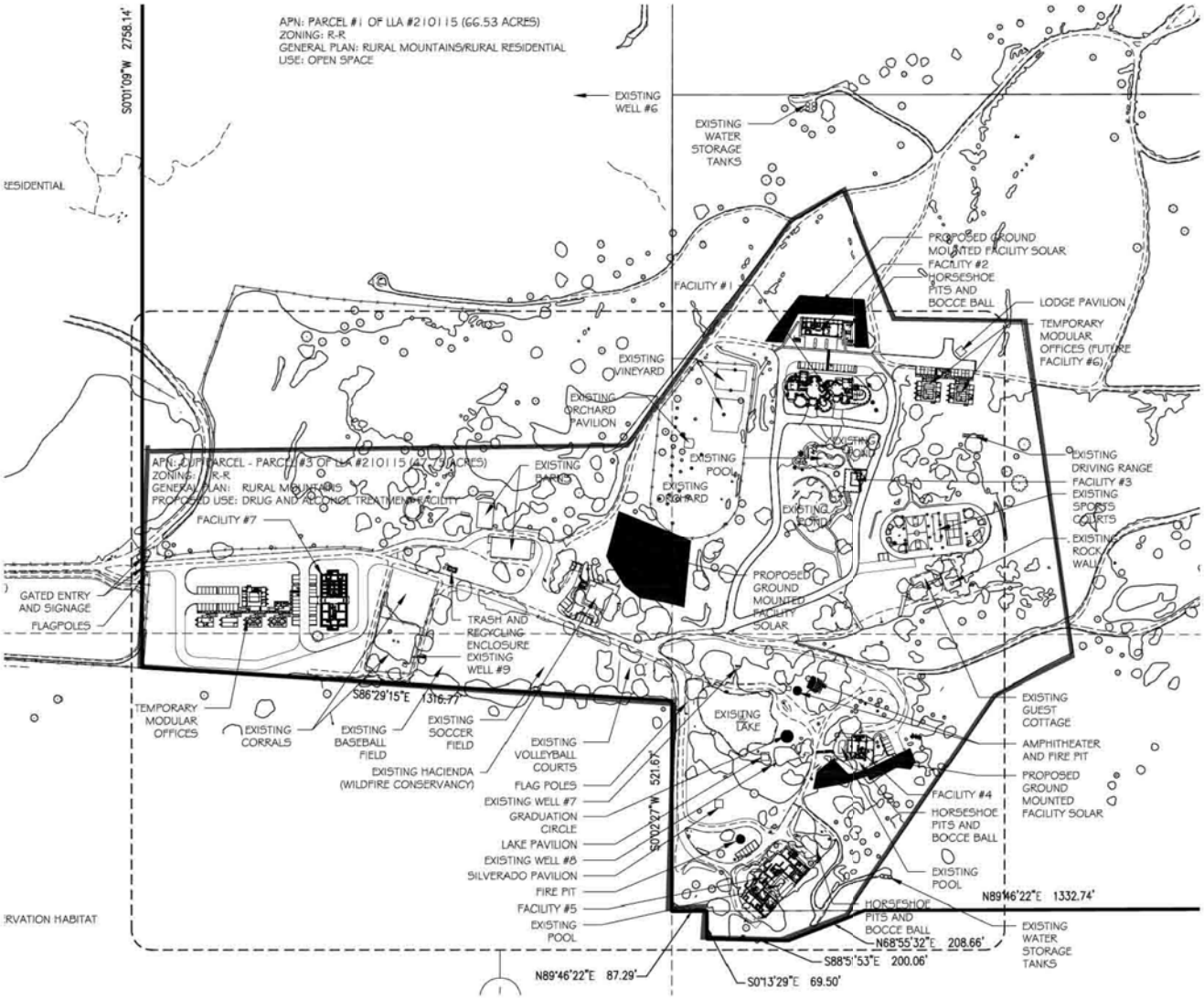
PARADISE VALLEY RANCH
ENERGY CONSERVATION ANALYSIS
County of Riverside



PARADISE VALLEY RANCH
ENERGY CONSERVATION ANALYSIS
County of Riverside, California

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Table of Contents

List of Attachments

Tables

Appendices

1.0 Introduction

1.1 Purpose of Report and Study Objectives

The purpose of this energy conservation analysis is to review the energy implications of the proposed Paradise Valley Ranch (project) and provide recommendations to reduce wasteful, inefficient and unnecessary consumption of energy during construction and operation. This analysis has been prepared within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.).

CEQA Guidelines, Appendix F, Energy Conservation, describes the framework within which energy conservation should be analyzed. Conserving energy implies the wise and efficient use of energy through 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. This analysis considers energy impacts to include:

1. The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction and operation.

2. The effects of the project on local and regional energy supplies and on requirements for additional capacity.

3. The effects of the project on peak and base period demands for electricity and other forms of energy.

4. The degree to which the project complies with existing energy standards.

5. The effects of the project on energy resources.

1.2 Site Location

The project site is located in an unincorporated area of southwest Riverside County, east of the City of Hemet, approximately 4 miles east of State Street, at the terminus of Cactus Valley Road. The site address is 43700 Cactus Valley Road. Currently, the County of Riverside is processing a Lot Line Adjustment (LLA) involving three parcels [Assessor Parcel Numbers (APN) 569-020-024, -025, and -026] on the Paradise Valley Ranch property. Once this LLA has been processed (LLA210115), one of the three parcels (approximately 48-acres) will be used for Conditional Use Permit No. 210005.

The project location map is provided in Exhibit A.

1.3 Project Description

The project consists of re-developing the existing Paradise Valley Ranch site to become the Wildfire Conservancy "Center of Excellence" west-coast facility. The facility will be dedicated to the treatment and recovery of mental and behavioral health conditions suffered by firefighters. The site will support research and training programs in partnership with the California State University system, CAL FIRE, CAL FIRE Local 2881, and the International Association of Fire Fighters (IAFF), among others.

The project is also proposing to develop approximately 55,236 sqaure feet of land for private photovoltaic energy development. The total project site area is approximately 48 acres.

Based on the Paradise Valley Ranch Air Quality and Greenhouse Gas Analysis, prepared by RK Engineering Group, Inc., dated March 2021 (Air/GHG Study) Construction of the project is estimated to last approximately 15 months and consist of site preparation, grading, building construction, paving, and architectural coating.

The site plan used in this analysis was provided by JW ARCHITECTS and is illustrated in Exhibit B.

Table 1 provides the summary of all existing and proposed land uses of the project.

It should be noted that this analysis was originally conducted with the assumption that the project would include approximately 51.4 acres of utility-scale solar facilities. The utility-scale solar component is no longer part of the project. The project now includes only 55,236 square feet of private on-site solar facilities. However, to be conservative, the analysis still contains the energy estimates associated with the full 51.4 acre solar facility. As a result, the analysis presents a worst case assessment of impacts.

Table 1
Land Use Summary

Land Use	Status	Quantity	Metric
Ponderosa Lodge	Existing	8,712	Square Feet
	New Construction	3,137	Square Feet
	Net Total	11,849	Square Feet
Silverado House	Existing	8,051	Square Feet
	New Construction	439	Square Feet
	Net Total	8,490	Square Feet
Barn/Equestrian Facility	Existing	4,350	Square Feet
Barn	Existing	2,560	Square Feet
Hacienda House	Existing	2,000	Square Feet
New Lodge	New Construction	16,777	Square Feet
New Admin Building	New Construction	16,777	Square Feet
Chaparral Lodge	Existing	2,160	Square Feet
Kitchen and Dining Room	Existing	2,400	Square Feet
Pool House	Existing	945	Square Feet
Guest Cottage	Existing	838	Square Feet
Ball Court	Existing	27,100	Square Feet
Rock Climbing Wall	Existing	315	Square Feet
Manmade Lake- 1	Existing	4,790	Square Feet
Manmade Lake-2	Existing	20,030	Square Feet
Pool 1	Existing	1,600	Square Feet
Pool 2	Existing	500	Square Feet
Pool 3	Existing	1,300	Square Feet
Private Solar Facilities	New Construction	55,236	Square Feet
Total Existing (Building Area)		**32,016**	**Square Feet**
Total New Construction (Building Area)		**37,130**	**Square Feet**
Total Future Building Area		**69,146**	**Square Feet**
Total Project Site Area		**48**	**Acres**

1.4 Utility Providers

The project will be served by the following utility providers, as shown in Table 2.

Table 2
Utility Providers

Utility	Provider
Electricity	Southern California Edison / Private Solar
Gas	Propane
Water	Well
Sewer	Septic
Telephone	Frontier Communications
Cable	Time Warner Cable or DirectTV

1.5 Summary of CEQA Impacts

Table 3 provides a summary of the project's impact to Energy resources, per the impact criteria described in CEQA Guidelines, Appendix G.

Table 3
CEQA Energy Impact Criteria

Energy Impact Criteria	Potentially Significant	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			**X**	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			**X**	

1.6 Recommended Project Design Features

The following recommended project design features include standard rules and requirements, best practices and recognized design features for reducing energy consumption. Design features are assumed to be part of the conditions of approval for the project and built into the project design. Design features are consistent with the recommendations provided in the Air/GHG Study

Construction Design Features:

DF-1. All construction equipment shall be maintained in proper tune.

DF-2. All construction vehicles shall be prohibited from excessive idling. Excessive idling is defined as five (5) minutes or longer.

DF-3. Establish an electricity supply to the construction site and use electric powered equipment instead of diesel-powered equipment or generators, where feasible.

Operational Design Features:

DF-4. Comply with the mandatory requirements of California's Building Energy Efficiency Standards and Green Building (CALGreen) Standards.

DF-5. Implement water conservation strategies, including low flow fixtures and toilets, water efficient irrigation systems, drought tolerant/native landscaping, and reduce the amount of turf.

DF-6. Use electric landscaping equipment, such as lawn mowers and leaf blowers.

DF-7. Install electric vehicle service equipment (EVSE) per CALGreen requirements.

DF-8. Utilize solar renewable energy to supply the project's electivity demand, to the maximum extent feasible.

2.0 Energy Setting

2.1 Background Information

There are many different types and sources of energy produced and consumed in the United States. The U.S. Energy Information Administration (EIA) categorizes energy by primary and secondary sources, renewable and nonrenewable sources, and by the different types of fossil fuels.[1]

Primary energy is captured directly from natural resources and includes fossil fuels, nuclear energy, and renewable sources of energy. Electricity is a secondary energy source that results from the transformation of primary energy sources.

A renewable energy source includes solar energy from the sun, geothermal energy from heat inside the earth, wind energy, biomass from plants, and hydropower from flowing water. Nonrenewable energy sources include petroleum products, hydrocarbon gas liquids, natural gas, coal, and nuclear energy.

Fossil fuels are non-renewable resources formed by organic matter over millions of years and include oil, coal and natural gas.

The U.S. EIA defines the five energy consuming sectors within the U.S. as follows:

- **Industrial Sector:** Includes facilities and equipment used for manufacturing, agriculture, mining, and construction.
- **Transportation Sector:** Includes vehicles that transport people or goods, such as cars, trucks, buses, motorcycles, trains, aircraft, boats, barges, and ships.
- **Residential Sector**: Includes homes and apartments.
- **Commercial Sector:** Includes offices, malls, stores, schools, hospitals, hotels, warehouses, restaurants, and places of worship and public assembly.
- **Electric Power Sector**: Consumes primary energy to generate most of the electricity the other four sectors consume.

Energy sources are measured in different physical units: liquid fuels are measured in barrels or gallons, natural gas in cubic feet, coal in short tons, and electricity in kilowatts and kilowatt-hours. In the United States, British thermal units (Btu), a measure of heat energy, is commonly used for comparing different types of energy to each other.

