

## MEMORANDUM

**DATE:** May 28, 2021

**To:** Ryan Fowler, Senior Planner  
Community Development Department/Planning Division  
City of Menifee

**FROM:** Amy Fischer, Principal  
Jeffrey Haynes, Assistant Air Quality Analyst

**SUBJECT:** Energy Analysis for the Proposed Boulder Mixed-Use Project (CIM2002)

### INTRODUCTION

This energy technical analysis has been prepared to evaluate potential energy-related impacts associated with the proposed Boulder Mixed-Use Project (Project). The 10.14-acre Boulder Mixed-Use Project (herein referred to as “proposed Project” or “Project”) site is located on Assessors’ Parcel Number (APN) 339-200-080 in the City of Menifee, in Riverside County, California. Specifically, the Project site is located at the northeast corner of Normandy Road and Berea Road.

### PROJECT DESCRIPTION

The existing project site is vacant. The proposed project would develop a 234-dwelling unit mid-rise apartment complex, an 8,250-square-foot daycare facility with outdoor play area, and a 25,745-square-foot three-story general office building. The office building area includes the apartment leasing office and resident amenities with common areas. The apartment complex would consist of nine three-story buildings, with ground level covered parking. The entire project would provide 429 total parking spaces (207 covered garage, 27 covered carports, and 195 open space parking). The parking would include 41 neighborhood electric vehicle (NEV) charging stations. Construction would begin in December of 2021 and finish in April of 2023, a duration of 16 months.

### BACKGROUND

The proposed project site is located in the City of Menifee, which is part of the Southern California Edison (SCE) service area for electricity and Southern California Gas (SoCalGas) service area for natural gas.

#### Existing Environmental Setting

##### *Electricity*

Electricity is a manmade resource. The production of electricity requires the consumption or conversion of energy resources (including water, wind, oil, gas, coal, solar, geothermal, and nuclear

resources) into energy. Electricity is used for a variety of purposes (e.g., lighting, heating, cooling, and refrigeration, and for operating appliances, computers, electronics, machinery, and public transportation systems).<sup>1</sup>

In 2019, California's electricity was generated primarily by natural gas (38.4 percent), coal (23.4 percent), large hydroelectric (14.72 percent), nuclear (9.08 percent), and renewable sources (29 percent). Total electricity generation in California in 2019 was 279,402 gigawatt-hours (GWh), down 2.1 percent from the 2018 total generation of 285,488 GWh. In 2019, California produced approximately 70.7 percent and imported 29.3 percent of the electricity it used.<sup>2</sup>

The project site is within the service territory of SCE. SCE provides electricity to more than 15 million people in a 50,000-square-mile (sq mi) area of Central, Coastal, and Southern California.<sup>3</sup> According to the California Energy Commission (CEC), total electricity consumption in the SCE service area in 2019 was 80,913 GWh. Total electricity consumption in Riverside County in 2019 was 15,520 GWh (7,337 GWh for the residential sector and 8,183 GWh for the non-residential sector).<sup>4</sup>

### *Natural Gas*

Natural gas is a non-renewable fossil fuel. Fossil fuels are formed when layers of decomposing plant and animal matter are exposed to intense heat and pressure under the surface of the Earth over millions of years. Natural gas is a combustible mixture of hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas is found in naturally occurring reservoirs in deep underground rock formations. Natural gas is used for a variety of uses (e.g., heating buildings, generating electricity, and powering appliances such as stoves, washing machines and dryers, gas fireplaces, and gas grills).<sup>5</sup>

In 2019, the natural gas consumed in California was used for electricity generation (36 percent), residential uses (16 percent), industrial uses (33 percent), and commercial uses (11 percent). California continues to depend upon out-of-state imports for nearly 90 percent of its natural gas supply.<sup>6</sup>

SoCalGas is the natural gas service provider for the project site. SoCalGas provides natural gas to approximately 21.8 million people in a 24,000 sq mi service area throughout Central and Southern

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<sup>1</sup> United States Energy Information Administration (EIA). 2019b. Electricity Explained. Website: <https://www.eia.gov/energyexplained/electricity/> (accessed April 2021).

<sup>2</sup> California Energy Commission (CEC). 2019c. Notice of Request for Public Comments on the Draft Scoping Order for the 2019 Integrated Energy Policy Report. Docket No. 19-IEPR-01.

<sup>3</sup> Southern California Edison (SCE). 2019. About Us. Website: <https://www.sce.com/about-us/who-we-are> (accessed April 2021).

<sup>4</sup> CEC. 2019a. Electricity Consumption by County. Website: <http://www.ecdms.energy.ca.gov/elecbycounty.aspx> (accessed April 2021).

<sup>5</sup> EIA. 2020b. Natural Gas Explained- Use of Natural Gas. Website: [https://www.eia.gov/energyexplained/index.php?page=natural\\_gas\\_use](https://www.eia.gov/energyexplained/index.php?page=natural_gas_use) (accessed April 2021).

<sup>6</sup> CEC. 2020b. Supply and Demand of Natural Gas in California. Website: [https://ww2.energy.ca.gov/almanac/naturalgas\\_data/overview.html](https://ww2.energy.ca.gov/almanac/naturalgas_data/overview.html) (accessed April 2021).

