



Appendix F  
**Technical Energy Memorandum**

## MEMORANDUM

To: Miles Eaton, Kimley-Horn and Associates  
From: Ryan Chiene, Kimley-Horn and Associates  
Date: May 24, 2024  
Subject: Raising Cane's – Victorville, CA – Energy Assessment

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### Purpose

The purpose of this technical memorandum is to evaluate potential energy consumption impacts of the proposed Victorville Raising Cane's Project (project).

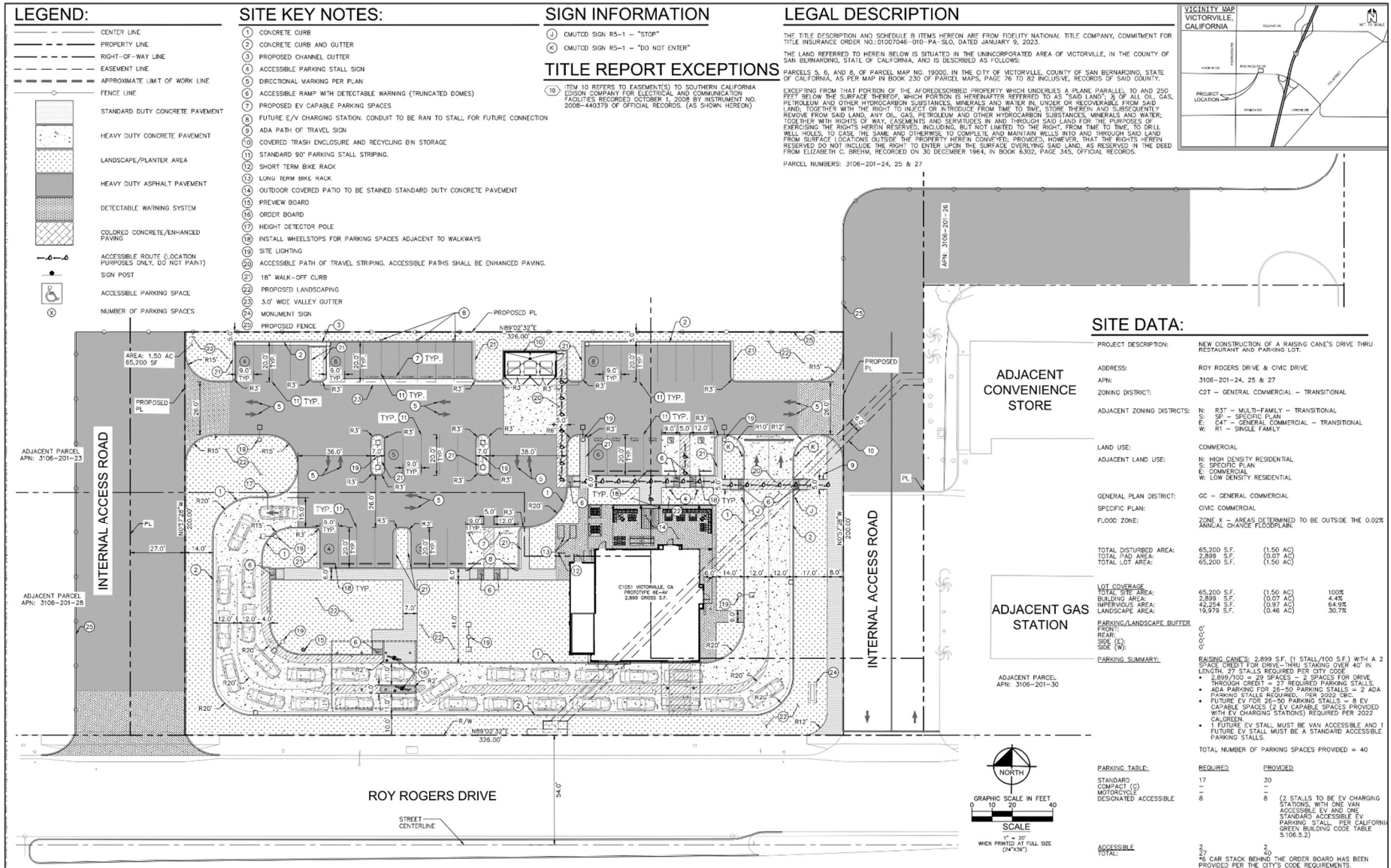
### Project Location

The project site is generally located approximately 0.25-mile west of Interstate 15 (I-15) in the central portion of the City of Victorville (City), County of San Bernardino (County), California. The project site is specifically located approximately 350 west of the intersection of Roy Rogers Drive and Civic Drive (Assessor's Parcel Number [APN] 3106-201-24, -25, and -27) on an approximately 1.50-acre lot. The project site is currently vacant and is surrounded by vacant land to the north and west, a gas station to the east, and Roy Rogers Drive and commercial uses to the south; multi-family residential uses are also noted further to the north along Midtown Drive.