[1] U.S. Energy Information Administration (EIA). https://www.eia.gov/energyexplained/?page=us_energy_home#tab1

Table 4
Btu Conversion Factors[1]

Energy source/fuel	Btu Conversion Factor[2]
Electricity	1 kilowatthour = 3,412 Btu
Natural gas	1 cubic foot = 1,037 Btu 1 therm = 100,000 Btu
Motor gasoline	1 gallon = 120,286 Btu[3]
Diesel fuel	1 gallon = 137,381 Btu[4]
Heating oil	1 gallon = 138,500 Btu[5]
Propane	1 gallon = 91,452 Btu
Wood	1 cord = 20,000,000 Btu[6]

[1] Source: https://www.eia.gov/energyexplained/units-and-calculators/british-thermal-units.php
[2] Btu factors are for end-use consumption in 2019 from *Monthly Energy Review*, May 2020, excluding wood; preliminary data.
[3] Finished motor gasoline sold at retail in the United States, including fuel ethanol content.
[4] Distillate fuel with 15 parts per million (ppm) suflur or less sulfur content.
[5] Distillate fuel with 15 ppm to 500 ppm sulfur content.
[6] A cord of wood is a volume unit and does not take wood density or moisture content into account. Wood heat content varies significantly with moisture content.

2.2 U.S. Energy Statistics

U.S. energy production and consumption data provide context for the project within the broader domestic energy setting. Calendar year 2019 is the most current data published by the U.S. EIA. Table 5 shows the total U.S. primary energy consumption for Year 2019.

Table 5
U.S. Primary Energy Consumption (Year 2019)[1]

Primary Energy Source	Energy Consumption	
	Btu (in Quadrillions)	Percentage
Total Fossil Fuel Consumption	80.39	80.25%
Petroleum (Excluding Biofuels)	36.87	36.81%
Natural Gas (Excluding Supplemental Gaseous Fuels)	32.20	32.15%
Coal	11.32	11.30%
Total Renewable Energy Consumption	11.33	11.31%
Biomass Energy	4.92	4.91%
Hydroelectric Power	2.56	2.56%
Wind Energy	2.63	2.63%
Solar Energy	1.02	1.02%
Geothermal Energy	0.20	0.20%
Nuclear Electric Power	8.45	8.44%
Total Primary Energy Consumption	**100.17**	**100.00%**

[1] U.S EIA website. https://www.eia.gov/totalenergy/data/browser/index.php?tbl=T01.03#/?f=A

In 2019, total U.S. energy exports were greater than total energy imports, and the United States became a net total energy exporter for the first time since 1952[2]. Also notable in year 2019, is that renewable energy production, mainly attributed to wind and solar, reached new record highs.[2]

Electricity is produced from many different energy sources and technologies. In 2019, the generation of electric power consumed approximately 37 percent of all energy domestically.[3]

Table 6 shows the amount of electricity generated by primary energy sources in the U.S. for year 2019.

[2] U.S. Energy Information Administration (EIA). https://www.eia.gov/energyexplained/index.php?page=us_energy_home
[3] U.S. Energy Information Administration (EIA). https://www.eia.gov/energyexplained/?page=us_energy_home#tab1

Table 6
U.S. Electricity Generation, by Source (Year 2019)[1]

Energy Source	Electricity Generation	
	Thousand Megawatt-hours	Percentage
Natural Gas	1,598,308	38.7%
Coal	964,957	23.4%
Petroleum	18,438	0.4%
Nuclear	809,409	19.6%
Hydroelectric (Conventional, less pumped storage)	282,613	6.8%
Solar (Utility-scale and small-scale generation)	71,937	1.7%
Renewable Sources (Excluding hydro and solar)	367,886	8.9%
Other	12,591	0.3%
Total Electricity Generation (2019)	**4,126,139**	**100.0%**

[1] U.S EIA website. https://www.eia.gov/totalenergy/data/browser/index.php?tbl=T07.02A#/?f=A

2.3 California Energy Statistics

California produced about 2,408 trillion Btu of total energy in year 2018 and consumed over 7,928 trillion Btu, making it the second highest consumer of energy in the country, behind only Texas. However, due in part to its mild climate and energy efficiency programs, California ranks 48th in per capita energy consumption.[4] Overall, California is a net importer of energy, and consumes more energy than it produces. Energy is imported into California in various forms including natural gas, crude oil and electricity.

Natural Gas is primarily imported via pipelines from Canada, the Rocky Mountains, New Mexico and Texas. Natural gas is the primary source of electricity generated in California.[5]

Crude oil is primarily imported from Alaska, Mexico, Canada, South America and the Middle East. Crude oil is refined at one of the seventeen (17) in-state oil refineries that meet California's strict clean fuel regulations. Refined petroleum products, including gasoline, are also imported from numerous other domestic and foreign sources that are equipped to meet California's fuel standards.[5]

Electricity is imported via transmission lines from the Northwest (Alberta, British Columbia, Idaho, Montana, Oregon, South Dakota, Washington, and Wyoming) and Southwest (Arizona, Baja California, Colorado, Mexico, Nevada, New Mexico, Texas, and Utah) regions of the U.S.[5]

[4] U.S. Energy Information Administration (EIA). https://www.eia.gov/state/?sid=CA#tabs-1
[5] California Energy Commission. https://www.energy.ca.gov/almanac/

Table 7 shows the State of California's energy consumption estimates for year 2018.

Table 7
California Energy Consumption by Source (Year 2018)[1]

Primary Energy Source	Energy Consumption	
	Btu (in Trillions)	Percentage
Total Fossil Fuel Consumption	5,717.6	72.1%
Coal	33.3	0.4%
Natural Gas	2,207.4	27.8%
Motor Gasoline excl. Ethanol	1,716.3	21.6%
Distillate Fuel Oil	552.2	7.0%
Jet Fuel	648.8	8.2%
Hydrocarbon Gas Liquids (HGL)	58.4	0.7%
Residual Fuel	168.9	2.1%
Other Petroleum	332.3	4.2%
Total Renewable Energy Consumption	1,154.4	14.6%
Hydroelectric Power	239.7	3.0%
Biomass	296.9	3.7%
Solar	381.7	4.8%
Wind	127.7	1.6%
Geothermal	108.4	1.4%
Nuclear Electric Power	190.4	2.4%
Net Electricity Imports and Interstate Flow	865.7	10.9%
Total	**7,928.1**	**100.0%**

[1] U.S CIA website. https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_sum/html/sum_btu_totcb.html&sid=CA

Table 8 shows the sources and fuel types for California's system-wide generation of electricity for year 2019.

Table 8
California Electric Generation in Gigawatt Hours (Year 2019)[1]

Fuel Type	California In-State Generation (GWh)[2]	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	Total California Energy Mix (GWh)	Total California Power Mix
Coal	248	0.12%	219	7,765	8,233	2.96%
Natural Gas	86,136	42.97%	62	8,859	95,057	34.23%
Oil	36	0.02%	0	0	36	0.01%
Other (Waste Heat / Petroleum Coke)	411	0.20%	0	11	422	0.15%
Nuclear	16,163	8.06%	39	8,743	24,945	8.98%
Large Hydro	33,145	16.53%	6,387	1,071	40,603	14.62%
Unspecified	0	0.00%	6,609	13,767	20,376	7.34%
Renewable						
Biomass	5,851	2.92%	903	33	6,787	2.44%
Geothermal	10,943	5.46%	99	2,218	13,260	4.77%
Small Hydro	5,349	2.67%	292	4	5,646	2.03%
Solar	28,513	14.22%	282	5,295	34,090	12.28%
Wind	13,680	6.82%	9,038	5,531	28,249	10.17%
Renewables Totals	64,336	32.09%	10,615	13,081	88,032	31.70%
Total	**200,475**	**100.00%**	**23,930**	**53,299**	**277,704**	**100.00%**

[1] California Energy Commission. CEC-1304 Power Plant Owners Reporting Form and SB 1305 Reporting Regulations. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2019-total-system-electric-generation
[2] In-state generation is reported generation from units one megawatt and larger.

2.4 Southern California Edison

Southern California Edison (SCE) provides electricity service to approximately 180 cities in 15 counties in central, coastal and Southern California; including the project site.[6] According to the California Energy Commission (CEC), SCE consumed approximately 80,912 GWh of electricity in 2019[7]; which is approximately 29% of the State's total electricity usage.

[6] Southern California Edison. https://www.sce.com/about-us
[7] California Energy Commission. http://www.ecdms.energy.ca.gov/elecbyutil.aspx

The CEC Power Source Disclosure program requires retail electricity suppliers to annually disclose their sources of energy for electricity. This information is provided through annual Power Content Labels.

Table 9 shows SCE's Power Content Label for year 2019.

Table 9
Southern California Edison Electricity Generation (Year 2019)

Energy Resource	SCE Electricity Generation	
	GWh[1]	Power Mix[1]
Eligible Renewable	28,400.37	35%
Biomass & Biowaste	485.48	1%
Geothermal	4,773.85	6%
Eligible Hydroelectric	809.13	1%
Solar	12,946.04	16%
Wind	9,304.96	12%
Coal	-	0%
Large Hydroelectric	6,392.11	8%
Natural Gas	13,026.95	16%
Nuclear	6,634.84	8%
Other	80.91	0%
Unspecified Sources of Power[3]	26,377.55	33%
Total	**80,912.73**	**100%**

1. Source: Southern California Edison. https://www.sce.com/sites/default/files/inline-files/SCE_2019PowerContentLabel.pdf
2. GWh generated by energy resources estimated based on total energy consumption and power mix. California Energy Commission Electricity Consumption by Entity, SCE, Year 2019, All Sectors http://www.ecdms.energy.ca.gov/elecbyutil.aspx
3. Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.

2.5 Propane

The project will use propane gas to supply energy for cooking, heating and other operational applications associated with the project operation. Propane, also known as

liquefied petroleum gas (LPG), is an odorless hydrocarbon (C_3H_8) gas at normal pressures and temperatures. When pressurized in a tank to 150 pounds per square inch, it becomes a liquid with an energy density 270 times greater than that of its gaseous form.

Propane is a fossil fuel and a by-product of natural gas processing and crude oil refining. As of 2014, more than 99% of the U.S. propane supply was produced in North America.

Propane is shipped from its point of production to bulk distribution terminals via pipeline, railroad, barge, truck, or tanker. Propane marketers then purchase propane at terminals and distribute the fuel to customers, including retail or private fueling stations.[8]

Table 10 shows net production of propane in the U.S. for year 2020.

Table 10
U.S. Net Propane Production (Year 2020)[1]

Month	U.S. Propane Production	
	(Thousands of Barrels)[2]	(Trillions of Btu)[2]
January	83,062	318.624669
February	61,299	235.142106
March	58,779	225.475421
April	57,120	219.111520
May	69,384	266.156053
June	60,361	231.543951
July	79,296	304.178346
August	62,748	240.700450
September	62,069	238.095815
October	76,783	294.538513
November	63,644	244.137493
December	64,883	248.890280
Total Production	**799,428**	**3,066.6**

[1] Source: U.S. EIA. https://www.eia.gov/petroleum/weekly/propane.php
[2] 1 gallon of propane = 91,333 Btu; 1 barrel = 42 gallons

[8] U.S. Department of Energy. https://afdc.energy.gov/files/u/publication/propane_basics.pdf

3.0 Regulatory Setting

Energy is controlled through various federal and state laws and regulations. This section provides a brief overview of key energy legislation and policies at the federal and state levels over the past 50 years.

