.08
tblVehicleEF	MDV	1.08	0.89
tblVehicleEF	MDV	2.68	2.99
tblVehicleEF	MDV	447.05	402.69
tblVehicleEF	MDV	104.21	86.25
tblVehicleEF	MDV	0.13	0.08
tblVehicleEF	MDV	0.25	0.33
tblVehicleEF	MDV	1.6580e-003	1.4180e-003
tblVehicleEF	MDV	2.3780e-003	1.8620e-003
tblVehicleEF	MDV	1.5280e-003	1.3080e-003
tblVehicleEF	MDV	2.1870e-003	1.7120e-003
tblVehicleEF	MDV	0.08	0.10
tblVehicleEF	MDV	0.20	0.16
tblVehicleEF	MDV	0.08	0.09
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.13	0.52
tblVehicleEF	MDV	0.20	0.38
tblVehicleEF	MDV	4.4770e-003	3.8330e-003
tblVehicleEF	MDV	1.0890e-003	8.2100e-004
tblVehicleEF	MDV	0.08	0.10
tblVehicleEF	MDV	0.20	0.16
tblVehicleEF	MDV	0.08	0.09
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.13	0.53

tblVehicleEF	MDV	0.22	0.41
tblVehicleEF	MH	0.02	3.2740e-003
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	2.00	0.33
tblVehicleEF	MH	5.24	0.00
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tblVehicleEF	MH	57.13	0.00
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tblVehicleEF	MH	0.79	0.00
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.04	0.14
tblVehicleEF	MH	9.7800e-004	0.00
tblVehicleEF	MH	3.2460e-003	4.0000e-003
tblVehicleEF	MH	0.04	0.13
tblVehicleEF	MH	8.9900e-004	0.00
tblVehicleEF	MH	1.38	0.00
tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.49	0.00
tblVehicleEF	MH	0.07	0.07
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.31	0.00
tblVehicleEF	MH	9.8680e-003	8.7850e-003
tblVehicleEF	MH	6.6300e-004	0.00
tblVehicleEF	MH	1.38	0.00
tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.49	0.00
tblVehicleEF	MH	0.10	0.08

tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.34	0.00
tblVehicleEF	MH	0.02	3.2740e-003
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	2.05	0.33
tblVehicleEF	MH	4.88	0.00
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tblVehicleEF	MH	57.13	0.00
tblVehicleEF	MH	1.37	4.03
tblVehicleEF	MH	0.76	0.00
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.04	0.14
tblVehicleEF	MH	9.7800e-004	0.00
tblVehicleEF	MH	3.2460e-003	4.0000e-003
tblVehicleEF	MH	0.04	0.13
tblVehicleEF	MH	8.9900e-004	0.00
tblVehicleEF	MH	2.52	0.00
tblVehicleEF	MH	0.09	0.00
tblVehicleEF	MH	0.94	0.00
tblVehicleEF	MH	0.08	0.07
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.30	0.00
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tblVehicleEF	MH	6.5700e-004	0.00
tblVehicleEF	MH	2.52	0.00
tblVehicleEF	MH	0.09	0.00
tblVehicleEF	MH	0.94	0.00

tblVehicleEF	MH	0.10	0.08
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.32	0.00
tblVehicleEF	MH	0.02	3.2740e-003
tblVehicleEF	MH	0.02	0.00
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tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.04	0.14
tblVehicleEF	MH	9.7800e-004	0.00
tblVehicleEF	MH	3.2460e-003	4.0000e-003
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tblVehicleEF	MH	8.9900e-004	0.00
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tblVehicleEF	MH	0.09	0.00
tblVehicleEF	MH	0.47	0.00
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tblVehicleEF	MH	0.03	0.00
tblVehicleEF	MH	0.31	0.00
tblVehicleEF	MH	9.8680e-003	8.7850e-003
tblVehicleEF	MH	6.6300e-004	0.00
tblVehicleEF	MH	1.38	0.00
tblVehicleEF	MH	0.09	0.00

tblVehicleEF	MH	0.47	0.00
tblVehicleEF	MH	0.10	0.08
tblVehicleEF	MH	0.03	0.00
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tblVehicleEF	MHD	0.21	0.12
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tblVehicleEF	MHD	1,056.49	911.02
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tblVehicleEF	MHD	0.41	0.40
tblVehicleEF	MHD	0.47	0.91
tblVehicleEF	MHD	11.43	1.80
tblVehicleEF	MHD	1.3500e-004	4.3400e-004
tblVehicleEF	MHD	2.6660e-003	9.4670e-003
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tblVehicleEF	MHD	6.7100e-004	7.6000e-005
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tblVehicleEF	MHD	0.02	9.5450e-003

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tblVehicleEF	MHD	6.3400e-004	7.1000e-005
tblVehicleEF	MHD	1.5020e-003	4.1800e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	7.6500e-004	2.2800e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.34	0.04
tblVehicleEF	MHD	0.02	2.6270e-003
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tblVehicleEF	MHD	1,056.49	911.02
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tblVehicleEF	MHD	1.1400e-004	3.6900e-004
tblVehicleEF	MHD	2.6660e-003	9.4670e-003
tblVehicleEF	MHD	7.3000e-004	8.3000e-005

tblVehicleEF	MHD	1.0900e-004	3.5300e-004
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tblVehicleEF	MHD	6.7100e-004	7.6000e-005
tblVehicleEF	MHD	2.8970e-003	7.5100e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.02	0.01
tblVehicleEF	MHD	1.4710e-003	4.4600e-004
tblVehicleEF	MHD	0.02	9.6090e-003
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.30	0.04
tblVehicleEF	MHD	1.5100e-003	6.3800e-004
tblVehicleEF	MHD	0.01	8.6560e-003
tblVehicleEF	MHD	6.3000e-004	7.1000e-005
tblVehicleEF	MHD	2.8970e-003	7.5100e-004
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tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	1.4710e-003	4.4600e-004
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tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.33	0.04
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tblVehicleEF	MHD	0.21	0.12
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tblVehicleEF	MHD	1.6400e-004	5.2400e-004
tblVehicleEF	MHD	2.6660e-003	9.4670e-003
tblVehicleEF	MHD	7.3000e-004	8.3000e-005
tblVehicleEF	MHD	1.5700e-004	5.0100e-004
tblVehicleEF	MHD	2.5470e-003	9.0550e-003
tblVehicleEF	MHD	6.7100e-004	7.6000e-005
tblVehicleEF	MHD	1.0970e-003	4.3600e-004
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tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	5.9600e-004	2.3900e-004
tblVehicleEF	MHD	0.02	9.5510e-003
tblVehicleEF	MHD	0.02	0.08
tblVehicleEF	MHD	0.31	0.04
tblVehicleEF	MHD	1.3130e-003	6.3800e-004
tblVehicleEF	MHD	0.01	8.6560e-003
tblVehicleEF	MHD	6.3600e-004	7.1000e-005
tblVehicleEF	MHD	1.0970e-003	4.3600e-004
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tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	5.9600e-004	2.3900e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.02	0.08

tblVehicleEF	MHD	0.34	0.04
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tblVehicleEF	OBUS	5.6790e-003	5.4050e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.25	0.49
tblVehicleEF	OBUS	0.39	0.70
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tblVehicleEF	OBUS	68.59	64.37
tblVehicleEF	OBUS	1,085.33	1,335.49
tblVehicleEF	OBUS	69.49	21.28
tblVehicleEF	OBUS	0.13	0.23
tblVehicleEF	OBUS	0.35	0.91
tblVehicleEF	OBUS	2.07	0.69
tblVehicleEF	OBUS	1.2000e-005	7.5000e-005
tblVehicleEF	OBUS	1.9500e-003	8.4680e-003
tblVehicleEF	OBUS	8.7100e-004	2.1800e-004
tblVehicleEF	OBUS	1.1000e-005	7.2000e-005
tblVehicleEF	OBUS	1.8490e-003	8.0880e-003
tblVehicleEF	OBUS	8.0000e-004	2.0100e-004
tblVehicleEF	OBUS	2.0910e-003	2.6670e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	9.0600e-004	1.1770e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.29
tblVehicleEF	OBUS	0.34	0.13
tblVehicleEF	OBUS	6.6700e-004	6.1500e-004

tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.9200e-004	2.1100e-004
tblVehicleEF	OBUS	2.0910e-003	2.6670e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	9.0600e-004	1.1770e-003
tblVehicleEF	OBUS	0.03	0.04
tblVehicleEF	OBUS	0.05	0.29
tblVehicleEF	OBUS	0.38	0.14
tblVehicleEF	OBUS	0.01	8.5920e-003
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tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.24	0.48
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tblVehicleEF	OBUS	1,085.33	1,335.52
tblVehicleEF	OBUS	69.49	20.96
tblVehicleEF	OBUS	0.14	0.21
tblVehicleEF	OBUS	0.33	0.84
tblVehicleEF	OBUS	2.03	0.67
tblVehicleEF	OBUS	1.0000e-005	6.7000e-005
tblVehicleEF	OBUS	1.9500e-003	8.4680e-003
tblVehicleEF	OBUS	8.7100e-004	2.1800e-004
tblVehicleEF	OBUS	1.0000e-005	6.4000e-005
tblVehicleEF	OBUS	1.8490e-003	8.0880e-003
tblVehicleEF	OBUS	8.0000e-004	2.0100e-004