### Project Description

The proposed project would construct a 2,899 square foot Raising Cane's restaurant with drive-thru access and an outdoor seating area. Vehicular access provisions to the project site would be provided via an east and west driveway on Roy Rogers Drive, and a driveway connecting to Civic Drive. All necessary utility improvements including water, sewer, and storm drain would be constructed within the property limits. Standard hours of operation are 9:00 a.m. to 3:30 a.m., seven days/week. See [Figure 1: Site Plan](#) for more details. Construction is anticipated to start in March 2025 and last for approximately eight months.

Figure 1: Site Plan



## **Energy Conservation**

In 1975, largely in response to the oil crisis of the 1970s, the California State Legislature adopted Assembly Bill 1575 (AB 1575), which created the California Energy Commission (CEC). The statutory mission of the CEC is to forecast future energy needs, license thermal power plants of 50 megawatts or larger, develop energy technologies and renewable energy resources, plan for and direct state responses to energy emergencies, and, perhaps most importantly, promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code Section 21100(b)(3) to require Environmental Impact Reports (EIRs) to consider the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F, *Energy Conservation*, in the California Environmental Quality Act Guidelines (CEQA Guidelines). CEQA Guidelines Appendix F is an advisory document that assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy.

In addition, the California Natural Resources Agency finalized updates to the CEQA Guidelines in December 2018. CEQA Guidelines Section 15126.2(b) treats “wasteful, inefficient, or unnecessary” energy consumption as a significant environmental impact. As a result, energy thresholds have been incorporated into Appendix G of the CEQA Guidelines. This technical memorandum has been prepared to assess energy impacts in accordance with Appendix G of the CEQA Guidelines.

## **Environmental Setting**

Energy consumption is analyzed in this technical memorandum due to the potential direct and indirect environmental impacts associated with the project. Such impacts include the depletion of nonrenewable resources during both construction and long-term operational phases.

## **Electricity Service**

Southern California Edison (SCE) provides electrical services to the project area through State-regulated public utility contracts. Over the past 15 years, electricity generation in California has undergone a transition. Historically, California has relied heavily on oil- and gas-fired plants to generate electricity. Spurred by regulatory measures and tax incentives, California’s electrical system has become more reliant on renewable energy sources; including cogeneration, wind energy, solar energy, geothermal energy, biomass conversion, transformation plants, and small hydroelectric plants. Unlike petroleum production, electricity generation is not usually tied to the location of the fuel source and can be delivered great distances via the electrical grid. The generating capacity of a unit of electricity is expressed in megawatts (MW). Net generation refers to the gross amount of energy produced by a unit, minus the amount of energy the unit consumes. Generation is typically measured in megawatt-hours (MWh), kilowatt-hours (kWh), or gigawatt-hours (GWh).

## Natural Gas Services

Southwest Gas provides natural gas services to the project area. Natural gas is a hydrocarbon fuel found in reservoirs beneath the Earth's surface and is composed primarily of methane (CH<sub>4</sub>). It is used for space and water heating, process heating and electricity generation, and as transportation fuel. Use of natural gas to generate electricity is expected to increase in coming years because it is a relatively clean alternative to other fossil fuels (e.g., oil and coal). In California and throughout the western United States, many new electrical generation plants fired by natural gas are being brought online. Thus, there is great interest in importing liquefied natural gas from other parts of the world. California's natural gas-fired electric generation decreased by 1 percent between 2021 and 2022, accounting for 47.46 percent of in-state generation.<sup>1</sup>

## Energy Usage

Energy usage is typically quantified using the British Thermal Unit (BTU). Total energy usage in California was 7,387.9 trillion BTUs in 2021 (the most recent year for which this specific data is available).<sup>2</sup> Of California's total energy usage, the breakdown by sector is 37.7 percent transportation, 23.1 percent industrial, 18.9 percent commercial, and 19.9 percent residential.<sup>3</sup> Electricity and natural gas in California are generally consumed by stationary users such as residences, commercial, and industrial facilities, whereas petroleum consumption is generally accounted for by transportation-related energy use. In 2023, taxable gasoline sales (including aviation gasoline) in California accounted for 13,584,697,639 gallons of gasoline.<sup>4</sup>

The electricity consumption attributable to the County from 2012 to 2022 is shown in Table 1: Electricity Consumption in San Bernardino County 2012-2022. As indicated in Table 1, in general electricity consumption in the County increased steadily, except in 2019 when electricity decreased slightly when compared with 2018.