3.1 Federal Regulations

Table 11
U.S. Energy Policy Legislative Acts

Date	Legislative Act and Description
1975	**Energy Policy and Conservation Act** Established the Strategic Petroleum Reserve and mandated vehicle fuel economy standards
1978	**National Energy Act** Established tax incentives and disincentives, alternative fuel programs, energy efficiency initiatives, and other regulatory and market-based initiatives in response to the oil crisis earlier in the decade. Comprised of 5 statutes: **Energy Tax Act** Created the Gas Guzzler tax for vehicles with mileage below specified levels and offered income tax credit for citizens using solar, wind, or geothermal energy sources at home **Natural Gas Policy Act** Set up wellhead pricing maximums, rules for allocating costs of high-cost gas to industrial consumers, and provided authority to high priority users in times of supply emergency; gave FERC jurisdiction over almost all natural gas production **National Energy Conservation Policy Act** Replaced Minimum Energy Performance Standards (MEPS) set forth in the EPCA of 1975, changed energy standards from voluntary to mandatory, Required federal agencies to do energy audits of their operations, Provided loans for families to purchase solar heating or cooling systems, and Established grants for schools, hospitals, local governments, and public housing authorities willing to use energy conservation measures **Power Plant and Industrial Fuel Use Act** Restricted construction of power plants fueled primarily by oil or natural gas and instead encouraged power plants fueled by coal, nuclear, and alternative fuels and restricted use of oil and natural gas in industrial boilers. Repealed in 1987 with the Natural Gas Utilization Act **Public Utility Regulatory Policies Act** Promoted use of renewable energy, encouraged cogeneration plants.
1980	**Energy Security Act** Title I: US Synthetic Fuels Corporation Act Established the Synthetic Fuels Corporation (which only existed until 1985) for the purpose of partnering with industry for the creation of a market for domestically-produced synthetic liquid fuels; moved research and development for synthetic fuels away from the Department of Energy and into this public-private partnership with the hopes of speeding up results. Title II: Biomass Energy and Alcohol Fuels Act Provided loan guarantees for small-scale biomass energy projects; established the Office of Alcohol Fuels, the Office of Energy from Municipal Waste.

Table 11
U.S. Energy Policy Legislative Acts

Date	Legislative Act and Description
	Title III: Energy Targets Required the submission of energy targets for net imports. Title IV: Renewable Initiatives Established incentives for the use of renewable energy resources Title V: Solar Energy and Energy Conservation Encouraged energy conservation and the use of solar energy, reducing dependence on foreign energy supplies. Title VI: Geothermal Energy Act Authorized loans from the Geothermal Resources Development Fund for exploration and determination of economic viability of a geothermal reservoir, cancels loan if reservoir is deemed unacceptable for development. Title VII: Acid Precipitation Program Established a task force to study the causes and risks of acid precipitation Title VIII: Strategic Petroleum Reserve Established that 500,000,000 barrels of crude oil must be in storage before any can be sold and calls for the reserve to increase its supply 100,000 barrels per day until the storage capacity is reached
1992	**Energy Policy Act** Amended the National Energy Conservation Policy Act of 1978. Created framework for wholesale electricity generation. Provided financial incentives to users/developers of clean-fuel vehicles; repealed alternative minimum tax for some producers. Intended to expand the use of natural gas.
2002	**Farm Security and Rural Investment Act (Farm Bill)** Included $405 million in mandatory funding over the following 5 years for the procurement of bio-based products, grants and loans for renewable energy and energy efficiency projects, research and development and the bioenergy program. Included, for reasons of national energy and security, rural economic development, and environmental sustainability in light of climate change impacts.
2005	**Energy Policy Act** Offers tax benefits to individuals who increase energy efficiency in existing homes, buy or lease hybrid/alternative vehicles, required all public utilities to offer net metering on request, increased required amounts of renewable fuel in gasoline sold in the US, and encourages more domestic energy production
2007	**Energy Independence and Security Act** Increased CAFE standards to 35 mpg (fleet-wide for passenger autos and light trucks) by 2020; instituted new conservation measures for federal fleet vehicles; authorized increased taxpayer-funded biofuel production (36 billion gallons by 2022 - 21 billion of which must be derived from non-cornstarch products). Revised standards for appliances and lighting; all federal buildings must use Energy Star lighting products; training for green jobs; loans for small business energy efficiency improvements.
2008	**Food, Conservation, and Energy Act (Farm Bill)** Includes provisions for loan guarantees for bio-refineries, payments to support expansion of advanced biofuels, expands the existing Rural Energy for America Program, provides grant monies for biofuel and bio-based product research and development

Table 11
U.S. Energy Policy Legislative Acts

Date	Legislative Act and Description
2009	**The American Recovery and Reinvestment Act of 2009** $800 billion economic stimulus package aimed at job creation and the promotion of investment and consumer spending; included $4.3 billion in tax credits to homeowners for energy efficiency improvements in 2009-2010, $300 million for reducing diesel engine emissions, $21.5 billion for energy infrastructure, $27.2 billion for energy efficiency and renewable energy research and investment, $2 billion in research for DOE, $600 million in research for NOAA
2015	**The Clean Power Plan** The first comprehensive plan to reduce carbon emissions from power plants by 32% in 2030, compared to 2005 levels. Currently in the process of being repealed by the Trump administration.

[1] Source: Robinson, Brandi. Penn State University. https://www.e-education.psu.edu/geog432/node/116

3.2 State of California Regulations

California has a long standing history of support for energy conservation and renewable energy.

Table 10 provides a summary of some of the key legislative acts, policies and regulations in the State of California for encouraging energy conservation and renewable energy.

Table 12
California Energy Policy Legislative Acts and Regulations

Date	Legislative Act and Description
1974	**Warren-Alquist Act** Established the California Energy Commission (CEC) as the state's primary energy policy and planning agency. Responsible for preparing State Energy Plan. CEC's goals are to reduce energy costs and environmental impacts of energy use, while ensuring a safe, resilient, and reliable supply of energy.
1978	**Title 24 of the California Code of Regulations** Establishes the Renewable Portfolio Standard (RPS) program, requiring 20% of retail sales from renewable energy by 2017.
2002	**Senate Bill 1078** Required 20% of retail sales from renewable energy by 2017.
2003	**Energy Action Plan I** Accelerated the 20% renewable deadline to 2010.
2005	**Energy Action Plan II** Recommended further goal of 33% renewable by 2020.
2006	**Senate Bill 107** Codified the accelerated 20% renewable by 2010 deadline into law.
2008	**Executive Order S-14-08** Signed by Gov. Schwarzenegger, requires 33% renewables by 2020.
2009	**Executive Order S-21-09** Directs the California Air Resources Board, under its AB 32 authority, to adopt regulations by July 31, 2010, consistent with the 33% renewable energy target established in Executive Order S-14-08.
2011	**Senate Bill X1-2** Signed by Gov. Edmund G. Brown, Jr., codifies 33% renewable by 2020 RPS
2015	**Senate Bill 350 – Clean Energy and Pollution Reduction Act of 2015** Signed by Gov. Edmund G. Brown, Jr. codifies 50% by 2030 RPS
2018	**Senate Bill 100** Signed by Gov. Edmund G. Brown, Jr. codifies 60% by 2030 & 100% by 2045 RPS

[1] Source: California Energy Commission. https://www.energy.ca.gov/renewables/index.html

4.0 Project Energy Consumption

4.1 Energy Consumption Methodology

The three (3) main types of energy expected to be consumed by the project include electricity, propane and petroleum products in the form of gasoline and diesel fuel. Energy usage for the proposed project is calculated based on the *Paradise Valley Ranch Air Quality and Greenhouse Gas Analysis, prepared by RK Engineering Group, Inc., dated March 2021* (Air/GHG Study).

The California Emissions Estimator Model Version 2016.3.2 (CalEEMod) is used to calculate energy usage from project construction and operational activities.

The CalEEMod Annual Reports for the project are provided in Appendix A.

4.2 Electricity Consumption

The project is expected to generate near 100% of its electricity requirement through the proposed solar farm[9].

The project will use electricity for many different operational activities including, but not limited to, building heating and cooling, lighting, appliances, electronics, mechanical equipment, electric vehicle charging, and parking lot lighting. Indirect electricity usage will also be required to supply, distribute, and treat water and wastewater. Electricity will be provided to the site by Southern California Edison and private solar.

Temporary electricity usage for construction activities may include lighting, electric equipment and mobile office uses, however, CalEEMod does not calculate electricity usage during construction. Electricity usage during construction is expected to be short-term and relatively minor compared to the operational demand, and therefore electricity usage during construction is not counted in this analysis.

Table 13 shows the project's estimated operational electricity consumption in kilowatt-hours per year (kWh/year) and millions of Btu per year.

[9] Typical solar panels produce approximately 24 kWh per square foot per year (various sources). Project to install 55,236 square feet of panels, resulting in up to 1,325,664 kWh per year being produced.

Table 13
Project Electricity Consumption

Land Use/Activity	Electricity Consumption[1]	
	(kWhr/yr)[2]	(MBtu/yr)[2]
Project Total	290,433	990.96

[1] Source: Paradise Valley Ranch Air Quality and Greenhouse Gas Analysis, by RK Engineering Group, Inc., March 2021.
[2] kWhr/yr = Kilowatt Hours per Year
MBtu/yr = Million British Thermal Units per Year

4.3 Propane Consumption

The project is expected to use propane for building heating and cooling, cooking and kitchen appliances and water heating. The project is not anticipated to have natural gas supplied to the site. All propane used by the project is expected to be imported and stored on-site via on-site storage tanks. Propane is not expected to be used during construction in any significant quantities and is not included in the overall calculation of the project's propane consumption. It should be noted that, the CalEEMod do not provide propane consumption. Therefore, for the purpose of this analysis, it is assumed that the project uses same amount BTUs for propane consumption as is reported for natural gas in CalEEMod.

Table 14 shows the project's estimated operational propane consumption in millions of Btu per year.

Table 14
Project Propane Consumption

Land Use/Activity	Propane Consumption[1] (MBtu/yr)[2]
Project Total	302.99

[1] Source: Paradise Valley Ranch Air Quality and Greenhouse Gas Analysis, by RK Engineering Group, Inc., March 2021.
[2] MBtu/yr = Millions of British Thermal Units per Year

4.4 Petroleum Consumption

The project's energy consumption from petroleum products is primarily associated with transportation related activities. This includes gasoline and diesel fuel usage for auto and truck trips during construction and operation and off-road equipment usage during construction.

4.4.1 Petroleum Consumption - Construction

Construction of the project is estimated to last approximately 15 months and consist of site preparation, grading, building construction, paving, and architectural coating phases. Construction activities will consume energy in the form of motor vehicle fuel (gasoline and diesel) for off-road construction equipment and on-road vehicle trips. Vehicle trips include workers and vendors traveling to and from the job-site.

Table 15 shows the project's energy consumption for all off-road equipment during construction. For purposes of this analysis, all off-road equipment is assumed to run on diesel fuel. Table 16 shows the project's energy consumption from on-road vehicle trips during construction.

TABLE 15
Construction Off-Road Equipment Energy Consumption

Phase[1]	Phase Duration (Days)[1]	Equipment[1]	Amount[1]	Hours/ Day[1]	Horspower (HP)[1]	Load Factor[1]	HP-hrs[2]	Fuel Consumption Rate[3] (hp-hr/gal)	Diesel Fuel Consumption (gal.)	Diesel Fuel Consumption by Phase (gal.)	MBtu[4]
Demolition	20	Concrete/Industrial Saws	1	8	81	0.73	9,460.8	18.5	511.4	3,778.2	519.048
		Excavators	3	8	158	0.38	28,819.2		1,557.8		
		Rubber Tired Dozers	2	8	247	0.40	31,616.0		1,709.0		
Site Preparation	25	Rubber Tired Dozers	3	8	247	0.40	59,280.0		3,204.3	4,756.3	653.429
		Tractors/Loaders/Backhoes	4	8	97	0.37	28,712.0		1,552.0		
Grading	50	Excavators	2	8	158	0.38	48,032.0		2,596.3	15,560.0	2,137.648
		Graders	1	8	187	0.41	30,668.0		1,657.7		
		Rubber Tired Dozers	1	8	247	0.40	39,520.0		2,136.2		
		Scrappers	2	8	367	0.48	140,928.0		7,617.7		
		Tractors/Loaders/Backhoes	2	8	97	0.37	28,712.0		1,552.0		
Building Construction	200	Cranes	1	7	231	0.29	93,786.0		5,069.5	25,002.2	3,434.822
		Forklifts	3	8	89	0.20	85,440.0		4,618.4		
		Generator Sets	1	8	84	0.74	99,456.0		5,376.0		
		Tractors/Loaders/Backhoes	3	7	97	0.37	150,738.0		8,148.0		
		Welders	1	8	46	0.45	33,120.0		1,790.3		
Paving	40	Pavers	2	8	130	0.42	34,944.0		1,888.9	4,584.5	629.820
		Paving Equipment	2	8	132	0.36	30,412.8		1,643.9		
		Rollers	2	8	80	0.38	19,456.0		1,051.7		
Architectural Coating	50	Air Compressors	1	6	78	0.48	11,232.0		607.1	607.1	83.409
								Total Energy Requirements		**54,288.3**	**7,458.175**

[1] Source: Paradise Valley Ranch Air Quality and GHG Analysis, by RK Engineering Group, Inc. January 2021. (CalEEMod v.2016.3.2)

[2] HP-hrs = Horsepower Hours.