tblVehicleEF	OBUS	3.8840e-003	4.6970e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	1.7290e-003	2.2650e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.29
tblVehicleEF	OBUS	0.33	0.12
tblVehicleEF	OBUS	6.9600e-004	6.0900e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.8600e-004	2.0700e-004
tblVehicleEF	OBUS	3.8840e-003	4.6970e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	1.7290e-003	2.2650e-003
tblVehicleEF	OBUS	0.03	0.04
tblVehicleEF	OBUS	0.05	0.29
tblVehicleEF	OBUS	0.36	0.13
tblVehicleEF	OBUS	0.01	8.4630e-003
tblVehicleEF	OBUS	5.6610e-003	5.4160e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.25	0.49
tblVehicleEF	OBUS	0.39	0.70
tblVehicleEF	OBUS	5.57	2.67
tblVehicleEF	OBUS	64.36	65.29
tblVehicleEF	OBUS	1,085.33	1,335.50
tblVehicleEF	OBUS	69.49	21.26
tblVehicleEF	OBUS	0.13	0.24

tblVehicleEF	OBUS	0.35	0.89
tblVehicleEF	OBUS	2.06	0.68
tblVehicleEF	OBUS	1.5000e-005	8.7000e-005
tblVehicleEF	OBUS	1.9500e-003	8.4680e-003
tblVehicleEF	OBUS	8.7100e-004	2.1800e-004
tblVehicleEF	OBUS	1.4000e-005	8.3000e-005
tblVehicleEF	OBUS	1.8490e-003	8.0880e-003
tblVehicleEF	OBUS	8.0000e-004	2.0100e-004
tblVehicleEF	OBUS	1.7990e-003	2.7830e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.03	0.04
tblVehicleEF	OBUS	8.3400e-004	1.2510e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.31
tblVehicleEF	OBUS	0.35	0.13
tblVehicleEF	OBUS	6.2600e-004	6.2400e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.9300e-004	2.1000e-004
tblVehicleEF	OBUS	1.7990e-003	2.7830e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	8.3400e-004	1.2510e-003
tblVehicleEF	OBUS	0.03	0.04
tblVehicleEF	OBUS	0.05	0.31
tblVehicleEF	OBUS	0.38	0.14
tblVehicleEF	SBUS	0.82	0.09
tblVehicleEF	SBUS	9.5650e-003	6.6030e-003

tblVehicleEF	SBUS	0.06	8.0990e-003
tblVehicleEF	SBUS	7.84	3.43
tblVehicleEF	SBUS	0.57	0.55
tblVehicleEF	SBUS	6.44	1.08
tblVehicleEF	SBUS	1,128.57	369.74
tblVehicleEF	SBUS	1,093.03	1,096.55
tblVehicleEF	SBUS	55.12	6.92
tblVehicleEF	SBUS	8.81	3.32
tblVehicleEF	SBUS	3.97	4.42
tblVehicleEF	SBUS	12.20	0.78
tblVehicleEF	SBUS	8.4250e-003	3.3040e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	5.0000e-004	4.8000e-005
tblVehicleEF	SBUS	8.0610e-003	3.1610e-003
tblVehicleEF	SBUS	2.6870e-003	2.6500e-003
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	4.6000e-004	4.4000e-005
tblVehicleEF	SBUS	5.0680e-003	1.5760e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	0.93	0.41
tblVehicleEF	SBUS	2.4310e-003	7.9200e-004
tblVehicleEF	SBUS	0.10	0.09
tblVehicleEF	SBUS	0.02	0.07
tblVehicleEF	SBUS	0.36	0.05
tblVehicleEF	SBUS	0.01	3.5360e-003
tblVehicleEF	SBUS	0.01	0.01

tblVehicleEF	SBUS	6.6300e-004	6.9000e-005
tblVehicleEF	SBUS	5.0680e-003	1.5760e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	1.34	0.59
tblVehicleEF	SBUS	2.4310e-003	7.9200e-004
tblVehicleEF	SBUS	0.12	0.11
tblVehicleEF	SBUS	0.02	0.07
tblVehicleEF	SBUS	0.39	0.05
tblVehicleEF	SBUS	0.82	0.09
tblVehicleEF	SBUS	9.7050e-003	6.6870e-003
tblVehicleEF	SBUS	0.05	6.7520e-003
tblVehicleEF	SBUS	7.74	3.39
tblVehicleEF	SBUS	0.58	0.56
tblVehicleEF	SBUS	4.67	0.77
tblVehicleEF	SBUS	1,179.47	378.98
tblVehicleEF	SBUS	1,093.03	1,096.56
tblVehicleEF	SBUS	55.12	6.42
tblVehicleEF	SBUS	9.10	3.40
tblVehicleEF	SBUS	3.73	4.16
tblVehicleEF	SBUS	12.17	0.77
tblVehicleEF	SBUS	7.1020e-003	2.7930e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	5.0000e-004	4.8000e-005
tblVehicleEF	SBUS	6.7950e-003	2.6720e-003
tblVehicleEF	SBUS	2.6870e-003	2.6500e-003
tblVehicleEF	SBUS	0.02	0.02

tblVehicleEF	SBUS	4.6000e-004	4.4000e-005
tblVehicleEF	SBUS	9.1290e-003	2.7600e-003
tblVehicleEF	SBUS	0.04	0.01
tblVehicleEF	SBUS	0.92	0.41
tblVehicleEF	SBUS	4.4980e-003	1.4670e-003
tblVehicleEF	SBUS	0.10	0.09
tblVehicleEF	SBUS	0.02	0.06
tblVehicleEF	SBUS	0.30	0.04
tblVehicleEF	SBUS	0.01	3.6240e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.3300e-004	6.3000e-005
tblVehicleEF	SBUS	9.1290e-003	2.7600e-003
tblVehicleEF	SBUS	0.04	0.01
tblVehicleEF	SBUS	1.34	0.59
tblVehicleEF	SBUS	4.4980e-003	1.4670e-003
tblVehicleEF	SBUS	0.12	0.11
tblVehicleEF	SBUS	0.02	0.06
tblVehicleEF	SBUS	0.33	0.04
tblVehicleEF	SBUS	0.82	0.09
tblVehicleEF	SBUS	9.5210e-003	6.6020e-003
tblVehicleEF	SBUS	0.06	8.2440e-003
tblVehicleEF	SBUS	8.00	3.48
tblVehicleEF	SBUS	0.57	0.55
tblVehicleEF	SBUS	6.79	1.10
tblVehicleEF	SBUS	1,058.28	356.98
tblVehicleEF	SBUS	1,093.03	1,096.55
tblVehicleEF	SBUS	55.12	6.96

tblVehicleEF	SBUS	8.43	3.21
tblVehicleEF	SBUS	3.93	4.35
tblVehicleEF	SBUS	12.21	0.78
tblVehicleEF	SBUS	0.01	4.0110e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	5.0000e-004	4.8000e-005
tblVehicleEF	SBUS	9.8080e-003	3.8370e-003
tblVehicleEF	SBUS	2.6870e-003	2.6500e-003
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	4.6000e-004	4.4000e-005
tblVehicleEF	SBUS	4.3640e-003	1.4840e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	0.93	0.41
tblVehicleEF	SBUS	2.3310e-003	8.1800e-004
tblVehicleEF	SBUS	0.10	0.09
tblVehicleEF	SBUS	0.02	0.08
tblVehicleEF	SBUS	0.37	0.05
tblVehicleEF	SBUS	0.01	3.4160e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.6900e-004	6.9000e-005
tblVehicleEF	SBUS	4.3640e-003	1.4840e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	1.34	0.59
tblVehicleEF	SBUS	2.3310e-003	8.1800e-004
tblVehicleEF	SBUS	0.12	0.11
tblVehicleEF	SBUS	0.02	0.08