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<sup>1</sup> California Energy Commission, *2022 Total System Electric Generation*, <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2022-total-system-electric-generation>, accessed April 2024.

<sup>2</sup> U.S. Energy Information Administration, *Table F33: Total energy consumption, price, and expenditure estimates, 2021*, [https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep\\_fuel/html/fuel\\_te.html&sid=CA](https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_te.html&sid=CA), accessed April 2024.

<sup>3</sup> U.S. Energy Information Administration, *California State Profile and Energy Estimates, California Energy Consumption by End-Use Sector, 2020*, <https://www.eia.gov/state/?sid=CA#tabs-2>, accessed April 2024.

<sup>4</sup> California Department of Tax and Fee Administration, *Motor Vehicle Fuel 10 Year Reports*, <https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm>, accessed April 2024.

<b>Table 1: Electricity Consumption in San Bernardino County 2012-2022</b>	
<b>Year</b>	<b>Electricity Consumption (in millions of kilowatt hours)</b>
2012	14,308
2013	14,315
2014	14,680
2015	14,685
2016	14,902
2017	15,237
2018	15,326
2019	15,259
2020	15,910
2021	16,169
2022	16,630

Source: California Energy Commission, *Electricity Consumption by County*, <http://www.ecdms.energy.ca.gov/>, accessed April 2024.

The natural gas consumption attributable to the County from 2012 to 2022 is shown in Table 2: Natural Gas Consumption in San Bernardino County 2012-2022. Natural gas consumption in the County fluctuated with increases and decreases occurring annually.

<b>Table 2: Natural Gas Consumption in San Bernardino County 2012-2022</b>	
<b>Year</b>	<b>Natural Gas Consumption (in millions of therms)</b>
2012	489
2013	511
2014	469
2015	485
2016	494
2017	493
2018	500
2019	547
2020	527
2021	561
2022	562

Source: California Energy Commission, *Natural Gas Consumption by County*, <http://www.ecdms.energy.ca.gov/>, accessed April 2024.

Automotive fuel consumption in the County from 2013 to 2023 is shown in Table 3: Automotive Fuel Consumption in San Bernardino County 2013-2023. As shown in Table 3, on-road automotive fuel consumption in the County increased each year until 2020 when vehicle traffic decreased due to the COVID-19 quarantine. Following 2020, automotive fuel consumption continued to decrease each



year. Heavy-duty vehicle diesel fuel consumption increased annually until 2018 when diesel fuel consumption decreased. Following 2018, diesel fuel consumption continued to increase each year.

**Table 3: Automotive Fuel Consumption in San Bernardino County 2013-2023**

Year	On-Road Automotive Fuel Consumption (gallons)	Heavy-Duty Vehicle/Diesel Fuel Consumption (gallons)
2013	823,575,913	231,100,540
2014	833,908,390	233,757,358
2015	862,282,542	236,687,334
2016	886,951,688	251,535,041
2017	894,270,493	263,723,118
2018	894,127,745	259,783,109
2019	894,821,914	261,139,639
2020	763,765,305	265,477,739
2021	869,262,611	272,787,528
2022	867,249,837	276,240,473
2023	859,496,393	279,150,963

Source: California Air Resources Board, EMFAC2021.

### Regulatory Setting

The following is a description of Federal, State, and local environmental laws and policies related to energy consumption that are relevant to the proposed project.

#### State of California

##### California’s Energy Efficiency Standards for Residential and Non-Residential Buildings (Title 24)

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission) in June 1977 and are updated every three years (Title 24, Part 6, of the California Code of Regulations). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On June 10, 2015, the CEC adopted the 2016 Building Energy Efficiency Standards, which went into effect on January 1, 2017. On May 9, 2018, the CEC adopted the 2019 Building Energy Efficiency Standards, which took effect on January 1, 2020.

The 2016 Standards improved upon the previous 2013 Standards for new construction of and additions and alterations to residential and nonresidential buildings. Under the 2016 Standards, residential buildings are 28 percent more energy efficient and nonresidential buildings are 5 percent more energy efficient than under the 2013 Standards. Buildings that are constructed in accordance with the 2013 Building Energy Efficiency Standards are 25 percent (residential) to 30 percent

(nonresidential) more energy efficient than the prior 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features.