[3] Source: Carl Moyer Program Guidelines. 2017 Revisions. Table D-21. https://www.arb.ca.gov/msprog/moyer/guidelines/current.htm

[4] Mbtu = Millions of Btu; assuming 1 gallon of diesel fuel = 137,381 Btu.

Table 16
Construction On-Road Trips Energy Consumption

Construction Phase[1]	Phase Duration (Days)[1]	Trips /Day[1]	Trip Length[1]	Phase VMT	Vehicle Class[1]	Vehicle Mix[1]	Average Fuel Economy (MPG)[2]	Gasoline			Diesel			Total MBtu[3]
								Fuel Split[2]	Fuel Consumption by Veh. Class (gal.)	Fuel Consumption by Phase (gal.)	Fuel Split[2]	Fuel Consumption by Veh. Class (gal.)	Fuel Consumption by Phase	
Worker Trips														
Demolition	20	15	19.8	5940	LDA	0.5	28.57	0.9926	103.19		0.0074	0.77		
					LDT1	0.25	23.26	0.9991	103.19	277.9068803	0.0009	0.77	1.64	33.69
					LDT2	0.25	20.73	0.9986	71.54		0.0014	0.10		
Site Preparation	25	18	19.8	8,910	LDA	0.50	28.57	0.9926	154.78		0.0074	1.15		
					LDT1	0.25	23.26	0.9991	154.78	416.86	0.0009	1.15	2.46	50.54
					LDT2	0.25	20.73	0.9986	107.30		0.0014	0.15		
Grading	50	20	19.8	19,800	LDA	0.50	28.57	0.9926	343.95		0.0074	2.56		
					LDT1	0.25	23.26	0.9991	212.62	795.02	0.0009	0.19	3.09	96.17
					LDT2	0.25	20.73	0.9986	238.45		0.0014	0.33		
Building Construction	200	1,180	19.8	4,672,800	LDA	0.50	28.57	0.9926	81,172.93		0.0074	605.16		
					LDT1	0.25	23.26	0.9991	50,178.36	187,625.51	0.0009	45.20	729.25	22,695.74
					LDT2	0.25	20.73	0.9986	56,274.22		0.0014	78.89		
Paving	40	15	19.8	11,880	LDA	0.50	28.57	0.9926	206.37		0.0074	1.54		
					LDT1	0.25	23.26	0.9991	127.57	477.01	0.0009	0.11	1.85	57.70
					LDT2	0.25	20.73	0.9986	143.07		0.0014	0.20		
Architectural Coating	50	236	19.8	233,640	LDA	0.50	28.57	0.9926	4,058.65		0.0074	30.26		
					LDT1	0.25	23.26	0.9991	2,508.92	9,381.28	0.0009	2.26	36.46	1,134.79
					LDT2	0.25	20.73	0.9986	2,813.71		0.0014	3.94		
									Gasoline (gal.)	198,695.68		Diesel (gal.)	774.76	24,068.63
Vendor Trips														
Building Construction	200	463	7.9	731,540	MHDT	0.50	8.50	0.1403	6,037.36	6,643.85	0.8597	36,994.41	98,912.70	14,388.84
					HHDT	0.50	5.85	0.0097	606.49		0.9903	61,918.30		
Hauling Trips														
Demolition	20	46	20.0	18,400	HHDT	1.00	5.85	0.0097	30.51	30.51	0.9903	3,114.79	3,114.79	431.59
Total On-Road Construction Trips Energy Consumption									**Gasoline (gal.)**	**205,370.04**		**Diesel (gal.)**	**102,802.25**	**38,889.05**

1 Source: Paradise Valley Ranch Air Quality and GHG Analysis, by RK Engineering Group, Inc. January 2021. (CalEEMod v.2016.3.2)

[2] Source: EMFAC2014 Web Database. https://www.arb.ca.gov/emfac/2014/. (See Appendix B for more details.)

[3] Mbtu = Millions of Btu; assuming 1 gallon of gasoline fuel = 120,429 Btu and 1 gallon of diesel fuel = 137,381 Btu

4.4.2 Petroleum Consumption - Operation

The project is expected to consume energy from auto and truck trips generated by the proposed land uses, as described in the Paradise Valley Ranch Traffic Assessment Scoping Agreement, by RK Engineering Group, Inc., dated January 2021 and the Paradise Valley Ranch Air Quality and Greenhouse Gas Analysis, prepared by RK Engineering Group, Inc., dated March 2021. Operational vehicle trips are associated with workers, customers and vendors/non-workers (i.e., delivery, service, maintenance vehicles, etc.) traveling to and from the site.

Table 17 shows the project's petroleum energy consumption for all operational trips generated by the project on an annual basis.

Table 17
Operational Trips Energy Consumption - Annual

Vehicle Class[1]	Vehicle Mix[1]	Average Fuel Economy (MPG)[2]	Mitigated Annual VMT[1]	Gasoline		Diesel		MBtu/yr[3]
				Fuel Split[2]	Fuel Consumption (gal./yr)	Fuel Split[2]	Fuel Consumption (gal./yr)	
LDA	54.55%	28.57	1,226,318	0.9926	23,242.52	0.0074	173.28	2,822.88
LDT1	3.69%	23.26		0.9991	1,941.38	0.0009	1.75	234.04
LDT2	18.60%	20.73		0.9986	10,989.63	0.0014	15.41	1,325.59
MDV	11.53%	15.42		0.9875	9,057.91	0.0125	114.66	1,106.59
LHD1	1.52%	14.08		0.6650	881.64	0.3350	444.14	167.19
LHD2	0.50%	14.35		0.5100	216.61	0.4900	208.12	54.68
MHD	1.75%	8.50		0.1403	354.73	0.8597	2,173.65	341.34
HHD	6.95%	5.85		0.0097	141.38	0.9903	14,433.57	1,999.92
OBUS	0.14%	7.25		0.4732	111.82	0.5268	124.48	30.57
UBUS	0.12%	4.86		0.3269	95.68	0.6731	197.02	38.59
MCY	0.45%	35.36		1.0000	157.69	0.0000	0.00	18.99
SBUS	0.09%	8.10		0.2133	30.10	0.7867	111.01	18.88
MH	0.10%	7.88		0.8345	125.32	0.1655	24.85	18.51
Total Operational Trips Energy Usage				Gasoline Consumption (gal.)	47,346.41	Diesel Consumption (gal.)	18,021.94	8,177.75

[1] Source: Paradise Valley Ranch Air Quality and Greenhouse Gas Analysis, by RK Engineering Group, Inc., March 2021. (CalEEMod v.2016.3.2)
[2] Source: EMFAC2014 Web Database. https://www.arb.ca.gov/emfac/2014/. (See Appendix B for more details.)
[3] MBtu/yr = Millions of Btu per year; assuming 1 gallon of gasoline fuel = 120,429 Btu and 1 gallon of diesel fuel = 137,381 Btu

4.5 Summary of Project Energy Consumption

Table 18 provides a summary of the project's annual operational energy consumption.

Table 18
Annual Energy Consumption

Activity	Energy Consumption (MBtu/yr)[1]
Electricity	990.96
Propane	302.99
Petroleum	6,504.06
Total Annual Operational Energy Consumption	**7,798.01**

[1] MBtu/yr = Millions of Btu per year. Operational activities only.

5.0 Energy Impacts

5.1 Energy Impact Criteria

This analysis has been prepared within the context of the CEQA Guidelines, Appendix F, Energy Conservation, and Appendix G, Environmental Checklist Form. According to CEQA, the goal of conserving energy implies the wise and efficient use of energy through 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.

A significant environmental impact would result if the project would;

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

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

5.2 Energy Impact – 1

Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

The project will be required to comply with the mandatory requirements of California's Building Energy Efficiency Standards (Title 24, Part 6) and Green Building Standards (CALGreen, Title 24, Part 11) for all new construction. California's building energy efficiency standards are some of the strictest in the nation and the project's compliance with California's building code will ensure that wasteful, inefficient or unnecessary consumption of energy is minimized. The building standards code is designed to reduce the amount of energy needed to heat or cool a building, reduce energy usage for lighting and appliances and promote usage of energy from renewable sources.

Furthermore, the project is expected to receive the majority of its electricity requirement from the new on-site renewable solar installations.

The following recommended project design features are provided to help ensure that wasteful, inefficient or unnecessary consumption of energy is minimized.

Construction Design Features:

DF-1. All construction equipment shall be maintained in proper tune.

DF-2. All construction vehicles shall be prohibited from excessive idling. Excessive idling is defined as five (5) minutes or longer.

DF-3. Establish an electricity supply to the construction site and use electric powered equipment instead of diesel-powered equipment or generators, where feasible.

Operational Design Features:

DF-4. Comply with the mandatory requirements of California's Building Energy Efficiency Standards and Green Building (CALGreen) Standards.

DF-5. Implement water conservation strategies, including low flow fixtures and toilets, water efficient irrigation systems, drought tolerant/native landscaping, and reduce the amount of turf.

DF-6. Use electric landscaping equipment, such as lawn mowers and leaf blowers.

DF-7. Install electric vehicle service equipment (EVSE) per CALGreen requirements.

5.3 Energy Impact – 2

Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The project is expected to generate near 100% of its energy requirement through the proposed private solar facilities. Any subsequent electricity requirements will be purchased through Southern California Edison which is subject to the requirements of California Senate Bill 100 (SB 100). SB 100 is the most stringent and current energy legislation in California; requiring that renewable energy resources and zero-carbon resources supply

100% of retail sales of electricity to California end-use customers and 100% of electricity procured to serve all state agencies by December 31, 2045.[10]

The following project design feature is provided which will help ensure the project does not obstruct a local plan for renewable energy usage.