tblVehicleEF	SBUS	0.40	0.05
tblVehicleEF	UBUS	1.36	3.04
tblVehicleEF	UBUS	0.08	0.02
tblVehicleEF	UBUS	7.52	23.60
tblVehicleEF	UBUS	13.83	1.86
tblVehicleEF	UBUS	1,788.21	1,635.62
tblVehicleEF	UBUS	153.17	22.96
tblVehicleEF	UBUS	3.79	0.30
tblVehicleEF	UBUS	12.24	0.22
tblVehicleEF	UBUS	0.49	0.09
tblVehicleEF	UBUS	0.01	0.02
tblVehicleEF	UBUS	0.04	2.1820e-003
tblVehicleEF	UBUS	1.4880e-003	2.2400e-004
tblVehicleEF	UBUS	0.21	0.04
tblVehicleEF	UBUS	3.0000e-003	5.0570e-003
tblVehicleEF	UBUS	0.04	2.0670e-003
tblVehicleEF	UBUS	1.3680e-003	2.0600e-004
tblVehicleEF	UBUS	9.0420e-003	2.8050e-003
tblVehicleEF	UBUS	0.10	0.02
tblVehicleEF	UBUS	4.5390e-003	1.1470e-003
tblVehicleEF	UBUS	0.42	0.05
tblVehicleEF	UBUS	0.02	0.08
tblVehicleEF	UBUS	1.09	0.10
tblVehicleEF	UBUS	9.5090e-003	6.3200e-003
tblVehicleEF	UBUS	1.7820e-003	2.2700e-004
tblVehicleEF	UBUS	9.0420e-003	2.8050e-003
tblVehicleEF	UBUS	0.10	0.02

tblVehicleEF	UBUS	4.5390e-003	1.1470e-003
tblVehicleEF	UBUS	1.82	3.11
tblVehicleEF	UBUS	0.02	0.08
tblVehicleEF	UBUS	1.19	0.10
tblVehicleEF	UBUS	1.36	3.04
tblVehicleEF	UBUS	0.07	0.02
tblVehicleEF	UBUS	7.58	23.60
tblVehicleEF	UBUS	11.85	1.58
tblVehicleEF	UBUS	1,788.21	1,635.63
tblVehicleEF	UBUS	153.17	22.49
tblVehicleEF	UBUS	3.53	0.30
tblVehicleEF	UBUS	12.16	0.21
tblVehicleEF	UBUS	0.49	0.09
tblVehicleEF	UBUS	0.01	0.02
tblVehicleEF	UBUS	0.04	2.1820e-003
tblVehicleEF	UBUS	1.4880e-003	2.2400e-004
tblVehicleEF	UBUS	0.21	0.04
tblVehicleEF	UBUS	3.0000e-003	5.0570e-003
tblVehicleEF	UBUS	0.04	2.0670e-003
tblVehicleEF	UBUS	1.3680e-003	2.0600e-004
tblVehicleEF	UBUS	0.02	4.9810e-003
tblVehicleEF	UBUS	0.13	0.02
tblVehicleEF	UBUS	9.0520e-003	2.2660e-003
tblVehicleEF	UBUS	0.43	0.05
tblVehicleEF	UBUS	0.02	0.07
tblVehicleEF	UBUS	0.99	0.09
tblVehicleEF	UBUS	9.5110e-003	6.3200e-003

tblVehicleEF	UBUS	1.7480e-003	2.2300e-004
tblVehicleEF	UBUS	0.02	4.9810e-003
tblVehicleEF	UBUS	0.13	0.02
tblVehicleEF	UBUS	9.0520e-003	2.2660e-003
tblVehicleEF	UBUS	1.83	3.11
tblVehicleEF	UBUS	0.02	0.07
tblVehicleEF	UBUS	1.09	0.09
tblVehicleEF	UBUS	1.36	3.04
tblVehicleEF	UBUS	0.08	0.02
tblVehicleEF	UBUS	7.51	23.60
tblVehicleEF	UBUS	14.02	1.85
tblVehicleEF	UBUS	1,788.21	1,635.62
tblVehicleEF	UBUS	153.17	22.93
tblVehicleEF	UBUS	3.75	0.30
tblVehicleEF	UBUS	12.25	0.22
tblVehicleEF	UBUS	0.49	0.09
tblVehicleEF	UBUS	0.01	0.02
tblVehicleEF	UBUS	0.04	2.1820e-003
tblVehicleEF	UBUS	1.4880e-003	2.2400e-004
tblVehicleEF	UBUS	0.21	0.04
tblVehicleEF	UBUS	3.0000e-003	5.0570e-003
tblVehicleEF	UBUS	0.04	2.0670e-003
tblVehicleEF	UBUS	1.3680e-003	2.0600e-004
tblVehicleEF	UBUS	8.1990e-003	2.8430e-003
tblVehicleEF	UBUS	0.12	0.02
tblVehicleEF	UBUS	4.1400e-003	1.2010e-003
tblVehicleEF	UBUS	0.42	0.05

tblVehicleEF	UBUS	0.03	0.09
tblVehicleEF	UBUS	1.10	0.09
tblVehicleEF	UBUS	9.5090e-003	6.3200e-003
tblVehicleEF	UBUS	1.7850e-003	2.2700e-004
tblVehicleEF	UBUS	8.1990e-003	2.8430e-003
tblVehicleEF	UBUS	0.12	0.02
tblVehicleEF	UBUS	4.1400e-003	1.2010e-003
tblVehicleEF	UBUS	1.82	3.11
tblVehicleEF	UBUS	0.03	0.09
tblVehicleEF	UBUS	1.20	0.10
tblVehicleTrips	HW_TL	14.70	11.50
tblVehicleTrips	HW_TL	14.70	11.50
tblVehicleTrips	ST_TR	7.16	8.14
tblVehicleTrips	ST_TR	6.39	4.91
tblVehicleTrips	SU_TR	6.07	6.28
tblVehicleTrips	SU_TR	5.86	4.09
tblVehicleTrips	WD_TR	6.59	7.33
tblVehicleTrips	WD_TR	6.65	5.44
tblWoodstoves	NumberCatalytic	3.75	0.00
tblWoodstoves	NumberCatalytic	8.10	0.00
tblWoodstoves	NumberNoncatalytic	3.75	0.00
tblWoodstoves	NumberNoncatalytic	8.10	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1319	1.8968	0.6745	3.5200e-003	0.2545	0.0516	0.3060	0.1034	0.0484	0.1518	0.0000	333.7057	333.7057	0.0399	0.0000	334.7038
2022	0.4696	4.2861	3.0656	8.9000e-003	0.2912	0.1678	0.4590	0.0779	0.1566	0.2345	0.0000	789.3272	789.3272	0.1431	0.0000	792.9055
2023	0.8077	0.4972	0.5026	1.2300e-003	0.0378	0.0212	0.0590	0.0101	0.0198	0.0299	0.0000	109.0365	109.0365	0.0205	0.0000	109.5499
Maximum	**0.8077**	**4.2861**	**3.0656**	**8.9000e-003**	**0.2912**	**0.1678**	**0.4590**	**0.1034**	**0.1566**	**0.2345**	**0.0000**	**789.3272**	**789.3272**	**0.1431**	**0.0000**	**792.9055**

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					
2021	0.1319	1.8968	0.6745	3.5200e-003	0.1340	0.0516	0.1856	0.0498	0.0484	0.0982	0.0000	333.7055	333.7055	0.0399	0.0000	334.7036
2022	0.4696	4.2861	3.0656	8.9000e-003	0.2912	0.1678	0.4590	0.0779	0.1566	0.2345	0.0000	789.3267	789.3267	0.1431	0.0000	792.9049
2023	0.8077	0.4972	0.5026	1.2300e-003	0.0378	0.0212	0.0590	0.0101	0.0198	0.0299	0.0000	109.0364	109.0364	0.0205	0.0000	109.5498
Maximum	**0.8077**	**4.2861**	**3.0656**	**8.9000e-003**	**0.2912**	**0.1678**	**0.4590**	**0.0779**	**0.1566**	**0.2345**	**0.0000**	**789.3267**	**789.3267**	**0.1431**	**0.0000**	**792.9049**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**20.65**	**0.00**	**14.62**	**28.02**	**0.00**	**12.88**	**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	**10-4-2021**	**1-3-2022**	2.0144	2.0144
2	**1-4-2022**	**4-3-2022**	1.1761	1.1761
3	**4-4-2022**	**7-3-2022**	1.1899	1.1899
4	**7-4-2022**	**10-3-2022**	1.2029	1.2029
5	**10-4-2022**	**1-3-2023**	1.1973	1.1973
6	**1-4-2023**	**4-3-2023**	0.9065	0.9065
7	**4-4-2023**	**7-3-2023**	0.3531	0.3531
		Highest	2.0144	2.0144

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	1.0133	0.0774	2.4710	4.4000e-004		0.0175	0.0175		0.0175	0.0175	0.0000	60.9155	60.9155	4.9600e-003	1.0400e-003	61.3504
Energy	0.0131	0.1121	0.0477	7.2000e-004		9.0600e-003	9.0600e-003		9.0600e-003	9.0600e-003	0.0000	682.9992	682.9992	0.0146	4.8800e-003	684.8193
Mobile	0.5150	1.5236	4.8545	0.0172	1.5854	0.0168	1.6022	0.4244	0.0158	0.4402	0.0000	1,655.1810	1,655.1810	0.0643	0.0000	1,656.7876
Waste						0.0000	0.0000		0.0000	0.0000	22.1301	0.0000	22.1301	1.3079	0.0000	54.8263
Water						0.0000	0.0000		0.0000	0.0000	4.8989	185.9343	190.8332	0.5072	0.0127	207.3052
Total	**1.5414**	**1.7130**	**7.3732**	**0.0184**	**1.5854**	**0.0434**	**1.6288**	**0.4244**	**0.0424**	**0.4668**	**27.0290**	**2,585.0300**	**2,612.0590**	**1.8989**	**0.0186**	**2,665.0888**