The 2019 Standards improve upon the 2016 Standards. Under the 2019 Title 24 standards, residential buildings are about 7 percent more energy efficient, and when the required rooftop solar is factored in for low-rise residential construction, residential buildings that meet 2019 Title 24 standards use about 53 percent less energy than those built to meet the 2016 standards.

On August 11, 2021, the CEC adopted the 2022 Energy Code. In December 2021, it was approved by the California Building Standards Commission for inclusion into the California Building Standards Code. Among other updates like strengthened ventilation standards for gas cooking appliances, the 2022 Energy Code includes updated standards in three major areas:

- New electric heat pump requirements for residential uses, schools, offices, banks, libraries, retail, and grocery stores.
- The promotion of electric-ready requirements for new homes including the addition of circuitry for electric appliances, battery storage panels, and dedicated infrastructure to allow for the conversion from natural gas to electricity.
- The expansion of solar photovoltaic and battery storage standards to additional land uses including high-rise multifamily residences, hotels and motels, tenant spaces, offices, (including medical offices and clinics), retail and grocery stores, restaurants, schools, and civic uses (including theaters auditoriums, and convention centers).

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development. CALGreen standards require new residential and commercial buildings to comply with mandatory measures under five topical areas: planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality. CALGreen also provides voluntary measures (CALGreen Tier 1 and Tier 2) that local governments may adopt which encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code was adopted in 2021 and went into effect January 1, 2023.

### **California Public Utilities Commission Energy Efficiency Strategic Plan**

The California Public Utilities Commission (CPUC) prepared an Energy Efficiency Strategic Plan in 2011 with the goal of promoting energy efficiency and a reduction in greenhouse gases. Assembly Bill 1109, adopted in 2007, also serves as a framework for lighting efficiency. This bill requires the State Energy Resources Conservation and Development Commission to adopt minimum energy efficiency



standards as a means to reduce average Statewide electrical energy consumption by not less than 50 percent from the 2007 levels for indoor residential lighting and not less than 25 percent from the 2007 levels for indoor commercial and outdoor lighting by 2018. According to the Energy Efficiency Strategic Plan, lighting comprises approximately one-fourth of California's electricity use while non-residential sector exterior lighting (parking lot, area, walkway, and security lighting) usage comprises 1.4 percent of California's total electricity use, much of which occurs during limited occupancy periods.

### **Renewable Portfolio Standard**

In 2002, California established its Renewable Portfolio Standard program with the goal of increasing the annual percentage of renewable energy in the state's electricity mix by the equivalent of at least 1 percent of sales, with an aggregate total of 20 percent by 2017. The California Public Utilities Commission subsequently accelerated that goal to 2010 for retail sellers of electricity (Public Utilities Code Section 399.15(b)(1)). Then-Governor Schwarzenegger signed Executive Order S-14-08 in 2008, increasing the target to 33 percent renewable energy by 2020. In September 2009, then-Governor Schwarzenegger continued California's commitment to the Renewable Portfolio Standard by signing Executive Order S-21-09, which directs the California Air Resources Board under its AB 32 authority to enact regulations to help the State meet its Renewable Portfolio Standard goal of 33 percent renewable energy by 2020. In September 2010, the California Air Resources Board adopted its Renewable Electricity Standard regulations, which require all of the State's load-serving entities to meet this target. In October 2015, then-Governor Brown signed into legislation Senate Bill 350, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030. Signed in 2018, SB 100 revised the goal of the program to achieve the 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

## CEQA Thresholds and Methodology

In accordance with CEQA Guidelines, the effects of a project are evaluated to determine whether they would result in a significant adverse impact on the environment. This memorandum will focus on these effects and offer mitigation measures to reduce or avoid any significant impacts that are identified. The criteria used to determine the significance of impacts may vary depending on the nature of the project. According to Appendix G of the CEQA Guidelines, the proposed project would have a significant impact related to energy, if it would:

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

The impact analysis focuses on the three sources of energy that are relevant to the proposed project: electricity, natural gas, and transportation fuel for vehicle trips associated with the project as well as the fuel necessary for project construction. The analysis of the project's electricity and natural gas use is based on the California Emissions Estimator Model (CalEEMod), which quantifies energy use for occupancy. The results of CalEEMod are included in the project's Air Quality Assessment, prepared by Kimley-Horn (2024). Modeling related to project energy use was based primarily on the default settings in CalEEMod. The amount of operational fuel use was estimated using CalEEMod outputs for the project and CARB Emissions Factor (EMFAC) 2021 computer program for typical daily fuel use in San Bernardino County. Construction fuel was calculated based on CalEEMod emissions outputs and conversion ratios from the Climate Registry.