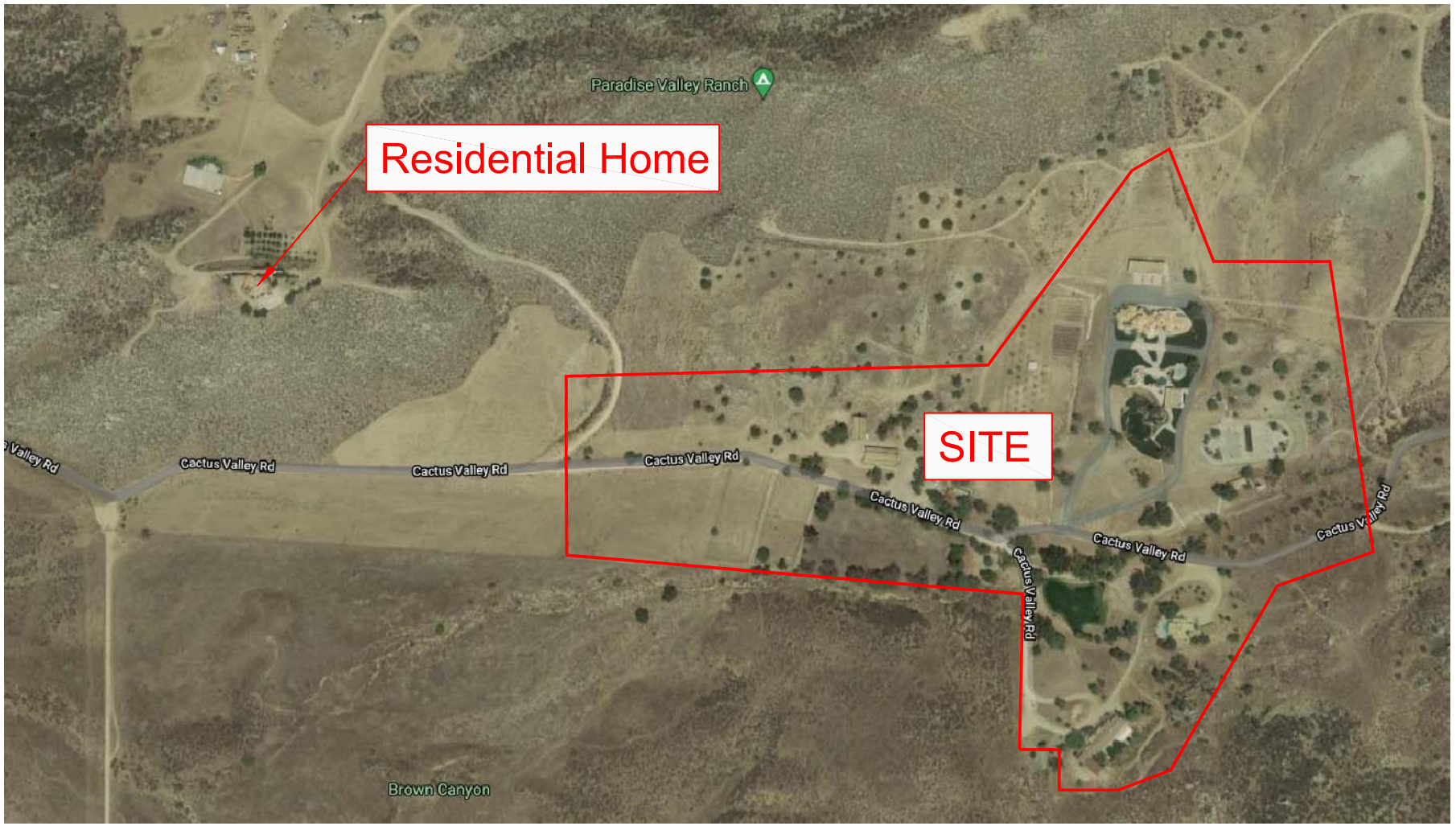
DF-8. Utilize solar renewable energy to supply the project's electivity demand, to the maximum extent feasible.

[10] SB-100 California Renewables Portfolio Standard Program. http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100

Exhibits

Exhibit A

Location Map

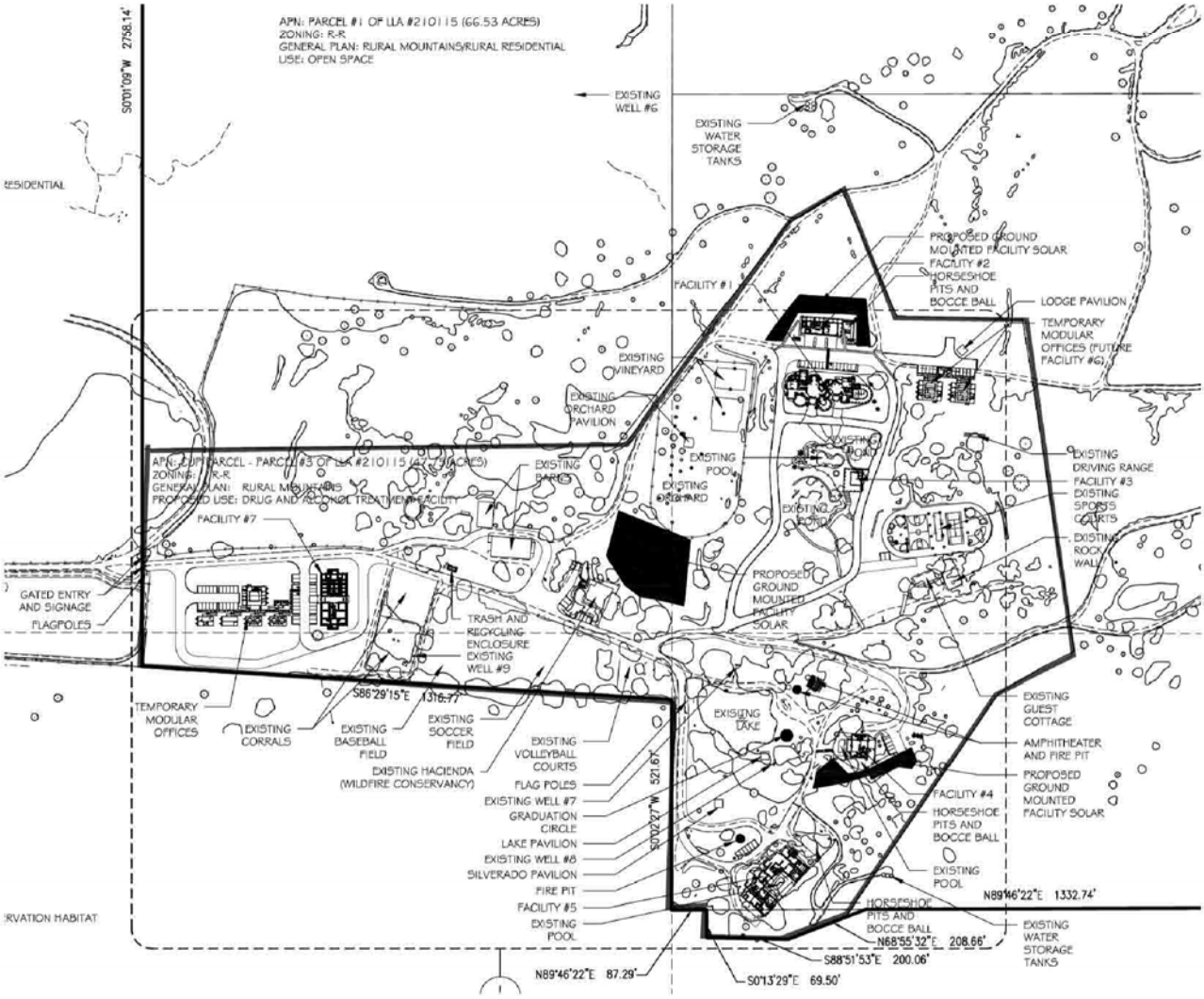


Legend:

= Project Site Boundary

N

Site Plan


APN: PARCEL #1 OF LLA #210115 (66.53 ACRES)
ZONING: R-R
GENERAL PLAN: RURAL MOUNTAINS/RURAL RESIDENTIAL
USE: OPEN SPACE
APN: ZIP PARCEL - PARCEL #3 OF LLA #210115 (47.79 ACRES)
ZONING: R-R
GENERAL PLAN: RURAL MOUNTAINS
PROPOSED USE: DRUG AND ALCOHOL TREATMENT FACILITY
S0°01'09"W 2758.14'
EXISTING WELL #6
EXISTING WATER STORAGE TANKS
PROPOSED GROUND MOUNTED FACILITY SOLAR
FACILITY #2 HORSESHOE PITS AND BOCCE BALL
LODGE PAVILION
TEMPORARY MODULAR OFFICES (FUTURE FACILITY #6)
FACILITY #1
EXISTING VINEYARD
EXISTING ORCHARD PAVILION
EXISTING POOL
EXISTING ORCHARD
EXISTING DRIVING RANGE FACILITY #3
EXISTING SPORTS COURTS
EXISTING ROCK WALL
EXISTING POND
PROPOSED GROUND MOUNTED FACILITY SOLAR
FACILITY #7
GATED ENTRY AND SIGNAGE
FLAGPOLES
TRASH AND RECYCLING ENCLOSURE
EXISTING WELL #9
S86°29'15"E 1316.77'
TEMPORARY MODULAR OFFICES
EXISTING CORRALS
EXISTING BASEBALL FIELD
EXISTING SOCCER FIELD
EXISTING VOLLEYBALL COURTS
EXISTING HACIENDA (WILDFIRE CONSERVANCY)
FLAG POLES
EXISTING WELL #7
GRADUATION CIRCLE
LAKE PAVILION
EXISTING WELL #8
SILVERADO PAVILION
FIRE PIT
FACILITY #5
EXISTING POOL
S0°02'27"W 521.67'
EXISTING LAKE
EXISTING GUEST COTTAGE
AMPHITHEATER AND FIRE PIT
PROPOSED GROUND MOUNTED FACILITY SOLAR
FACILITY #4 HORSESHOE PITS AND BOCCE BALL
EXISTING POOL
N89°46'22"E 1332.74'
HORSESHOE PITS AND BOCCE BALL
N68°55'32"E 208.66'
EXISTING WATER STORAGE TANKS
S88°51'53"E 200.06'
N89°46'22"E 87.29'
S0°13'29"E 69.50'
RESIDENTIAL
RVATION HABITAT

N

Appendices

Appendix A

CalEEMod Annual Emissions Output

Paradise Valley Ranch AQ & GHG Analysis - Construction Analyis for the Proposed Addition

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	3.00	Dwelling Unit	0.46	20,353.00	9
General Office Building	16.78	1000sqft	0.39	16,777.00	0
Other Non-Asphalt Surfaces	51.40	Acre	51.40	2,238,984.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Paradise Valley Ranch AQ & GHG Analysis - Construction Analyis for the Proposed Addition - Riverside-South Coast County, Annual

Project Characteristics - The project is proposing to use SoCal Edison/private solar for electricity.

Land Use - The project is proposed to construct and operate approximately 37.13 TSF of additional facility to the west coast "Center of Excellence". The project is also proposing to develop 51.4 aacre of the land into a solar installations.

Construction Phase - The project construction phases are adjusted to meet project's opening year 2022.

Grading -

Vehicle Trips - No operational mobile emission are estimated in this CalEEMod analysis.

Woodstoves - No operational emission are estimated in this CalEEMod analysis.

Energy Use - No operational emission are estimated in this CalEEMod analysis.

Water And Wastewater - No operational emission are estimated in this CalEEMod analysis.

Solid Waste - No operational emission are estimated in this CalEEMod analysis.