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	1.0133	0.0774	2.4710	4.4000e-004		0.0175	0.0175		0.0175	0.0175	0.0000	60.9155	60.9155	4.9600e-003	1.0400e-003	61.3504
Energy	0.0131	0.1121	0.0477	7.2000e-004		9.0600e-003	9.0600e-003		9.0600e-003	9.0600e-003	0.0000	682.9992	682.9992	0.0146	4.8800e-003	684.8193
Mobile	0.5150	1.5236	4.8545	0.0172	1.5854	0.0168	1.6022	0.4244	0.0158	0.4402	0.0000	1,655.1810	1,655.1810	0.0643	0.0000	1,656.7876
Waste						0.0000	0.0000		0.0000	0.0000	22.1301	0.0000	22.1301	1.3079	0.0000	54.8263
Water						0.0000	0.0000		0.0000	0.0000	4.8989	185.9343	190.8332	0.5072	0.0127	207.3052
Total	**1.5414**	**1.7130**	**7.3732**	**0.0184**	**1.5854**	**0.0434**	**1.6288**	**0.4244**	**0.0424**	**0.4668**	**27.0290**	**2,585.0300**	**2,612.0590**	**1.8989**	**0.0186**	**2,665.0888**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Crushing	Demolition	10/16/2021	11/12/2021	5	20	
2	Site Preparation	Site Preparation	10/4/2021	10/15/2021	5	10	
3	Grading	Grading	11/13/2021	12/10/2021	5	20	
4	Building Construction	Building Construction	12/11/2021	2/3/2023	5	300	
5	Paving	Paving	2/4/2023	3/3/2023	5	20	
6	Architectural Coating	Architectural Coating	3/4/2023	4/28/2023	5	40	

Acres of Grading (Site Preparation Phase): 35

Acres of Grading (Grading Phase): 50

Acres of Paving: 0.82

Residential Indoor: 479,925; Residential Outdoor: 159,975; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,143 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	4	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crawler Tractors	3	8.00	212	0.43
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Crawler Tractors	3	8.00	212	0.43
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	8.00	78	0.48
Crushing	Concrete/Industrial Saws	0	8.00	81	0.73
Crushing	Excavators	0	8.00	158	0.38
Crushing	Rubber Tired Dozers	0	8.00	247	0.40
Crushing	Generator Sets	1	8.00	1050	0.74

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
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	3,750.00	14.70	6.90	23.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	186.00	31.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	37.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Crushing	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Crushing - 2021

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	0.0302	0.4621	0.1453	6.9000e-004		9.5900e-003	9.5900e-003		9.5900e-003	9.5900e-003	0.0000	70.6511	70.6511	2.3600e-003	0.0000	70.7101
Total	**0.0302**	**0.4621**	**0.1453**	**6.9000e-004**		**9.5900e-003**	**9.5900e-003**		**9.5900e-003**	**9.5900e-003**	**0.0000**	**70.6511**	**70.6511**	**2.3600e-003**	**0.0000**	**70.7101**

3.2 Crushing - 2021

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	1.3000e-004	9.0000e-005	9.4000e-004	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2667	0.2667	1.0000e-005	0.0000	0.2668
Total	**1.3000e-004**	**9.0000e-005**	**9.4000e-004**	**0.0000**	**3.3000e-004**	**0.0000**	**3.3000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2667**	**0.2667**	**1.0000e-005**	**0.0000**	**0.2668**

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	0.0302	0.4621	0.1453	6.9000e-004		9.5900e-003	9.5900e-003		9.5900e-003	9.5900e-003	0.0000	70.6510	70.6510	2.3600e-003	0.0000	70.7100
Total	**0.0302**	**0.4621**	**0.1453**	**6.9000e-004**		**9.5900e-003**	**9.5900e-003**		**9.5900e-003**	**9.5900e-003**	**0.0000**	**70.6510**	**70.6510**	**2.3600e-003**	**0.0000**	**70.7100**

3.2 Crushing - 2021

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	1.3000e-004	9.0000e-005	9.4000e-004	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2667	0.2667	1.0000e-005	0.0000	0.2668
Total	**1.3000e-004**	**9.0000e-005**	**9.4000e-004**	**0.0000**	**3.3000e-004**	**0.0000**	**3.3000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2667**	**0.2667**	**1.0000e-005**	**0.0000**	**0.2668**

3.3 Site Preparation - 2021

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					0.1089	0.0000	0.1089	0.0517	0.0000	0.0517	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0267	0.3039	0.1093	2.8000e-004		0.0132	0.0132		0.0122	0.0122	0.0000	25.0542	25.0542	8.1000e-003	0.0000	25.2568
Total	**0.0267**	**0.3039**	**0.1093**	**2.8000e-004**	**0.1089**	**0.0132**	**0.1221**	**0.0517**	**0.0122**	**0.0638**	**0.0000**	**25.0542**	**25.0542**	**8.1000e-003**	**0.0000**	**25.2568**

3.3 Site Preparation - 2021

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	3.9000e-004	2.6000e-004	2.8300e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8000	0.8000	2.0000e-005	0.0000	0.8004
Total	**3.9000e-004**	**2.6000e-004**	**2.8300e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8000**	**0.8000**	**2.0000e-005**	**0.0000**	**0.8004**

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					0.0425	0.0000	0.0425	0.0202	0.0000	0.0202	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0267	0.3039	0.1093	2.8000e-004		0.0132	0.0132		0.0122	0.0122	0.0000	25.0542	25.0542	8.1000e-003	0.0000	25.2567
Total	**0.0267**	**0.3039**	**0.1093**	**2.8000e-004**	**0.0425**	**0.0132**	**0.0557**	**0.0202**	**0.0122**	**0.0323**	**0.0000**	**25.0542**	**25.0542**	**8.1000e-003**	**0.0000**	**25.2567**

3.3 Site Preparation - 2021

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	3.9000e-004	2.6000e-004	2.8300e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8000	0.8000	2.0000e-005	0.0000	0.8004
Total	**3.9000e-004**	**2.6000e-004**	**2.8300e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8000**	**0.8000**	**2.0000e-005**	**0.0000**	**0.8004**

3.4 Grading - 2021

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					0.0886	0.0000	0.0886	0.0363	0.0000	0.0363	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0338	0.3995	0.1638	4.4000e-004		0.0161	0.0161		0.0148	0.0148	0.0000	38.5582	38.5582	0.0125	0.0000	38.8700
Total	**0.0338**	**0.3995**	**0.1638**	**4.4000e-004**	**0.0886**	**0.0161**	**0.1047**	**0.0363**	**0.0148**	**0.0511**	**0.0000**	**38.5582**	**38.5582**	**0.0125**	**0.0000**	**38.8700**

3.4 Grading - 2021

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	0.0102	0.4500	0.0631	1.5700e-003	0.0372	1.4300e-003	0.0386	0.0102	1.3600e-003	0.0116	0.0000	150.9765	150.9765	8.5800e-003	0.0000	151.1911
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	6.4000e-004	4.3000e-004	4.7200e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3333	1.3333	3.0000e-005	0.0000	1.3341
Total	**0.0108**	**0.4504**	**0.0678**	**1.5800e-003**	**0.0388**	**1.4400e-003**	**0.0403**	**0.0106**	**1.3700e-003**	**0.0120**	**0.0000**	**152.3097**	**152.3097**	**8.6100e-003**	**0.0000**	**152.5251**

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					0.0346	0.0000	0.0346	0.0141	0.0000	0.0141	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0338	0.3995	0.1638	4.4000e-004		0.0161	0.0161		0.0148	0.0148	0.0000	38.5582	38.5582	0.0125	0.0000	38.8699
Total	**0.0338**	**0.3995**	**0.1638**	**4.4000e-004**	**0.0346**	**0.0161**	**0.0507**	**0.0141**	**0.0148**	**0.0290**	**0.0000**	**38.5582**	**38.5582**	**0.0125**	**0.0000**	**38.8699**

3.4 Grading - 2021

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	0.0102	0.4500	0.0631	1.5700e-003	0.0372	1.4300e-003	0.0386	0.0102	1.3600e-003	0.0116	0.0000	150.9765	150.9765	8.5800e-003	0.0000	151.1911
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	6.4000e-004	4.3000e-004	4.7200e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3333	1.3333	3.0000e-005	0.0000	1.3341
Total	**0.0108**	**0.4504**	**0.0678**	**1.5800e-003**	**0.0388**	**1.4400e-003**	**0.0403**	**0.0106**	**1.3700e-003**	**0.0120**	**0.0000**	**152.3097**	**152.3097**	**8.6100e-003**	**0.0000**	**152.5251**