## Impacts and Mitigation Measures

### **Threshold 1: Would the project result in wasteful, inefficient, or unnecessary consumption of energy resources?**

Energy consumption associated with the proposed project is summarized in [Table 4: Project and Countywide Energy Consumption](#). As shown in [Table 4](#), the Project's increase in electricity usage would constitute approximately 0.001 percent of the typical annual electricity usage and natural gas consumption in the County. Construction-related off-road automotive fuel consumption (i.e., fuel consumed during construction) would constitute approximately 0.011 percent of the diesel and 0.0002 percent of the gasoline consumption within the County. During operations, on-road automotive fuel consumption (i.e., fuel consumed from operational vehicle trips to and from the project site) would constitute approximately 0.025 percent of the diesel and approximately 0.001 percent of the gasoline consumption within the County.

<b>Table 4: Project and Countywide Energy Consumption</b>			
<b>Energy Type</b>	<b>Project Annual Energy Consumption</b>	<b>San Bernardino County Annual Energy Consumption<sup>1,2</sup></b>	<b>Percentage of Countywide Consumption</b>
<b>Operational Electricity and Natural Gas</b>			
Electricity Consumption	146,086 kWh	16,630,000,000 kWh	0.001%
Natural Gas Consumption	3,313 therms	562,000,000 therms	0.001%
<b>Automotive Fuel Consumption<sup>3</sup></b>			
<b>Project Construction<sup>4,5</sup></b>			
Diesel	30,640 gallons	281,399,849 gallons	0.011%
Gasoline	2,043 gallons	828,612,797 gallons	0.0002%
<b>Project Operations</b>			
Diesel	10,709 gallons	281,399,849 gallons	0.008%
Gasoline	69,883 gallons	828,612,797 gallons	0.001%
Notes:			
1. The project increases in electricity and natural gas consumption are compared with the total consumption in San Bernardino County in 2022.			
2. The project increases in automotive fuel consumption are compared with the countywide fuel consumption (projected) in 2025.			
3. Countywide fuel consumption is from the California Air Resources Board EMFAC2021 model.			
4. Construction fuel consumption is based on equipment and load factors from California Emissions Estimator Model (CalEEMod version 2022.1.1).			
5. The estimated construction fuel consumption is based on the project's construction equipment list timing/phasing, and hours of duration for construction equipment, as well as vendor, hauling, and construction worker trips.			
Refer to <a href="#">Appendix A: Energy Data</a> for assumptions used in this analysis.			

### Construction-Related Energy

During construction, the project would consume energy in two general forms: (1) the fuel energy consumed by construction vehicles and equipment; and (2) bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

Fossil fuels used for construction vehicles and other energy-consuming equipment would be used during grading, paving, and building construction. Fuel energy consumed during construction would be temporary in nature and would not represent a significant demand on energy resources. Some incidental energy conservation would occur during construction through compliance with State requirements that equipment not in use for more than five minutes be turned off. Project construction equipment would also be required to comply with the latest United States Environmental Protection Agency (EPA) and California Air Resources Board engine emissions standards. These emissions standards require highly efficient combustion systems that maximize fuel efficiency and reduce unnecessary fuel consumption. Due to increasing transportation costs and fuel prices, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction.

Substantial reductions in energy inputs for construction materials can be achieved by selecting building materials composed of recycled materials that require substantially less energy to produce than non-recycled materials. The incremental increase in the use of energy bound in construction materials such as asphalt, steel, concrete, pipes and manufactured or processed materials (e.g., lumber and gas) would not substantially increase demand for energy compared to overall local and

regional demand for construction materials. It is reasonable to assume that production of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest in minimizing the cost of doing business.

As indicated in [Table 4](#), the overall diesel fuel consumption during construction of the project would be 30,640 gallons and gasoline consumption would be 2,043 gallons, which would result in a nominal increase in fuel use in the County. Further, the energy use associated with water use during construction would result in 4,871 kWh. As such, project construction would have a minimal effect on the local and regional energy supplies. It is noted that construction fuel use is temporary and would cease upon completion of construction activities. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region or State. Therefore, construction fuel consumption would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature. A less than significant impact would occur in this regard.