Construction Off-road Equipment Mitigation - The project will be required to comply with SCAQMD Rule 403 regarding fugitive dust control.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	75.00	20.00
tblConstructionPhase	NumDays	1,110.00	250.00
tblConstructionPhase	NumDays	110.00	20.00
tblConstructionPhase	NumDays	75.00	20.00
tblConstructionPhase	NumDays	40.00	20.00
tblConstructionPhase	PhaseEndDate	5/4/2027	12/6/2022
tblConstructionPhase	PhaseEndDate	10/6/2026	10/11/2022
tblConstructionPhase	PhaseEndDate	7/5/2022	10/26/2021
tblConstructionPhase	PhaseEndDate	1/19/2027	11/8/2022
tblConstructionPhase	PhaseEndDate	2/1/2022	9/28/2021
tblConstructionPhase	PhaseStartDate	1/20/2027	11/9/2022
tblConstructionPhase	PhaseStartDate	7/6/2022	10/27/2021
tblConstructionPhase	PhaseStartDate	2/2/2022	9/29/2021

tblConstructionPhase	PhaseStartDate	10/7/2026	10/12/2022
tblConstructionPhase	PhaseStartDate	12/8/2021	9/1/2021
tblEnergyUse	LightingElect	3.66	0.00
tblEnergyUse	LightingElect	1,608.84	0.00
tblEnergyUse	NT24E	2.79	0.00
tblEnergyUse	NT24E	6,155.97	0.00
tblEnergyUse	NT24NG	6,030.00	0.00
tblEnergyUse	T24E	3.07	0.00
tblEnergyUse	T24E	951.67	0.00
tblEnergyUse	T24NG	3.47	0.00
tblEnergyUse	T24NG	24,566.15	0.00
tblLandUse	LandUseSquareFeet	5,400.00	20,353.00
tblLandUse	LotAcreage	0.97	0.46
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	15.61	0.00
tblSolidWaste	SolidWasteGenerationRate	3.69	0.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	9.52	0.00
tblWater	IndoorWaterUseRate	2,982,372.29	0.00
tblWater	IndoorWaterUseRate	195,462.08	0.00
tblWater	OutdoorWaterUseRate	1,827,905.60	0.00
tblWater	OutdoorWaterUseRate	123,226.09	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	0.2740	2.2389	2.0309	7.1900e-003	0.6736	0.0671	0.7407	0.2446	0.0623	0.3069	0.0000	657.7184	657.7184	0.0650	0.0000	659.3431
2022	1.2225	5.4504	6.1571	0.0258	1.7160	0.1028	1.8187	0.4618	0.0966	0.5584	0.0000	2,374.6872	2,374.6872	0.1539	0.0000	2,378.5335
Maximum	**1.2225**	**5.4504**	**6.1571**	**0.0258**	**1.7160**	**0.1028**	**1.8187**	**0.4618**	**0.0966**	**0.5584**	**0.0000**	**2,374.6872**	**2,374.6872**	**0.1539**	**0.0000**	**2,378.5335**

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	0.2740	2.2389	2.0309	7.1900e-003	0.5085	0.0671	0.5756	0.1611	0.0623	0.2233	0.0000	657.7182	657.7182	0.0650	0.0000	659.3430
2022	1.2225	5.4504	6.1571	0.0258	1.7160	0.1028	1.8187	0.4618	0.0966	0.5584	0.0000	2,374.6868	2,374.6868	0.1539	0.0000	2,378.5332
Maximum	**1.2225**	**5.4504**	**6.1571**	**0.0258**	**1.7160**	**0.1028**	**1.8187**	**0.4618**	**0.0966**	**0.5584**	**0.0000**	**2,374.6868**	**2,374.6868**	**0.1539**	**0.0000**	**2,378.5332**

	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**	**6.91**	**0.00**	**6.45**	**11.83**	**0.00**	**9.65**	**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	**9-1-2021**	**11-30-2021**	1.7634	1.7634
2	**12-1-2021**	**2-28-2022**	1.9793	1.9793
3	**3-1-2022**	**5-31-2022**	1.9692	1.9692
4	**6-1-2022**	**8-31-2022**	1.9700	1.9700
5	**9-1-2022**	**9-30-2022**	0.6424	0.6424
		Highest	1.9793	1.9793

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3350	1.1400e-003	0.0509	5.0000e-005		3.0400e-003	3.0400e-003		3.0400e-003	3.0400e-003	0.3187	0.6646	0.9832	1.0000e-003	2.0000e-005	1.0148
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.3350**	**1.1400e-003**	**0.0509**	**5.0000e-005**	**0.0000**	**3.0400e-003**	**3.0400e-003**	**0.0000**	**3.0400e-003**	**3.0400e-003**	**0.3187**	**0.6646**	**0.9832**	**1.0000e-003**	**2.0000e-005**	**1.0148**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3350	1.1400e-003	0.0509	5.0000e-005		3.0400e-003	3.0400e-003		3.0400e-003	3.0400e-003	0.3187	0.6646	0.9832	1.0000e-003	2.0000e-005	1.0148
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.3350**	**1.1400e-003**	**0.0509**	**5.0000e-005**	**0.0000**	**3.0400e-003**	**3.0400e-003**	**0.0000**	**3.0400e-003**	**3.0400e-003**	**0.3187**	**0.6646**	**0.9832**	**1.0000e-003**	**2.0000e-005**	**1.0148**

	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	Site Preparation	Site Preparation	9/1/2021	9/28/2021	5	20	
2	Grading	Grading	9/29/2021	10/26/2021	5	20	
3	Building Construction	Building Construction	10/27/2021	10/11/2022	5	250	
4	Paving	Paving	10/12/2022	11/8/2022	5	20	
5	Architectural Coating	Architectural Coating	11/9/2022	12/6/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 50

Acres of Paving: 51.4

Residential Indoor: 41,215; Residential Outdoor: 13,738; Non-Residential Indoor: 25,166; Non-Residential Outdoor: 8,389; Striped Parking Area: 134,339 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

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	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	947.00	370.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	189.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 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					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7061
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7061**

3.2 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	9.8000e-004	6.8000e-004	7.3700e-003	2.0000e-005	2.6600e-003	2.0000e-005	2.6800e-003	7.1000e-004	1.0000e-005	7.2000e-004	0.0000	2.1428	2.1428	5.0000e-005	0.0000	2.1441
Total	**9.8000e-004**	**6.8000e-004**	**7.3700e-003**	**2.0000e-005**	**2.6600e-003**	**2.0000e-005**	**2.6800e-003**	**7.1000e-004**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**2.1428**	**2.1428**	**5.0000e-005**	**0.0000**	**2.1441**

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					0.0691	0.0000	0.0691	0.0380	0.0000	0.0380	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7060
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.0691**	**0.0204**	**0.0895**	**0.0380**	**0.0188**	**0.0568**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7060**

3.2 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	9.8000e-004	6.8000e-004	7.3700e-003	2.0000e-005	2.6600e-003	2.0000e-005	2.6800e-003	7.1000e-004	1.0000e-005	7.2000e-004	0.0000	2.1428	2.1428	5.0000e-005	0.0000	2.1441
Total	**9.8000e-004**	**6.8000e-004**	**7.3700e-003**	**2.0000e-005**	**2.6600e-003**	**2.0000e-005**	**2.6800e-003**	**7.1000e-004**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**2.1428**	**2.1428**	**5.0000e-005**	**0.0000**	**2.1441**

3.3 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					0.0867	0.0000	0.0867	0.0360	0.0000	0.0360	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0419	0.4640	0.3088	6.2000e-004		0.0199	0.0199		0.0183	0.0183	0.0000	54.4950	54.4950	0.0176	0.0000	54.9356
Total	**0.0419**	**0.4640**	**0.3088**	**6.2000e-004**	**0.0867**	**0.0199**	**0.1066**	**0.0360**	**0.0183**	**0.0542**	**0.0000**	**54.4950**	**54.4950**	**0.0176**	**0.0000**	**54.9356**

3.3 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	0.0000	0.0000	0.0000	0.0000	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	1.0800e-003	7.6000e-004	8.1900e-003	3.0000e-005	2.9600e-003	2.0000e-005	2.9800e-003	7.9000e-004	2.0000e-005	8.0000e-004	0.0000	2.3809	2.3809	5.0000e-005	0.0000	2.3823
Total	**1.0800e-003**	**7.6000e-004**	**8.1900e-003**	**3.0000e-005**	**2.9600e-003**	**2.0000e-005**	**2.9800e-003**	**7.9000e-004**	**2.0000e-005**	**8.0000e-004**	**0.0000**	**2.3809**	**2.3809**	**5.0000e-005**	**0.0000**	**2.3823**

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					0.0332	0.0000	0.0332	0.0138	0.0000	0.0138	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0419	0.4640	0.3088	6.2000e-004		0.0199	0.0199		0.0183	0.0183	0.0000	54.4949	54.4949	0.0176	0.0000	54.9355
Total	**0.0419**	**0.4640**	**0.3088**	**6.2000e-004**	**0.0332**	**0.0199**	**0.0530**	**0.0138**	**0.0183**	**0.0320**	**0.0000**	**54.4949**	**54.4949**	**0.0176**	**0.0000**	**54.9355**

3.3 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	0.0000	0.0000	0.0000	0.0000	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	1.0800e-003	7.6000e-004	8.1900e-003	3.0000e-005	2.9600e-003	2.0000e-005	2.9800e-003	7.9000e-004	2.0000e-005	8.0000e-004	0.0000	2.3809	2.3809	5.0000e-005	0.0000	2.3823
Total	**1.0800e-003**	**7.6000e-004**	**8.1900e-003**	**3.0000e-005**	**2.9600e-003**	**2.0000e-005**	**2.9800e-003**	**7.9000e-004**	**2.0000e-005**	**8.0000e-004**	**0.0000**	**2.3809**	**2.3809**	**5.0000e-005**	**0.0000**	**2.3823**

3.4 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	0.0456	0.4184	0.3978	6.5000e-004		0.0230	0.0230		0.0216	0.0216	0.0000	55.5930	55.5930	0.0134	0.0000	55.9283
Total	**0.0456**	**0.4184**	**0.3978**	**6.5000e-004**		**0.0230**	**0.0230**		**0.0216**	**0.0216**	**0.0000**	**55.5930**	**55.5930**	**0.0134**	**0.0000**	**55.9283**

3.4 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	0.0223	0.8640	0.1665	2.5000e-003	0.0642	1.7900e-003	0.0660	0.0185	1.7100e-003	0.0202	0.0000	239.1017	239.1017	0.0169	0.0000	239.5230
Worker	0.1232	0.0862	0.9307	2.9900e-003	0.3364	1.9700e-003	0.3384	0.0893	1.8100e-003	0.0911	0.0000	270.5692	270.5692	6.1900e-003	0.0000	270.7239
Total	**0.1455**	**0.9502**	**1.0972**	**5.4900e-003**	**0.4006**	**3.7600e-003**	**0.4043**	**0.1078**	**3.5200e-003**	**0.1114**	**0.0000**	**509.6710**	**509.6710**	**0.0230**	**0.0000**	**510.2469**

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	0.0456	0.4184	0.3978	6.5000e-004		0.0230	0.0230		0.0216	0.0216	0.0000	55.5929	55.5929	0.0134	0.0000	55.9282
Total	**0.0456**	**0.4184**	**0.3978**	**6.5000e-004**		**0.0230**	**0.0230**		**0.0216**	**0.0216**	**0.0000**	**55.5929**	**55.5929**	**0.0134**	**0.0000**	**55.9282**

3.4 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	0.0223	0.8640	0.1665	2.5000e-003	0.0642	1.7900e-003	0.0660	0.0185	1.7100e-003	0.0202	0.0000	239.1017	239.1017	0.0169	0.0000	239.5230
Worker	0.1232	0.0862	0.9307	2.9900e-003	0.3364	1.9700e-003	0.3384	0.0893	1.8100e-003	0.0911	0.0000	270.5692	270.5692	6.1900e-003	0.0000	270.7239
Total	**0.1455**	**0.9502**	**1.0972**	**5.4900e-003**	**0.4006**	**3.7600e-003**	**0.4043**	**0.1078**	**3.5200e-003**	**0.1114**	**0.0000**	**509.6710**	**509.6710**	**0.0230**	**0.0000**	**510.2469**

3.4 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	0.1723	1.5772	1.6527	2.7200e-003		0.0817	0.0817		0.0769	0.0769	0.0000	234.0425	234.0425	0.0561	0.0000	235.4442
Total	**0.1723**	**1.5772**	**1.6527**	**2.7200e-003**		**0.0817**	**0.0817**		**0.0769**	**0.0769**	**0.0000**	**234.0425**	**234.0425**	**0.0561**	**0.0000**	**235.4442**

3.4 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	0.0877	3.4144	0.6528	0.0104	0.2701	6.3300e-003	0.2764	0.0779	6.0500e-003	0.0840	0.0000	997.5885	997.5885	0.0672	0.0000	999.2693
Worker	0.4862	0.3265	3.6106	0.0121	1.4157	8.0600e-003	1.4238	0.3759	7.4200e-003	0.3833	0.0000	1,097.0764	1,097.0764	0.0234	0.0000	1,097.6617
Total	**0.5740**	**3.7409**	**4.2634**	**0.0226**	**1.6858**	**0.0144**	**1.7002**	**0.4538**	**0.0135**	**0.4673**	**0.0000**	**2,094.6649**	**2,094.6649**	**0.0906**	**0.0000**	**2,096.9310**