3.5 Building Construction - 2021

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	0.0234	0.2547	0.1365	3.2000e-004		0.0111	0.0111		0.0103	0.0103	0.0000	27.9941	27.9941	7.6300e-003	0.0000	28.1848
Total	**0.0234**	**0.2547**	**0.1365**	**3.2000e-004**		**0.0111**	**0.0111**		**0.0103**	**0.0103**	**0.0000**	**27.9941**	**27.9941**	**7.6300e-003**	**0.0000**	**28.1848**

3.5 Building Construction - 2021

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	5.5000e-004	0.0217	4.1700e-003	6.0000e-005	1.4700e-003	4.0000e-005	1.5100e-003	4.2000e-004	4.0000e-005	4.6000e-004	0.0000	5.6724	5.6724	4.3000e-004	0.0000	5.6832
Worker	5.9800e-003	4.0300e-003	0.0439	1.4000e-004	0.0153	9.0000e-005	0.0154	4.0700e-003	8.0000e-005	4.1600e-003	0.0000	12.3994	12.3994	2.9000e-004	0.0000	12.4066
Total	**6.5300e-003**	**0.0257**	**0.0481**	**2.0000e-004**	**0.0168**	**1.3000e-004**	**0.0169**	**4.4900e-003**	**1.2000e-004**	**4.6200e-003**	**0.0000**	**18.0718**	**18.0718**	**7.2000e-004**	**0.0000**	**18.0898**

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	0.0234	0.2547	0.1365	3.2000e-004		0.0111	0.0111		0.0103	0.0103	0.0000	27.9941	27.9941	7.6300e-003	0.0000	28.1847
Total	**0.0234**	**0.2547**	**0.1365**	**3.2000e-004**		**0.0111**	**0.0111**		**0.0103**	**0.0103**	**0.0000**	**27.9941**	**27.9941**	**7.6300e-003**	**0.0000**	**28.1847**

3.5 Building Construction - 2021

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	5.5000e-004	0.0217	4.1700e-003	6.0000e-005	1.4700e-003	4.0000e-005	1.5100e-003	4.2000e-004	4.0000e-005	4.6000e-004	0.0000	5.6724	5.6724	4.3000e-004	0.0000	5.6832
Worker	5.9800e-003	4.0300e-003	0.0439	1.4000e-004	0.0153	9.0000e-005	0.0154	4.0700e-003	8.0000e-005	4.1600e-003	0.0000	12.3994	12.3994	2.9000e-004	0.0000	12.4066
Total	**6.5300e-003**	**0.0257**	**0.0481**	**2.0000e-004**	**0.0168**	**1.3000e-004**	**0.0169**	**4.4900e-003**	**1.2000e-004**	**4.6200e-003**	**0.0000**	**18.0718**	**18.0718**	**7.2000e-004**	**0.0000**	**18.0898**

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	0.3635	3.8693	2.2971	5.5900e-003		0.1657	0.1657		0.1546	0.1546	0.0000	484.7716	484.7716	0.1315	0.0000	488.0597
Total	**0.3635**	**3.8693**	**2.2971**	**5.5900e-003**		**0.1657**	**0.1657**		**0.1546**	**0.1546**	**0.0000**	**484.7716**	**484.7716**	**0.1315**	**0.0000**	**488.0597**

3.5 Building Construction - 2022

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	8.9700e-003	0.3540	0.0673	1.0200e-003	0.0255	6.0000e-004	0.0261	7.3400e-003	5.8000e-004	7.9200e-003	0.0000	97.4755	97.4755	7.1100e-003	0.0000	97.6531
Worker	0.0971	0.0629	0.7012	2.2900e-003	0.2658	1.5500e-003	0.2673	0.0706	1.4300e-003	0.0720	0.0000	207.0802	207.0802	4.5000e-003	0.0000	207.1927
Total	**0.1061**	**0.4169**	**0.7686**	**3.3100e-003**	**0.2912**	**2.1500e-003**	**0.2934**	**0.0779**	**2.0100e-003**	**0.0799**	**0.0000**	**304.5557**	**304.5557**	**0.0116**	**0.0000**	**304.8458**

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	0.3635	3.8693	2.2971	5.5900e-003		0.1657	0.1657		0.1546	0.1546	0.0000	484.7710	484.7710	0.1315	0.0000	488.0591
Total	**0.3635**	**3.8693**	**2.2971**	**5.5900e-003**		**0.1657**	**0.1657**		**0.1546**	**0.1546**	**0.0000**	**484.7710**	**484.7710**	**0.1315**	**0.0000**	**488.0591**

3.5 Building Construction - 2022

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	8.9700e-003	0.3540	0.0673	1.0200e-003	0.0255	6.0000e-004	0.0261	7.3400e-003	5.8000e-004	7.9200e-003	0.0000	97.4755	97.4755	7.1100e-003	0.0000	97.6531
Worker	0.0971	0.0629	0.7012	2.2900e-003	0.2658	1.5500e-003	0.2673	0.0706	1.4300e-003	0.0720	0.0000	207.0802	207.0802	4.5000e-003	0.0000	207.1927
Total	**0.1061**	**0.4169**	**0.7686**	**3.3100e-003**	**0.2912**	**2.1500e-003**	**0.2934**	**0.0779**	**2.0100e-003**	**0.0799**	**0.0000**	**304.5557**	**304.5557**	**0.0116**	**0.0000**	**304.8458**

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	0.0319	0.3276	0.2168	5.4000e-004		0.0140	0.0140		0.0130	0.0130	0.0000	46.5867	46.5867	0.0126	0.0000	46.9014
Total	**0.0319**	**0.3276**	**0.2168**	**5.4000e-004**		**0.0140**	**0.0140**		**0.0130**	**0.0130**	**0.0000**	**46.5867**	**46.5867**	**0.0126**	**0.0000**	**46.9014**

3.5 Building Construction - 2023

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	6.6000e-004	0.0255	5.6400e-003	1.0000e-004	2.4500e-003	3.0000e-005	2.4700e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	9.1257	9.1257	5.2000e-004	0.0000	9.1388
Worker	8.7700e-003	5.4500e-003	0.0622	2.1000e-004	0.0256	1.5000e-004	0.0257	6.7900e-003	1.3000e-004	6.9200e-003	0.0000	19.1559	19.1559	3.9000e-004	0.0000	19.1656
Total	**9.4300e-003**	**0.0309**	**0.0678**	**3.1000e-004**	**0.0280**	**1.8000e-004**	**0.0282**	**7.5000e-003**	**1.5000e-004**	**7.6500e-003**	**0.0000**	**28.2816**	**28.2816**	**9.1000e-004**	**0.0000**	**28.3044**

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	0.0319	0.3276	0.2168	5.4000e-004		0.0140	0.0140		0.0130	0.0130	0.0000	46.5866	46.5866	0.0126	0.0000	46.9013
Total	**0.0319**	**0.3276**	**0.2168**	**5.4000e-004**		**0.0140**	**0.0140**		**0.0130**	**0.0130**	**0.0000**	**46.5866**	**46.5866**	**0.0126**	**0.0000**	**46.9013**

3.5 Building Construction - 2023

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	6.6000e-004	0.0255	5.6400e-003	1.0000e-004	2.4500e-003	3.0000e-005	2.4700e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	9.1257	9.1257	5.2000e-004	0.0000	9.1388
Worker	8.7700e-003	5.4500e-003	0.0622	2.1000e-004	0.0256	1.5000e-004	0.0257	6.7900e-003	1.3000e-004	6.9200e-003	0.0000	19.1559	19.1559	3.9000e-004	0.0000	19.1656
Total	**9.4300e-003**	**0.0309**	**0.0678**	**3.1000e-004**	**0.0280**	**1.8000e-004**	**0.0282**	**7.5000e-003**	**1.5000e-004**	**7.6500e-003**	**0.0000**	**28.2816**	**28.2816**	**9.1000e-004**	**0.0000**	**28.3044**

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	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888
Paving	1.0700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0114**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0269**	**20.0269**	**6.4800e-003**	**0.0000**	**20.1888**

3.6 Paving - 2023

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	5.7000e-004	3.5000e-004	4.0100e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2359	1.2359	3.0000e-005	0.0000	1.2365
Total	**5.7000e-004**	**3.5000e-004**	**4.0100e-003**	**1.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.2359**	**1.2359**	**3.0000e-005**	**0.0000**	**1.2365**

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	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888
Paving	1.0700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0114**	**0.1019**	**0.1458**	**2.3000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**	**0.0000**	**20.0268**	**20.0268**	**6.4800e-003**	**0.0000**	**20.1888**

3.6 Paving - 2023

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	5.7000e-004	3.5000e-004	4.0100e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2359	1.2359	3.0000e-005	0.0000	1.2365
Total	**5.7000e-004**	**3.5000e-004**	**4.0100e-003**	**1.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.2359**	**1.2359**	**3.0000e-005**	**0.0000**	**1.2365**