## **Operational Energy**

### Energy Demand

#### *Transportation Energy Demand*

Pursuant to the Federal Energy Policy and Conservation Act of 1975, the National Highway Traffic and Safety Administration (NTSA) is responsible for establishing additional vehicle standards and for revising existing standards. Compliance with Federal fuel economy standards is not determined for each individual vehicle model. Rather, compliance is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States. [Table 4](#) provides an estimate of the daily fuel consumed by vehicles traveling to and from the project site. As indicated in [Table 4](#), project operations are estimated to consume approximately 10,709 gallons of diesel fuel and 69,883 gallons of gasoline fuel per year, which constitutes approximately 0.001 percent and 0.008 percent of Countywide consumption, respectively. The project would not result in any unusual characteristics that would result in excessive long-term operational fuel consumption. Fuel consumption associated with vehicle trips generated by the project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region.

#### *Building Energy Demand*

Operations of the proposed project would require approximately 146,086 kWh of electricity per year and approximately 3,313 therms of natural gas per year. The proposed project comply with Title 24 Building Energy Efficiency Standards, which provide minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting. Implementation of the Title 24 standards significantly reduces energy usage. Furthermore, the electricity provider, SCE, is subject to California's Renewables

Portfolio Standard (RPS). The RPS requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 36 percent of total procurement by 2020 and to 60 percent of total procurement by 2030. Renewable energy is generally defined as energy that comes from resources which are naturally replenished within a human timescale such as sunlight, wind, tides, waves, and geothermal heat. The increase in reliance of such energy resources further ensures projects will not result in the waste of the finite energy resources.

As indicated in Table 4, operational energy consumption would represent an approximate 0.001 percent of electricity consumption of the current Countywide usage. The project would adhere to all Federal, State, and local requirements for energy efficiency, including the Title 24 standards. As such, the project would not result in the inefficient, wasteful, or unnecessary consumption of building energy.

#### Conclusion

As shown in Table 4, the increase in electricity and automotive fuel consumption over existing conditions is minimal. For the reasons described above, the project would not place a substantial demand on regional energy supply or require significant additional capacity, or significantly increase peak and base period electricity demand. Thus, the project would not cause a wasteful, inefficient, and unnecessary consumption of energy during project construction, operation, and/or maintenance, or preempt future energy development or future energy conservation.

#### **Threshold 7.2 Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?**

Title 24 of the California Code of Regulations contains energy efficiency standards for residential and non-residential buildings based on a state mandate to reduce California's energy demand. Specifically, Title 24 addresses a number of energy efficiency measures that impact energy used for lighting, water heating, heating, and air conditioning, including the energy impact of the building envelope such as windows, doors, skylights, wall/floor/ceiling assemblies, attics, and roofs.

Part 6 of Title 24 specifically establishes energy efficiency standards for residential and nonresidential buildings constructed in the State of California in order to reduce energy demand and consumption. The project would comply with Title 24, Part 6 per state regulations. In accordance with Title 24 Part 6, the project would have: (a) sensor-based lighting controls— for fixtures located near windows, the lighting would be adjusted by taking advantage of available natural light; and, (b) efficient process equipment—improved technology offers significant savings through more efficient processing equipment.

Title 24, Part 11, contains voluntary and mandatory energy measures that are applicable to the Project under the California Green Building Standards Code. As discussed above, the Project would result in

an increased demand for electricity, natural gas, and petroleum. In accordance with Title 24 Part 11 mandatory compliance, the Applicant would have (a) 50% of its construction and demolition waste diverted from landfills; (b) mandatory inspections of energy systems to ensure optimal working efficiency; (c) low pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring and particle boards; and (d) a 20% reduction in indoor water use. Compliance with all of these mandatory measures would decrease the consumption of electricity, natural gas, and petroleum.

The Victorville Climate Action Plan (CAP) establishes a series of energy efficiency related measures intended to reduce GHG emissions based on the AB 32 Scoping Plan. Those applicable to the project are Renewables Portfolio Standard for Building Energy Use, Assembly Bill 1109 Energy Efficiency Standards for Lighting, Electricity Energy Efficiency, Commercial Energy Efficiency Requirements and Residential Renewable Energy Requirements.

The project would not conflict with any of the federal, state, or local plans for renewable energy and energy efficiency. Because the project would comply with Parts 6 and 11 of Title 24 and Victorville CAP measures, no conflict with existing energy standards and regulations would occur. Therefore, impacts associated with renewable energy or energy efficiency plans would be considered less than significant.



## 8.0 References

California Air Resources Board, EMFAC2021.