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	0.1723	1.5772	1.6527	2.7200e-003		0.0817	0.0817		0.0769	0.0769	0.0000	234.0422	234.0422	0.0561	0.0000	235.4440
Total	**0.1723**	**1.5772**	**1.6527**	**2.7200e-003**		**0.0817**	**0.0817**		**0.0769**	**0.0769**	**0.0000**	**234.0422**	**234.0422**	**0.0561**	**0.0000**	**235.4440**

3.4 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	0.0877	3.4144	0.6528	0.0104	0.2701	6.3300e-003	0.2764	0.0779	6.0500e-003	0.0840	0.0000	997.5885	997.5885	0.0672	0.0000	999.2693
Worker	0.4862	0.3265	3.6106	0.0121	1.4157	8.0600e-003	1.4238	0.3759	7.4200e-003	0.3833	0.0000	1,097.0764	1,097.0764	0.0234	0.0000	1,097.6617
Total	**0.5740**	**3.7409**	**4.2634**	**0.0226**	**1.6858**	**0.0144**	**1.7002**	**0.4538**	**0.0135**	**0.4673**	**0.0000**	**2,094.6649**	**2,094.6649**	**0.0906**	**0.0000**	**2,096.9310**

3.5 Paving - 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	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0110**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0276**	**20.0276**	**6.4800e-003**	**0.0000**	**20.1895**

3.5 Paving - 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	0.0000	0.0000	0.0000	0.0000	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	7.6000e-004	5.1000e-004	5.6600e-003	2.0000e-005	2.2200e-003	1.0000e-005	2.2300e-003	5.9000e-004	1.0000e-005	6.0000e-004	0.0000	1.7205	1.7205	4.0000e-005	0.0000	1.7214
Total	**7.6000e-004**	**5.1000e-004**	**5.6600e-003**	**2.0000e-005**	**2.2200e-003**	**1.0000e-005**	**2.2300e-003**	**5.9000e-004**	**1.0000e-005**	**6.0000e-004**	**0.0000**	**1.7205**	**1.7205**	**4.0000e-005**	**0.0000**	**1.7214**

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	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0110**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0275**	**20.0275**	**6.4800e-003**	**0.0000**	**20.1895**

3.5 Paving - 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	0.0000	0.0000	0.0000	0.0000	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	7.6000e-004	5.1000e-004	5.6600e-003	2.0000e-005	2.2200e-003	1.0000e-005	2.2300e-003	5.9000e-004	1.0000e-005	6.0000e-004	0.0000	1.7205	1.7205	4.0000e-005	0.0000	1.7214
Total	**7.6000e-004**	**5.1000e-004**	**5.6600e-003**	**2.0000e-005**	**2.2200e-003**	**1.0000e-005**	**2.2300e-003**	**5.9000e-004**	**1.0000e-005**	**6.0000e-004**	**0.0000**	**1.7205**	**1.7205**	**4.0000e-005**	**0.0000**	**1.7214**

3.6 Architectural Coating - 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					
Archit. Coating	0.4528					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.4548**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.6 Architectural Coating - 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	0.0000	0.0000	0.0000	0.0000	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	9.6100e-003	6.4500e-003	0.0714	2.4000e-004	0.0280	1.6000e-004	0.0281	7.4300e-003	1.5000e-004	7.5700e-003	0.0000	21.6784	21.6784	4.6000e-004	0.0000	21.6900
Total	**9.6100e-003**	**6.4500e-003**	**0.0714**	**2.4000e-004**	**0.0280**	**1.6000e-004**	**0.0281**	**7.4300e-003**	**1.5000e-004**	**7.5700e-003**	**0.0000**	**21.6784**	**21.6784**	**4.6000e-004**	**0.0000**	**21.6900**

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	0.4528					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.4548**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.6 Architectural Coating - 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	0.0000	0.0000	0.0000	0.0000	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	9.6100e-003	6.4500e-003	0.0714	2.4000e-004	0.0280	1.6000e-004	0.0281	7.4300e-003	1.5000e-004	7.5700e-003	0.0000	21.6784	21.6784	4.6000e-004	0.0000	21.6900
Total	**9.6100e-003**	**6.4500e-003**	**0.0714**	**2.4000e-004**	**0.0280**	**1.6000e-004**	**0.0281**	**7.4300e-003**	**1.5000e-004**	**7.5700e-003**	**0.0000**	**21.6784**	**21.6784**	**4.6000e-004**	**0.0000**	**21.6900**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
General Office Building	18.50	10.10	7.90	33.00	48.00	19.00	77	19	4
Other Non-Asphalt Surfaces	18.50	10.10	7.90	0.00	0.00	0.00	0	0	0
Single Family Housing	19.80	9.60	12.90	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Other Non-Asphalt Surfaces	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Single Family Housing	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
General Office Building	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	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					
General Office Building	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	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		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	0.3350	1.1400e-003	0.0509	5.0000e-005		3.0400e-003	3.0400e-003		3.0400e-003	3.0400e-003	0.3187	0.6646	0.9832	1.0000e-003	2.0000e-005	1.0148
Unmitigated	0.3350	1.1400e-003	0.0509	5.0000e-005		3.0400e-003	3.0400e-003		3.0400e-003	3.0400e-003	0.3187	0.6646	0.9832	1.0000e-003	2.0000e-005	1.0148

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	0.0453					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2789					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	9.8300e-003	7.8000e-004	0.0191	5.0000e-005		2.8600e-003	2.8600e-003		2.8600e-003	2.8600e-003	0.3187	0.6124	0.9310	9.5000e-004	2.0000e-005	0.9612
Landscaping	1.0200e-003	3.7000e-004	0.0318	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	0.0522	0.0522	5.0000e-005	0.0000	0.0536
Total	**0.3350**	**1.1500e-003**	**0.0509**	**5.0000e-005**		**3.0300e-003**	**3.0300e-003**		**3.0300e-003**	**3.0300e-003**	**0.3187**	**0.6646**	**0.9832**	**1.0000e-003**	**2.0000e-005**	**1.0148**

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	0.0453					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2789					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	9.8300e-003	7.8000e-004	0.0191	5.0000e-005		2.8600e-003	2.8600e-003		2.8600e-003	2.8600e-003	0.3187	0.6124	0.9310	9.5000e-004	2.0000e-005	0.9612
Landscaping	1.0200e-003	3.7000e-004	0.0318	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	0.0522	0.0522	5.0000e-005	0.0000	0.0536
Total	**0.3350**	**1.1500e-003**	**0.0509**	**5.0000e-005**		**3.0300e-003**	**3.0300e-003**		**3.0300e-003**	**3.0300e-003**	**0.3187**	**0.6646**	**0.9832**	**1.0000e-003**	**2.0000e-005**	**1.0148**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Paradise Valley Ranch AQ & GHG Analysis - Operational Emisson Analyis for full Project

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	16.78	1000sqft	0.39	16,777.00	0
Single Family Housing	8.00	Dwelling Unit	1.04	45,459.00	23
City Park	4.00	Acre	4.00	174,240.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - The project is proposing to use SoCal Edison/private solar for electricity.

Land Use - The project is proposed to construct and operate approximately 69.146 TSF of additional facility to the west coast "Center of Excellence". Since the proposed project is considered unique and CalEEMod does not have a specific land use type for this project, "Land Use-SFR", has been used as it closely relates to the proposed project's operation.

Construction Phase - No construction analysis has been analyzed in this CalEEMod run.

Vehicle Trips - Trip rates are based on Paradise Valley Ranch Project Traffic Assessment Scoping Agreement, January 2021, by RK Engneering Group.

Woodstoves - . Per SCAQMD rule 445, no wood burning devices are allowed in new developments; therefore, no wood hearths are included in this project.

Energy Use - Energy usage added to account for outdoor lighting, etc. 0.35 KHhr/SF/year

Paradise Valley Ranch AQ & GHG Analysis - Operational Emisson Analyis for full Project - Riverside-South Coast County, Annual

Table Name	Column Name	Default Value	New Value
tblEnergyUse	NT24E	0.00	0.35
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	0.40	0.00
tblLandUse	LandUseSquareFeet	14,400.00	45,459.00
tblLandUse	LotAcreage	2.60	1.04
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	9.91	28.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	8.62	28.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	9.52	28.00
tblWoodstoves	WoodstoveWoodMass	999.60	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	0.0325	0.3150	0.2218	4.1000e-004	2.2200e-003	0.0155	0.0178	5.9000e-004	0.0144	0.0150	0.0000	35.7865	35.7865	9.6100e-003	0.0000	36.0268
Maximum	**0.0325**	**0.3150**	**0.2218**	**4.1000e-004**	**2.2200e-003**	**0.0155**	**0.0178**	**5.9000e-004**	**0.0144**	**0.0150**	**0.0000**	**35.7865**	**35.7865**	**9.6100e-003**	**0.0000**	**36.0268**

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	0.0325	0.3150	0.2218	4.1000e-004	2.2200e-003	0.0155	0.0178	5.9000e-004	0.0144	0.0150	0.0000	35.7864	35.7864	9.6100e-003	0.0000	36.0267
Maximum	**0.0325**	**0.3150**	**0.2218**	**4.1000e-004**	**2.2200e-003**	**0.0155**	**0.0178**	**5.9000e-004**	**0.0144**	**0.0150**	**0.0000**	**35.7864**	**35.7864**	**9.6100e-003**	**0.0000**	**36.0267**

	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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-1-2021	9-30-2021	0.3475	0.3475
		Highest	0.3475	0.3475

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2793	2.3600e-003	0.0835	1.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0000	1.7682	1.7682	1.6000e-004	3.0000e-005	1.7812
Energy	1.6300e-003	0.0141	7.2000e-003	9.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003	0.0000	108.7066	108.7066	4.1300e-003	1.0900e-003	109.1337
Mobile	0.0794	0.7086	1.2060	5.7600e-003	0.4682	4.0100e-003	0.4722	0.1254	3.7500e-003	0.1292	0.0000	533.2617	533.2617	0.0221	0.0000	533.8144
Waste						0.0000	0.0000		0.0000	0.0000	5.1519	0.0000	5.1519	0.3045	0.0000	12.7636
Water						0.0000	0.0000		0.0000	0.0000	1.1115	39.0403	40.1518	0.1158	3.0300e-003	43.9489
Total	**0.3603**	**0.7251**	**1.2967**	**5.8600e-003**	**0.4682**	**5.7100e-003**	**0.4739**	**0.1254**	**5.4500e-003**	**0.1309**	**6.2634**	**682.7768**	**689.0402**	**0.4467**	**4.1500e-003**	**701.4419**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2793	2.3600e-003	0.0835	1.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0000	1.7682	1.7682	1.6000e-004	3.0000e-005	1.7812
Energy	1.6300e-003	0.0141	7.2000e-003	9.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003	0.0000	108.7066	108.7066	4.1300e-003	1.0900e-003	109.1337
Mobile	0.0794	0.7086	1.2060	5.7600e-003	0.4682	4.0100e-003	0.4722	0.1254	3.7500e-003	0.1292	0.0000	533.2617	533.2617	0.0221	0.0000	533.8144
Waste						0.0000	0.0000		0.0000	0.0000	5.1519	0.0000	5.1519	0.3045	0.0000	12.7636
Water						0.0000	0.0000		0.0000	0.0000	1.1115	39.0403	40.1518	0.1158	3.0300e-003	43.9489
Total	**0.3603**	**0.7251**	**1.2967**	**5.8600e-003**	**0.4682**	**5.7100e-003**	**0.4739**	**0.1254**	**5.4500e-003**	**0.1309**	**6.2634**	**682.7768**	**689.0402**	**0.4467**	**4.1500e-003**	**701.4419**

	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	Demolition	Demolition	9/1/2021	9/28/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	2	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 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	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**		**0.0155**	**0.0155**		**0.0144**	**0.0144**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