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	0.7465					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1100e-003	0.0348	0.0483	8.0000e-005		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	6.8087	6.8087	4.1000e-004	0.0000	6.8189
Total	**0.7516**	**0.0348**	**0.0483**	**8.0000e-005**		**1.8900e-003**	**1.8900e-003**		**1.8900e-003**	**1.8900e-003**	**0.0000**	**6.8087**	**6.8087**	**4.1000e-004**	**0.0000**	**6.8189**

3.7 Architectural Coating - 2023

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	2.7900e-003	1.7300e-003	0.0198	7.0000e-005	8.1300e-003	5.0000e-005	8.1800e-003	2.1600e-003	4.0000e-005	2.2000e-003	0.0000	6.0969	6.0969	1.2000e-004	0.0000	6.1000
Total	**2.7900e-003**	**1.7300e-003**	**0.0198**	**7.0000e-005**	**8.1300e-003**	**5.0000e-005**	**8.1800e-003**	**2.1600e-003**	**4.0000e-005**	**2.2000e-003**	**0.0000**	**6.0969**	**6.0969**	**1.2000e-004**	**0.0000**	**6.1000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7465					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1100e-003	0.0348	0.0483	8.0000e-005		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	6.8087	6.8087	4.1000e-004	0.0000	6.8189
Total	**0.7516**	**0.0348**	**0.0483**	**8.0000e-005**		**1.8900e-003**	**1.8900e-003**		**1.8900e-003**	**1.8900e-003**	**0.0000**	**6.8087**	**6.8087**	**4.1000e-004**	**0.0000**	**6.8189**

3.7 Architectural Coating - 2023

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	2.7900e-003	1.7300e-003	0.0198	7.0000e-005	8.1300e-003	5.0000e-005	8.1800e-003	2.1600e-003	4.0000e-005	2.2000e-003	0.0000	6.0969	6.0969	1.2000e-004	0.0000	6.1000
Total	**2.7900e-003**	**1.7300e-003**	**0.0198**	**7.0000e-005**	**8.1300e-003**	**5.0000e-005**	**8.1800e-003**	**2.1600e-003**	**4.0000e-005**	**2.2000e-003**	**0.0000**	**6.0969**	**6.0969**	**1.2000e-004**	**0.0000**	**6.1000**

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	0.5150	1.5236	4.8545	0.0172	1.5854	0.0168	1.6022	0.4244	0.0158	0.4402	0.0000	1,655.1810	1,655.1810	0.0643	0.0000	1,656.7876
Unmitigated	0.5150	1.5236	4.8545	0.0172	1.5854	0.0168	1.6022	0.4244	0.0158	0.4402	0.0000	1,655.1810	1,655.1810	0.0643	0.0000	1,656.7876

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	549.98	610.50	471.00	1,642,883	1,642,883
Apartments Mid Rise	881.93	795.42	662.58	2,516,028	2,516,028
Parking Lot	0.00	0.00	0.00		
Total	1,431.90	1,405.92	1,133.58	4,158,910	4,158,910

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	11.50	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	11.50	5.90	8.70	40.20	19.20	40.60	86	11	3
Parking Lot	16.60	8.40	6.90	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
Apartments Low Rise	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898
Apartments Mid Rise	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898
Parking Lot	0.548600	0.036250	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898

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	553.1729	553.1729	0.0121	2.5000e-003	554.2216
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	553.1729	553.1729	0.0121	2.5000e-003	554.2216
NaturalGas Mitigated	0.0131	0.1121	0.0477	7.2000e-004		9.0600e-003	9.0600e-003		9.0600e-003	9.0600e-003	0.0000	129.8262	129.8262	2.4900e-003	2.3800e-003	130.5977
NaturalGas Unmitigated	0.0131	0.1121	0.0477	7.2000e-004		9.0600e-003	9.0600e-003		9.0600e-003	9.0600e-003	0.0000	129.8262	129.8262	2.4900e-003	2.3800e-003	130.5977

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					
Apartments Low Rise	788694	4.2500e-003	0.0363	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003	0.0000	42.0877	42.0877	8.1000e-004	7.7000e-004	42.3378
Apartments Mid Rise	1.64416e+006	8.8700e-003	0.0758	0.0322	4.8000e-004		6.1300e-003	6.1300e-003		6.1300e-003	6.1300e-003	0.0000	87.7385	87.7385	1.6800e-003	1.6100e-003	88.2599
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
Total		**0.0131**	**0.1121**	**0.0477**	**7.1000e-004**		**9.0700e-003**	**9.0700e-003**		**9.0700e-003**	**9.0700e-003**	**0.0000**	**129.8262**	**129.8262**	**2.4900e-003**	**2.3800e-003**	**130.5977**

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					
Apartments Low Rise	788694	4.2500e-003	0.0363	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003	0.0000	42.0877	42.0877	8.1000e-004	7.7000e-004	42.3378
Apartments Mid Rise	1.64416e+006	8.8700e-003	0.0758	0.0322	4.8000e-004		6.1300e-003	6.1300e-003		6.1300e-003	6.1300e-003	0.0000	87.7385	87.7385	1.6800e-003	1.6100e-003	88.2599
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
Total		**0.0131**	**0.1121**	**0.0477**	**7.1000e-004**		**9.0700e-003**	**9.0700e-003**		**9.0700e-003**	**9.0700e-003**	**0.0000**	**129.8262**	**129.8262**	**2.4900e-003**	**2.3800e-003**	**130.5977**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	297442	178.8531	3.9100e-003	8.1000e-004	179.1922
Apartments Mid Rise	610011	366.8025	8.0200e-003	1.6600e-003	367.4978
Parking Lot	12501.7	7.5173	1.6000e-004	3.0000e-005	7.5316
Total		**553.1729**	**0.0121**	**2.5000e-003**	**554.2216**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	297442	178.8531	3.9100e-003	8.1000e-004	179.1922
Apartments Mid Rise	610011	366.8025	8.0200e-003	1.6600e-003	367.4978
Parking Lot	12501.7	7.5173	1.6000e-004	3.0000e-005	7.5316
Total		**553.1729**	**0.0121**	**2.5000e-003**	**554.2216**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0133	0.0774	2.4710	4.4000e-004		0.0175	0.0175		0.0175	0.0175	0.0000	60.9155	60.9155	4.9600e-003	1.0400e-003	61.3504
Unmitigated	1.0133	0.0774	2.4710	4.4000e-004		0.0175	0.0175		0.0175	0.0175	0.0000	60.9155	60.9155	4.9600e-003	1.0400e-003	61.3504

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	0.0747					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8587					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.7500e-003	0.0491	0.0209	3.1000e-004		3.9700e-003	3.9700e-003		3.9700e-003	3.9700e-003	0.0000	56.9125	56.9125	1.0900e-003	1.0400e-003	57.2507
Landscaping	0.0742	0.0282	2.4501	1.3000e-004		0.0136	0.0136		0.0136	0.0136	0.0000	4.0030	4.0030	3.8700e-003	0.0000	4.0997
Total	**1.0133**	**0.0774**	**2.4710**	**4.4000e-004**		**0.0175**	**0.0175**		**0.0175**	**0.0175**	**0.0000**	**60.9155**	**60.9155**	**4.9600e-003**	**1.0400e-003**	**61.3504**

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	0.0747					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8587					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.7500e-003	0.0491	0.0209	3.1000e-004		3.9700e-003	3.9700e-003		3.9700e-003	3.9700e-003	0.0000	56.9125	56.9125	1.0900e-003	1.0400e-003	57.2507
Landscaping	0.0742	0.0282	2.4501	1.3000e-004		0.0136	0.0136		0.0136	0.0136	0.0000	4.0030	4.0030	3.8700e-003	0.0000	4.0997
Total	**1.0133**	**0.0774**	**2.4710**	**4.4000e-004**		**0.0175**	**0.0175**		**0.0175**	**0.0175**	**0.0000**	**60.9155**	**60.9155**	**4.9600e-003**	**1.0400e-003**	**61.3504**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	190.8332	0.5072	0.0127	207.3052
Unmitigated	190.8332	0.5072	0.0127	207.3052

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	4.88655 / 3.08065	60.3903	0.1605	4.0300e-003	65.6029
Apartments Mid Rise	10.555 / 6.65421	130.4430	0.3467	8.7000e-003	141.7023
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**190.8332**	**0.5072**	**0.0127**	**207.3052**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	4.88655 / 3.08065	60.3903	0.1605	4.0300e-003	65.6029
Apartments Mid Rise	10.555 / 6.65421	130.4430	0.3467	8.7000e-003	141.7023
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**190.8332**	**0.5072**	**0.0127**	**207.3052**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	22.1301	1.3079	0.0000	54.8263
Unmitigated	22.1301	1.3079	0.0000	54.8263