California Energy Commission, *2019 Building Energy Efficiency Standards*, [https://www.energy.ca.gov/title24/2019standards/documents/2018\\_Title\\_24\\_2019\\_Building\\_Standards\\_FAQ.pdf](https://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf).

California Energy Commission, *2022 Building Energy Efficiency Standards*, <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency>.

California Energy Commission, *Electricity Consumption by County*, <http://www.ecdms.energy.ca.gov/>.

California Energy Commission, *Natural Gas Consumption by County*, <http://www.ecdms.energy.ca.gov/>.

California Energy Commission, *2022 Total System Electric Generation*, <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2022-total-system-electric-generation>.

California Department of Tax and Fee Administration, *Motor Vehicle Fuel 10 Year Reports*, <https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm>.

California Public Utilities Commission, *Energy Efficiency Strategic Plan*, 2011.

Southern California Edison, *The Clean Power and Electrification Pathway*, [https://newsroom.edison.com/internal\\_redirect/cms.ipressroom.com.s3.amazonaws.com/166/files/20187/g17-pathway-to-2030-white-paper.pdf](https://newsroom.edison.com/internal_redirect/cms.ipressroom.com.s3.amazonaws.com/166/files/20187/g17-pathway-to-2030-white-paper.pdf).

U.S. Energy Information Administration, *California State Profile and Energy Estimates, California Energy Consumption by End-Use Sector, 2021*, <https://www.eia.gov/state/?sid=CA#tabs-2>.

# Appendix A

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## Energy Data

**Construction Fuel Consumption**

On-Site Diesel <sup>1</sup> (off-road construction Equipment)	MTCO <sub>2</sub> e	Gallons of Fuel <sup>1</sup>	County Fuel in 2025	Percent
Demolition	0	0		
Site Preparation/Grading/Trenching	162	15,961		
Building Construction	71	6,995		
Paving	49	4,828		
Architectural Coating	1	99		
<b>Total</b>	<b>283</b>	<b>27,882</b>	<b>281,399,849</b>	<b>0.0034%</b>

on-site diesel = equipment working onsite  
off-site diesel = hauling

these 2 numbers are the same

Off-Site Diesel <sup>2</sup> (on-road construction trips)	MTCO <sub>2</sub> e	Gallons of Fuel <sup>1</sup>	County Fuel in 2025	Percent
Demolition	0	0		
Site Preparation/Grading/Trenching	27	2,660		
Building Construction	1	99		
Paving	0	0		
Architectural Coating	0	0		
<b>Total</b>	<b>28</b>	<b>2,759</b>	<b>281,399,849</b>	<b>0.0010%</b>

Numbers to write in the Energy Study- "Table: energy consumption during construction"  
Numbers to write from the county info (EMFAC gas & diesel consumption for the county)

these 2 numbers are the same

Off-Site Gasoline <sup>2</sup>	MTCO <sub>2</sub> e	Gallons of Fuel <sup>1</sup>	County Fuel in 2025	Percent
Demolition	0	0		
Site Preparation/Grading/Trenching	9	1,022		
Building Construction	1	114		
Paving	8	908		
Architectural Coating	0	0		
<b>Total</b>	<b>18</b>	<b>2,043</b>	<b>828,612,797</b>	<b>0.0002%</b>

Total Diesel Fuel		30,640	281,399,849	0.0109%
Total Gasoline Fuel		2,043	828,612,797	0.0002%
Total Construction Fuel	329	32,684		

Construction Phase <sup>3</sup>	Demolition			Site Preparation			Grading		
	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)
2025	0	0	0	40	0	2	122	27	7
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>0</b>	<b>2</b>	<b>122</b>	<b>27</b>	<b>7</b>

Construction Phase <sup>3</sup>	Building Construction			Paving			Architectural Coating		
	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)
2025	71	1	1	49	0	8	1	0	0
<b>Total</b>	<b>71</b>	<b>1</b>	<b>1</b>	<b>49</b>	<b>0</b>	<b>8</b>	<b>1</b>	<b>0</b>	<b>0</b>

Notes:

<sup>1</sup> Fuel used for off-road, hauling, and vendor trips assumed to be diesel.

<sup>2</sup> Fuel used for worker trips assumed to be gasoline.

<sup>3</sup> MTCO<sub>2</sub>e rates from CalEEMod (3.0 Construction Emissions Details).

<sup>4</sup> For CO<sub>2</sub>e emissions, see Chapter 13 (page 94); Conversion Ratios: Climate Registry, General Reporting Protocol, 2016.