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	8.1000e-004	5.7000e-004	6.1400e-003	2.0000e-005	2.2200e-003	1.0000e-005	2.2300e-003	5.9000e-004	1.0000e-005	6.0000e-004	0.0000	1.7857	1.7857	4.0000e-005	0.0000	1.7867
Total	**8.1000e-004**	**5.7000e-004**	**6.1400e-003**	**2.0000e-005**	**2.2200e-003**	**1.0000e-005**	**2.2300e-003**	**5.9000e-004**	**1.0000e-005**	**6.0000e-004**	**0.0000**	**1.7857**	**1.7857**	**4.0000e-005**	**0.0000**	**1.7867**

3.2 Demolition - 2021

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	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**		**0.0155**	**0.0155**		**0.0144**	**0.0144**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

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	8.1000e-004	5.7000e-004	6.1400e-003	2.0000e-005	2.2200e-003	1.0000e-005	2.2300e-003	5.9000e-004	1.0000e-005	6.0000e-004	0.0000	1.7857	1.7857	4.0000e-005	0.0000	1.7867
Total	**8.1000e-004**	**5.7000e-004**	**6.1400e-003**	**2.0000e-005**	**2.2200e-003**	**1.0000e-005**	**2.2300e-003**	**5.9000e-004**	**1.0000e-005**	**6.0000e-004**	**0.0000**	**1.7857**	**1.7857**	**4.0000e-005**	**0.0000**	**1.7867**

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	0.0794	0.7086	1.2060	5.7600e-003	0.4682	4.0100e-003	0.4722	0.1254	3.7500e-003	0.1292	0.0000	533.2617	533.2617	0.0221	0.0000	533.8144
Unmitigated	0.0794	0.7086	1.2060	5.7600e-003	0.4682	4.0100e-003	0.4722	0.1254	3.7500e-003	0.1292	0.0000	533.2617	533.2617	0.0221	0.0000	533.8144

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Single Family Housing	224.00	224.00	224.00	1,226,318	1,226,318
Total	224.00	224.00	224.00	1,226,318	1,226,318

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
City Park	18.50	10.10	7.90	33.00	48.00	19.00	66	28	6
General Office Building	18.50	10.10	7.90	33.00	48.00	19.00	77	19	4
Single Family Housing	19.80	9.60	12.90	40.20	19.20	40.60	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
General Office Building	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Single Family Housing	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965

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	92.5381	92.5381	3.8200e-003	7.9000e-004	92.8692
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	92.5381	92.5381	3.8200e-003	7.9000e-004	92.8692
NaturalGas Mitigated	1.6300e-003	0.0141	7.2000e-003	9.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003	0.0000	16.1685	16.1685	3.1000e-004	3.0000e-004	16.2645
NaturalGas Unmitigated	1.6300e-003	0.0141	7.2000e-003	9.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003	0.0000	16.1685	16.1685	3.1000e-004	3.0000e-004	16.2645

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	58216.2	3.1000e-004	2.8500e-003	2.4000e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.1066	3.1066	6.0000e-005	6.0000e-005	3.1251
Single Family Housing	244769	1.3200e-003	0.0113	4.8000e-003	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	13.0618	13.0618	2.5000e-004	2.4000e-004	13.1394
Total		**1.6300e-003**	**0.0141**	**7.2000e-003**	**9.0000e-005**		**1.1300e-003**	**1.1300e-003**		**1.1300e-003**	**1.1300e-003**	**0.0000**	**16.1685**	**16.1685**	**3.1000e-004**	**3.0000e-004**	**16.2645**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	58216.2	3.1000e-004	2.8500e-003	2.4000e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.1066	3.1066	6.0000e-005	6.0000e-005	3.1251
Single Family Housing	244769	1.3200e-003	0.0113	4.8000e-003	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	13.0618	13.0618	2.5000e-004	2.4000e-004	13.1394
Total		**1.6300e-003**	**0.0141**	**7.2000e-003**	**9.0000e-005**		**1.1300e-003**	**1.1300e-003**		**1.1300e-003**	**1.1300e-003**	**0.0000**	**16.1685**	**16.1685**	**3.1000e-004**	**3.0000e-004**	**16.2645**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	60984	19.4308	8.0000e-004	1.7000e-004	19.5003
General Office Building	159717	50.8893	2.1000e-003	4.3000e-004	51.0713
Single Family Housing	69731.8	22.2181	9.2000e-004	1.9000e-004	22.2975
Total		**92.5381**	**3.8200e-003**	**7.9000e-004**	**92.8692**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	60984	19.4308	8.0000e-004	1.7000e-004	19.5003
General Office Building	159717	50.8893	2.1000e-003	4.3000e-004	51.0713
Single Family Housing	69731.8	22.2181	9.2000e-004	1.9000e-004	22.2975
Total		**92.5381**	**3.8200e-003**	**7.9000e-004**	**92.8692**

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	0.2793	2.3600e-003	0.0835	1.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0000	1.7682	1.7682	1.6000e-004	3.0000e-005	1.7812
Unmitigated	0.2793	2.3600e-003	0.0835	1.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0000	1.7682	1.7682	1.6000e-004	3.0000e-005	1.7812

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	0.0252					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2514					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.7000e-004	1.4100e-003	6.0000e-004	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.6329	1.6329	3.0000e-005	3.0000e-005	1.6426
Landscaping	2.5200e-003	9.5000e-004	0.0829	0.0000		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	0.1353	0.1353	1.3000e-004	0.0000	0.1386
Total	**0.2793**	**2.3600e-003**	**0.0835**	**1.0000e-005**		**5.7000e-004**	**5.7000e-004**		**5.7000e-004**	**5.7000e-004**	**0.0000**	**1.7682**	**1.7682**	**1.6000e-004**	**3.0000e-005**	**1.7812**

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	0.0252					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2514					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.7000e-004	1.4100e-003	6.0000e-004	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.6329	1.6329	3.0000e-005	3.0000e-005	1.6426
Landscaping	2.5200e-003	9.5000e-004	0.0829	0.0000		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	0.1353	0.1353	1.3000e-004	0.0000	0.1386
Total	**0.2793**	**2.3600e-003**	**0.0835**	**1.0000e-005**		**5.7000e-004**	**5.7000e-004**		**5.7000e-004**	**5.7000e-004**	**0.0000**	**1.7682**	**1.7682**	**1.6000e-004**	**3.0000e-005**	**1.7812**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	40.1518	0.1158	3.0300e-003	43.9489
Unmitigated	40.1518	0.1158	3.0300e-003	43.9489

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 4.76593	16.8708	7.0000e-004	1.4000e-004	16.9312
General Office Building	2.98237 / 1.82791	19.7899	0.0980	2.4600e-003	22.9707
Single Family Housing	0.521232 / 0.328603	3.4911	0.0171	4.3000e-004	4.0471
Total		**40.1518**	**0.1158**	**3.0300e-003**	**43.9489**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 4.76593	16.8708	7.0000e-004	1.4000e-004	16.9312
General Office Building	2.98237 / 1.82791	19.7899	0.0980	2.4600e-003	22.9707
Single Family Housing	0.521232 / 0.328603	3.4911	0.0171	4.3000e-004	4.0471
Total		**40.1518**	**0.1158**	**3.0300e-003**	**43.9489**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	5.1519	0.3045	0.0000	12.7636
Unmitigated	5.1519	0.3045	0.0000	12.7636

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.34	0.0690	4.0800e-003	0.0000	0.1710
General Office Building	15.61	3.1687	0.1873	0.0000	7.8503
Single Family Housing	9.43	1.9142	0.1131	0.0000	4.7424
Total		**5.1519**	**0.3045**	**0.0000**	**12.7636**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.34	0.0690	4.0800e-003	0.0000	0.1710
General Office Building	15.61	3.1687	0.1873	0.0000	7.8503
Single Family Housing	9.43	1.9142	0.1131	0.0000	4.7424
Total		**5.1519**	**0.3045**	**0.0000**	**12.7636**

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

Appendix B

EMFAC2014 Vehicle Consumption Data

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: Air District
Region: South Coast AQMD
Calendar Year: 2020
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel Split (Gas:Diesel)	MPG, by Fuel Type	MPG, Average
South Coast AQMD	2020	LDA	Aggregated	Aggregated	GAS	6241441.311	215630250.8	7791.379047	99.26%	27.68	28.57
South Coast AQMD	2020	LDA	Aggregated	Aggregated	DSL	58578.66528	2170199.073	58.44052993	0.74%	37.14	
South Coast AQMD	2020	LDA	Aggregated	Aggregated	ELEC	139480.2104	6499653.924	0			
South Coast AQMD	2020	LDT1	Aggregated	Aggregated	GAS	529468.9231	17839921.58	767.6565063	99.91%	23.24	23.26
South Coast AQMD	2020	LDT1	Aggregated	Aggregated	DSL	653.8523923	17424.66748	0.656771586	0.09%	26.53	
South Coast AQMD	2020	LDT1	Aggregated	Aggregated	ELEC	394.8926991	12300.5894	0			
South Coast AQMD	2020	LDT2	Aggregated	Aggregated	GAS	2196840.435	81691950.79	3942.87661	99.86%	20.72	20.73
South Coast AQMD	2020	LDT2	Aggregated	Aggregated	DSL	3707.582469	150823.0049	5.330165365	0.14%	28.30	
South Coast AQMD	2020	MDV	Aggregated	Aggregated	GAS	1480427.171	49182321.35	3206.973029	98.75%	15.34	15.42
South Coast AQMD	2020	MDV	Aggregated	Aggregated	DSL	22607.57726	887377.5364	40.62845112	1.25%	21.84	
South Coast AQMD	2020	LHDT1	Aggregated	Aggregated	GAS	122811.721	3538562.329	324.3272067	66.50%	10.91	14.08
South Coast AQMD	2020	LHDT1	Aggregated	Aggregated	DSL	93218.10849	3329186.678	163.383972	33.50%	20.38	
South Coast AQMD	2020	LHDT2	Aggregated	Aggregated	GAS	25139.08857	867472.8869	85.31303659	51.00%	10.17	14.35
South Coast AQMD	2020	LHDT2	Aggregated	Aggregated	DSL	39016.92297	1532624.982	81.98131358	49.00%	18.69	
South Coast AQMD	2020	MHDT	Aggregated	Aggregated	GAS	19760.80313	980184.6784	139.5109867	14.03%	7.03	8.50
South Coast AQMD	2020	MHDT	Aggregated	Aggregated	DSL	134726.0007	7469482.082	854.6440674	85.97%	8.74	
South Coast AQMD	2020	HHDT	Aggregated	Aggregated	GAS	802.1440496	104174.0551	22.12472978	0.97%	4.71	5.85
South Coast AQMD	2020	HHDT	Aggregated	Aggregated	DSL	94066.79161	13265170	2263.379935	99.03%	5.86	
South Coast AQMD	2020	OBUS	Aggregated	Aggregated	GAS	8436.227028	392438.6707	54.40171127	47.32%	7.21	7.25
South Coast AQMD	2020	OBUS	Aggregated	Aggregated	DSL	5358.43226	441411.1364	60.5737995	52.68%	7.29	
South Coast AQMD	2020	UBUS	Aggregated	Aggregated	GAS	2327.880438	267944.8976	53.57098395	32.69%	5.00	4.86
South Coast AQMD	2020	UBUS	Aggregated	Aggregated	DSL	4588.150023	527953.961	110.2967884	67.31%	4.79	
South Coast AQMD	2020	SBUS	Aggregated	Aggregated	GAS	2258.46776	86380.44602	7.601539992	21.33%	11.36	8.10
South Coast AQMD	2020	SBUS	Aggregated	Aggregated	DSL	5309.122191	202336.044	28.02826434	78.67%	7.22	
South Coast AQMD	2020	MCY	Aggregated	Aggregated	GAS	289961.5795	1955845.416	55.31831514	100.00%	35.36	35.36
South Coast AQMD	2020	MH	Aggregated	Aggregated	GAS	37922.10127	307217.3044	41.47456076	83.45%	7.41	7.88
South Coast AQMD	2020	MH	Aggregated	Aggregated	DSL	9968.340503	84286.45216	8.223037177	16.55%	10.25	