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	34.5	7.0032	0.4139	0.0000	17.3501
Apartments Mid Rise	74.52	15.1269	0.8940	0.0000	37.4762
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**22.1301**	**1.3079**	**0.0000**	**54.8263**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	34.5	7.0032	0.4139	0.0000	17.3501
Apartments Mid Rise	74.52	15.1269	0.8940	0.0000	37.4762
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**22.1301**	**1.3079**	**0.0000**	**54.8263**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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APPENDIX 3.2:

EMFAC2017 MODEL OUTPUTS

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Riverside (SC)
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/year for VMT, trips/year for Trips, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
Riverside (SC)	2021	HHDT	Aggregate	Aggregate	Gasoline	7.215312711	156564.4198	38.25376903	38253.76903	86440372.19	156564.4198	595234164.3	6.89	HHDT
Riverside (SC)	2021	HHDT	Aggregate	Aggregate	Diesel	15357.01372	592157261.1	85150.75241	85150752.41		592157261.1			
Riverside (SC)	2021	HHDT	Aggregate	Aggregate	Natural Gas	230.6715024	2920338.82	1251.366013	1251366.013		2920338.82			
Riverside (SC)	2021	LDA	Aggregate	Aggregate	Gasoline	563361.5495	8083887120	258075.457	258075457	259620805.8	8083887120	8263991595	31.83	LDA
Riverside (SC)	2021	LDA	Aggregate	Aggregate	Diesel	5219.69302	78581205.2	1545.348817	1545348.817		78581205.2			
Riverside (SC)	2021	LDA	Aggregate	Aggregate	Electricity	7550.910561	101523269.4	0	0		101523269.4			
Riverside (SC)	2021	LDT1	Aggregate	Aggregate	Gasoline	58475.42768	770308510	28888.79995	28888799.95	28897683.71	770308510	773746237.8	26.78	LDT1
Riverside (SC)	2021	LDT1	Aggregate	Aggregate	Diesel	30.15411229	225614.4333	8.883759846	8883.759846		225614.4333			
Riverside (SC)	2021	LDT1	Aggregate	Aggregate	Electricity	231.4028554	3212113.379	0	0		3212113.379			
Riverside (SC)	2021	LDT2	Aggregate	Aggregate	Gasoline	177423.7963	2452547570	98499.77995	98499779.95	98895424.97	2452547570	2481105146	25.09	LDT2
Riverside (SC)	2021	LDT2	Aggregate	Aggregate	Diesel	927.6206127	15067450.74	395.6450194	395645.0194		15067450.74			
Riverside (SC)	2021	LDT2	Aggregate	Aggregate	Electricity	1222.520063	13490125.47	0	0		13490125.47			
Riverside (SC)	2021	LHDT1	Aggregate	Aggregate	Gasoline	15655.58333	166883920.1	15602.85082	15602850.82	24100241.33	166883920.1	342797030.6	14.22	LHDT1
Riverside (SC)	2021	LHDT1	Aggregate	Aggregate	Diesel	15786.61692	175913110.5	8497.390505	8497390.505		175913110.5			
Riverside (SC)	2021	LHDT2	Aggregate	Aggregate	Gasoline	2249.730422	24253749.74	2591.419815	2591419.815	6178082.356	24253749.74	92197899.91	14.92	LHDT2
Riverside (SC)	2021	LHDT2	Aggregate	Aggregate	Diesel	6056.795838	67944150.17	3586.662541	3586662.541		67944150.17			
Riverside (SC)	2021	MCY	Aggregate	Aggregate	Gasoline	27861.54696	63622093.85	1675.505014	1675505.014	1675505.014	63622093.85	63622093.85	37.97	MCY
Riverside (SC)	2021	MDV	Aggregate	Aggregate	Gasoline	154248.8417	1970923413	99123.42544	99123425.44	100741003.1	1970923413	2022622293	20.08	MDV
Riverside (SC)	2021	MDV	Aggregate	Aggregate	Diesel	3020.678509	45224708.11	1617.577708	1617577.708		45224708.11			
Riverside (SC)	2021	MDV	Aggregate	Aggregate	Electricity	571.2528957	6474171.562	0	0		6474171.562			
Riverside (SC)	2021	MH	Aggregate	Aggregate	Gasoline	5071.35352	13145200.34	2572.137115	2572137.115	3059607.82	13145200.34	18410276.52	6.02	MH
Riverside (SC)	2021	MH	Aggregate	Aggregate	Diesel	1991.436876	5265076.177	487.4707059	487470.7059		5265076.177			
Riverside (SC)	2021	MHDT	Aggregate	Aggregate	Gasoline	1296.813166	17219367.21	3326.791509	3326791.509	24510682.79	17219367.21	245615667.4	10.02	MHDT
Riverside (SC)	2021	MHDT	Aggregate	Aggregate	Diesel	12035.08457	228396300.2	21183.89128	21183891.28		228396300.2			
Riverside (SC)	2021	OBUS	Aggregate	Aggregate	Gasoline	440.9352614	5121129.195	1006.040238	1006040.238	1527707.277	5121129.195	9637259.63	6.31	OBUS
Riverside (SC)	2021	OBUS	Aggregate	Aggregate	Diesel	224.3920222	4516130.435	521.6670385	521667.0385		4516130.435			
Riverside (SC)	2021	SBUS	Aggregate	Aggregate	Gasoline	406.9191801	4756170.117	539.4131169	539413.1169	1689166.026	4756170.117	13371616.2	7.92	SBUS
Riverside (SC)	2021	SBUS	Aggregate	Aggregate	Diesel	832.5656654	8615446.079	1149.752909	1149752.909		8615446.079			
Riverside (SC)	2021	UBUS	Aggregate	Aggregate	Gasoline	163.4848401	7526825.951	1221.775338	1221775.338	3288874.903	7526825.951	16276282.14	4.95	UBUS
Riverside (SC)	2021	UBUS	Aggregate	Aggregate	Diesel	1.105797941	19153.01246	2.147195041	2147.195041		19153.01246			
Riverside (SC)	2021	UBUS	Aggregate	Aggregate	Electricity	0.058469431	409.3068597	0	0		409.3068597			
Riverside (SC)	2021	UBUS	Aggregate	Aggregate	Natural Gas	202.9076535	8729893.87	2064.95237	2064952.37		8729893.87			