**Construction Water Energy**

Daily Soil Disturbance <sup>1</sup>	2.0	acres
Days of Soil Disturbance <sup>2</sup>	152	days
Water Concentration <sup>3</sup>	3,020	gallons/acre
Water Energy Intensity <sup>4</sup>	5,306	kWh/MG
Total Construction Water	0.92	million gallons
Construction Water Energy	4871.3325	kWh
	0.0049	GWh
San Bernardino County Annual Electricity	68,485	GWh
Percentage Increase	0.00001%	

**Notes:**

<sup>1</sup> Total daily acres disturbed from offroad equipment per CalEEMod (3.0 Construction Emissions Detail) and maximum SCAQMD LST values for soil-disturbing equipment.

<sup>2</sup> Number of days of construction with soil-disturbing equipment per CalEEMod (5.1 Construction Schedule).

<sup>3</sup> Water application rate per Air and Waste Management Association's Air Pollution Engineering Manual.

<sup>4</sup> Water energy intensity factor for subarea per CalEEMod User Guide, Appendix G, Tab G-32.

Vehicle Type	Percent	Annual VMT <sup>1</sup>	MPG <sup>2</sup>	Annual Fuel (Gallons)	Fuel Type	San Bernardino County Gallons <sup>3</sup>	RS Percent
Passenger Cars	0.92	1,509,463	21.6	69,883	Gas	828,612,797	0.0084%
Light/Medium Trucks	0.06	91,849	17.2	5,340	Diesel	828,612,797	0.0006%
Heavy Trucks/Other	0.02	32,751	6.1	5,369	Diesel	828,612,797	0.0006%
Total Diesel	0.08	124,600		10,709		281,399,849	0.0038%
Total		1,634,063					

Fleet Mix <sup>4</sup>	LDA	LDT1	LDT2	MCY	MDV	LHD1	LHD2	MHD	OBUS	UBUS	SBUS	MH	HHD
		0.4859	0.0430	0.2122	0.0260	0.1565	0.0339	0.0093	0.0055	0.0005	0.0002	0.0011	0.0057

Notes:

<sup>1</sup> Total annual operational VMT based on annual VMT from CalEEMod (5.9 Operational Mobile Sources).

<sup>2</sup> Average fuel economy derived from Department of Transportation.

<sup>3</sup> Total annual county fuel per EMFAC 2021 model of projected operational fuel usage.

<sup>4</sup> Fleet mix based on land use.

**Operational Water Energy**

Unmitigated Indoor	0.9	million gallons
Indoor Energy Intensity Factor <sup>1</sup>	5,757	kWh/MG
Unmitigated Outdoor	0.44	million gallons
Outdoor Energy Intensity Factor <sup>2</sup>	5,306	kWh/MG
Operational Water Energy	7,413	kWh
Operational Water Energy	0.0074	GWh
San Bernardino County Annual Electricity	16,630	GWh
Percentage Increase	0.00004%	

16,630,000,000

Land Use <sup>3</sup>	Unmitigated (gal/year)	
	Indoor	Outdoor
Fast Food Restaurant with Drive Thru	879,944.0	442,306
<b>Total Operational Water (MG/year)</b>	<b>0.88</b>	<b>0.44</b>

From row 10 to 16 we bring CalEEMod 5.12 Operational Water and Wastewater Consumption (unmitigated) the first column shows the land use, the second column shows the indoor use, and third column shows

Notes:

<sup>1</sup> Indoor water energy intensity factor for subarea per CalEEMod User Guide, Appendix G, Tab G-32. Factor includes supply, treatment, distribution, and wastewater.

<sup>2</sup> Outdoor water energy intensity factor for subarea per CalEEMod User Guide, Appendix G, Tab G-32. Factor includes supply, treatment, and distribution.

<sup>3</sup> Operational water use values per CalEEMod (5.12 Operational Water and Wastewater Consumption).



**Electricity/Natural Gas Energy**

	<b>Project Annual Energy</b>	<b>San Bernardino County Annual Energy<sup>3</sup></b>	<b>Percentage Increase</b>
Electricity (kWh/yr)	146,086	16,630,000,000	0.0009%
Electricity (GWh/yr)	0.1461	16,630	0.0009%
Natural Gas (kBTU/yr)	331,271	56,200,000,000	0.0006%
Natural Gas (therms/yr)	3,313	562,000,000	0.0006%

<b>Land Use</b>	<b>Electricity<sup>1</sup> (kWh/yr)</b>	<b>Natural Gas<sup>2</sup> (kBTU/yr)</b>
Fast Food Restaurant with Drive Thru	101,658	331,271
Parking Lot	37,015	0