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Riverside (SC)
Calendar Year: 2022
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/year for VMT, trips/year for Trips, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
Riverside (SC)	2022	HHDT	Aggregate	Aggregate	Gasoline	6.576938112	153457.8614	36.38308143	36383.08143	86338603.49	153457.8614	609730316.4	7.06	HHDT
Riverside (SC)	2022	HHDT	Aggregate	Aggregate	Diesel	15714.36952	606232799.9	84894.0389	84894038.9		606232799.9			
Riverside (SC)	2022	HHDT	Aggregate	Aggregate	Natural Gas	263.7933161	3344058.656	1408.18151	1408181.51		3344058.656			
Riverside (SC)	2022	LDA	Aggregate	Aggregate	Gasoline	581991.6725	8224182944	255876.5259	255876525.9	257472567.5	8224182944	8437175826	32.77	LDA
Riverside (SC)	2022	LDA	Aggregate	Aggregate	Diesel	5627.648407	83145410.99	1596.041638	1596041.638		83145410.99			
Riverside (SC)	2022	LDA	Aggregate	Aggregate	Electricity	9519.079074	129847470.9	0	0		129847470.9			
Riverside (SC)	2022	LDT1	Aggregate	Aggregate	Gasoline	60037.51621	784889608.4	28670.08786	28670087.86	28678196.65	784889608.4	790148273.6	27.55	LDT1
Riverside (SC)	2022	LDT1	Aggregate	Aggregate	Diesel	27.76404389	208778.8044	8.108788608	8108.788608		208778.8044			
Riverside (SC)	2022	LDT1	Aggregate	Aggregate	Electricity	356.2042589	5049886.408	0	0		5049886.408			
Riverside (SC)	2022	LDT2	Aggregate	Aggregate	Gasoline	182118.8677	2486397650	96428.35184	96428351.84	96853535.07	2486397650	2521171664	26.03	LDT2
Riverside (SC)	2022	LDT2	Aggregate	Aggregate	Diesel	1054.483634	16665909.69	425.1832295	425183.2295		16665909.69			
Riverside (SC)	2022	LDT2	Aggregate	Aggregate	Electricity	1677.633962	18108104.13	0	0		18108104.13			
Riverside (SC)	2022	LHDT1	Aggregate	Aggregate	Gasoline	15417.55767	163201148.4	15108.11893	15108118.93	23387437.93	163201148.4	336574881.3	14.39	LHDT1
Riverside (SC)	2022	LHDT1	Aggregate	Aggregate	Diesel	15837.49513	173373732.9	8279.318992	8279318.992		173373732.9			
Riverside (SC)	2022	LHDT2	Aggregate	Aggregate	Gasoline	2252.42518	24026208.75	2542.009363	2542009.363	6051733.364	24026208.75	91253583.76	15.08	LHDT2
Riverside (SC)	2022	LHDT2	Aggregate	Aggregate	Diesel	6123.275766	67227375.01	3509.724001	3509724.001		67227375.01			
Riverside (SC)	2022	MCY	Aggregate	Aggregate	Gasoline	28171.90267	62796448.34	1655.586212	1655586.212	1655586.212	62796448.34	62796448.34	37.93	MCY
Riverside (SC)	2022	MDV	Aggregate	Aggregate	Gasoline	154199.5457	1942294285	94789.21819	94789218.19	96446076.25	1942294285	2000039012	20.74	MDV
Riverside (SC)	2022	MDV	Aggregate	Aggregate	Diesel	3261.4865	47596581.84	1656.858052	1656858.052		47596581.84			
Riverside (SC)	2022	MDV	Aggregate	Aggregate	Electricity	916.717804	10148145.12	0	0		10148145.12			
Riverside (SC)	2022	MH	Aggregate	Aggregate	Gasoline	4849.122996	12414677.16	2406.257705	2406257.705	2875800.063	12414677.16	17521753.84	6.09	MH
Riverside (SC)	2022	MH	Aggregate	Aggregate	Diesel	1986.085476	5107076.677	469.5423575	469542.3575		5107076.677			
Riverside (SC)	2022	MHDT	Aggregate	Aggregate	Gasoline	1326.926938	17674320.91	3359.446933	3359446.933	24049505.3	17674320.91	248635402	10.34	MHDT
Riverside (SC)	2022	MHDT	Aggregate	Aggregate	Diesel	11907.6705	230961081.1	20690.05836	20690058.36		230961081.1			
Riverside (SC)	2022	OBUS	Aggregate	Aggregate	Gasoline	438.8357563	4993518.807	967.2190429	967219.0429	1483181.022	4993518.807	9603790.146	6.48	OBUS
Riverside (SC)	2022	OBUS	Aggregate	Aggregate	Diesel	222.2197269	4610271.339	515.9619792	515961.9792		4610271.339			
Riverside (SC)	2022	SBUS	Aggregate	Aggregate	Gasoline	417.9532809	4815312.165	544.2910283	544291.0283	1708055.084	4815312.165	13640990.38	7.99	SBUS
Riverside (SC)	2022	SBUS	Aggregate	Aggregate	Diesel	852.548169	8825678.217	1163.764056	1163764.056		8825678.217			
Riverside (SC)	2022	UBUS	Aggregate	Aggregate	Gasoline	164.4551683	7571499.764	1228.231474	1228231.474	3307606.769	7571499.764	16372886.42	4.95	UBUS
Riverside (SC)	2022	UBUS	Aggregate	Aggregate	Diesel	1.105797941	19153.01246	2.147195041	2147.195041		19153.01246			
Riverside (SC)	2022	UBUS	Aggregate	Aggregate	Electricity	0.058469431	409.3068597	0	0		409.3068597			
Riverside (SC)	2022	UBUS	Aggregate	Aggregate	Natural Gas	204.1188773	8781824.334	2077.2281	2077228.1		8781824.334			

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Riverside (SC)
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/year for VMT, trips/year for Trips, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
Riverside (SC)	2023	HHDT	Aggregate	Aggregate	Gasoline	6.287048944	153937.6255	35.55040317	35550.40317	83956073.71	153937.6255	624266409.2	7.44	HHDT
Riverside (SC)	2023	HHDT	Aggregate	Aggregate	Diesel	15994.29576	620335254.9	82353.42203	82353422.03		620335254.9			
Riverside (SC)	2023	HHDT	Aggregate	Aggregate	Natural Gas	297.8339277	3777216.619	1567.101271	1567101.271		3777216.619			
Riverside (SC)	2023	LDA	Aggregate	Aggregate	Gasoline	600073.2625	8365084572	253390.156	253390156	255027967.5	8365084572	8616394452	33.79	LDA
Riverside (SC)	2023	LDA	Aggregate	Aggregate	Diesel	6022.455725	87471276.92	1637.811474	1637811.474		87471276.92			
Riverside (SC)	2023	LDA	Aggregate	Aggregate	Electricity	11812.58063	163838603.3	0	0		163838603.3			
Riverside (SC)	2023	LDT1	Aggregate	Aggregate	Gasoline	61620.9911	799977533.2	28439.50607	28439506.07	28446990.16	799977533.2	807387761	28.38	LDT1
Riverside (SC)	2023	LDT1	Aggregate	Aggregate	Diesel	25.82294405	195899.1133	7.484089094	7484.089094		195899.1133			
Riverside (SC)	2023	LDT1	Aggregate	Aggregate	Electricity	500.2265064	7214328.719	0	0		7214328.719			
Riverside (SC)	2023	LDT2	Aggregate	Aggregate	Gasoline	186844.1926	2523160631	94460.38646	94460386.46	94911274.58	2523160631	2564584260	27.02	LDT2
Riverside (SC)	2023	LDT2	Aggregate	Aggregate	Diesel	1179.189513	18179036.69	450.888116	450888.116		18179036.69			
Riverside (SC)	2023	LDT2	Aggregate	Aggregate	Electricity	2202.047417	23244591.93	0	0		23244591.93			
Riverside (SC)	2023	LHDT1	Aggregate	Aggregate	Gasoline	15202.19219	160036544.4	14645.65687	14645656.87	22712976.52	160036544.4	331139011.1	14.58	LHDT1
Riverside (SC)	2023	LHDT1	Aggregate	Aggregate	Diesel	15878.17916	171102466.7	8067.31965	8067319.65		171102466.7			
Riverside (SC)	2023	LHDT2	Aggregate	Aggregate	Gasoline	2254.447347	23819917.55	2491.847218	2491847.218	5925383.012	23819917.55	90400247.11	15.26	LHDT2
Riverside (SC)	2023	LHDT2	Aggregate	Aggregate	Diesel	6182.746468	66580329.56	3433.535795	3433535.795		66580329.56			
Riverside (SC)	2023	MCY	Aggregate	Aggregate	Gasoline	28475.24545	62139045.86	1639.73057	1639730.57	1639730.57	62139045.86	62139045.86	37.90	MCY
Riverside (SC)	2023	MDV	Aggregate	Aggregate	Gasoline	154204.1049	1919857377	90781.78682	90781786.82	92469161.97	1919857377	1983892786	21.45	MDV
Riverside (SC)	2023	MDV	Aggregate	Aggregate	Diesel	3492.231312	49837792.99	1687.375147	1687375.147		49837792.99			
Riverside (SC)	2023	MDV	Aggregate	Aggregate	Electricity	1314.447545	14197616.87	0	0		14197616.87			
Riverside (SC)	2023	MH	Aggregate	Aggregate	Gasoline	4646.002839	11786716.04	2262.850071	2262850.071	2716664.402	11786716.04	16757390.07	6.17	MH
Riverside (SC)	2023	MH	Aggregate	Aggregate	Diesel	1979.944695	4970674.029	453.8143312	453814.3312		4970674.029			
Riverside (SC)	2023	MHDT	Aggregate	Aggregate	Gasoline	1361.919314	18155961.42	3400.73407	3400734.07	23439444.62	18155961.42	251707089.5	10.74	MHDT
Riverside (SC)	2023	MHDT	Aggregate	Aggregate	Diesel	11600.10675	233551128.1	20038.71055	20038710.55		233551128.1			
Riverside (SC)	2023	OBUS	Aggregate	Aggregate	Gasoline	437.8068702	4892382.41	934.9605215	934960.5215	1447125.767	4892382.41	9596664.79	6.63	OBUS
Riverside (SC)	2023	OBUS	Aggregate	Aggregate	Diesel	221.7033657	4704282.38	512.1652457	512165.2457		4704282.38			
Riverside (SC)	2023	SBUS	Aggregate	Aggregate	Gasoline	428.8888994	4875379.461	549.2707658	549270.7658	1727264.498	4875379.461	13916051.77	8.06	SBUS
Riverside (SC)	2023	SBUS	Aggregate	Aggregate	Diesel	872.8772386	9040672.31	1177.993732	1177993.732		9040672.31			
Riverside (SC)	2023	UBUS	Aggregate	Aggregate	Gasoline	165.4254964	7616173.577	1224.574262	1224574.262	3317084.96	7616173.577	16469490.69	4.97	UBUS
Riverside (SC)	2023	UBUS	Aggregate	Aggregate	Diesel	0.141961099	3818.605614	0.410265377	410.2653772		3818.605614			
Riverside (SC)	2023	UBUS	Aggregate	Aggregate	Electricity	0.058469431	409.3068597	0	0		409.3068597			
Riverside (SC)	2023	UBUS	Aggregate	Aggregate	Natural Gas	206.2939379	8849089.206	2092.100433	2092100.433		8849089.206			

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