California, from Visalia to the Mexican border.<sup>1</sup> According to the CEC, total natural gas consumption in the SoCalGas service area in 2019 was 5,424.7 million therms (2,418.6 million therms for the residential sector and 947.8 million therms for the commercial sector). Total natural gas consumption in Riverside County in 2019 was 453.0 million therms (304.8 million therms for the residential sector and 148.2 therms for the non-residential sector).<sup>2</sup>

### *Petroleum/Transportation Energy*

Petroleum is also a non-renewable fossil fuel. Petroleum is a thick, flammable, yellow-to-black mixture of gaseous, liquid, and solid hydrocarbons that occurs naturally beneath the earth's surface. Petroleum is primarily recovered by oil drilling. It is refined into a large number of consumer products, primarily fuel oil, gasoline, and diesel.

Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and sport utility vehicles. In 2019, total gasoline consumption in California was 360,237 thousand barrels (15.1 billion gallons) or 1,819.9 trillion British Thermal Units (BTU).<sup>3</sup> Of the total gasoline consumption, 343,677 thousand barrels (14.4 billion gallons) or 1,736.3 trillion BTU were consumed for transportation.<sup>4</sup> Based on fuel consumption obtained from EMFAC2017, 701.5 million gallons of diesel and 2.0 billion gallons of gasoline were consumed from vehicle trips in Riverside County in 2019.

### **Regulatory Setting**

Applicable federal, State, regional, and local energy regulations are discussed below,

#### *Federal Regulations*

**Corporate Average Fuel Economy.** Congress first passed the Corporate Average Fuel Economy (CAFE) law in 1975 to increase the fuel economy of cars and light-duty trucks. CAFE standards are federal regulations that are set to reduce energy consumed by on-road motor vehicles. The National Highway Traffic Safety Administration (NHTSA) regulates the standards and the United States Environmental Protection Agency (USEPA) measures vehicle fuel efficiency. The standards specify minimum fuel consumption efficiency standards for new automobiles sold in the United States. The law has become more stringent over time. The current standard is 27.5 miles per gallon (mpg) for passenger cars and 20.7 mpg for light-duty trucks.

On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the USEPA and the United States Department of Transportation's (USDOT) NHTSA announced a joint final rule establishing a

<sup>1</sup> Southern California Gas Company (SoCalGas). 2020. About SoCalGas. Website: <https://www3.socalgas.com/about-us/company-profile> (accessed April 2021).

<sup>2</sup> CEC. 2020a. Gas Consumption by County. Website: <http://www.ecdms.energy.ca.gov/gasbycounty.aspx> (accessed April 2021).

<sup>3</sup> A British Thermal Unit (BTU) is defined as the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit.

<sup>4</sup> EIA. 2020a. California State Profile and Energy Estimates. Table F3: Motor gasoline consumption, price, and expenditure estimates. 2017. Website: [https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep\\_fuel/html/fuel\\_mg.html&sid=CA](https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_mg.html&sid=CA) (accessed April 2021).

national program that would reduce greenhouse gas (GHG) emissions and improve fuel economy for new cars and trucks sold in the United States. The first phase of the national program applied to passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2012 through 2016. This phase required these vehicles to meet a fuel economy standard of 35.5 mpg. The second phase applied to passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2017 through 2025. This phase required these vehicles to meet an estimated fuel economy standard of 54.5 mpg.<sup>1</sup>

On September 15, 2011, the USEPA and USDOT issued a final rule for the first national standards to improve fuel efficiency of medium- and heavy-duty trucks and buses, model years 2014 through 2018. For combination tractors, the agencies proposed engine and vehicle standards that would achieve up to a 20 percent reduction in fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies proposed separate gasoline and diesel truck standards, which would achieve up to a 10 percent reduction for gasoline vehicles and a 15 percent reduction for diesel vehicles (12 and 17 percent, respectively, if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10 percent reduction in fuel consumption. On October 25, 2016, the USEPA and USDOT issued Phase 2 of the national standards to improve fuel efficiency standards for medium- and heavy-duty trucks and buses for model years 2021 through 2027 to achieve vehicle fuel savings as high as 25 percent, depending on the vehicle category.

**Safer Affordable Fuel-Efficient Vehicles Rule.** On March 31, 2020, the Trump Administration adopted *The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks* (SAFE Vehicles Rule) to amend the CAFE and GHG emission standards established in 2012 for model years 2021 through 2026. The SAFE Vehicles Rule would decrease fuel economy and would withdraw the California Waiver for the California Advanced Clean Car program, Zero Emissions Vehicle mandate, and GHG emission standards for model years 2021 through 2026.<sup>2</sup>

### *State Regulations*

**Assembly Bill 1575, Warren-Alquist Act.** In 1975, largely in response to the oil crisis of the 1970s, the State Legislature adopted Assembly Bill (AB) 1575 (also known as the Warren-Alquist Act), which created the CEC. The statutory mission of the CEC is to forecast future energy needs; license power plants of 50 megawatts (MW) 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 (PRC) Section 21100(b)(3) and *California Environmental Quality Act (CEQA) Guidelines* Section 15126.4 to require environmental impact reports (EIR) to include, where relevant, mitigation measures proposed to

<sup>1</sup> National Highway Traffic Safety Administration (NHTSA). 2019a. Corporate Average Fuel Economy. Website: <https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy> (accessed April 2021).

<sup>2</sup> NHTSA. March 30, 2020. Website: [https://www.nhtsa.gov/corporate-average-fuel-economy/.safe#:~:text=The%20Safer%20Affordable%20Fuel%20Efficient%20\(SAFE\)%20Vehicles%20Rule%2C,model%20years%202021%20through%202026](https://www.nhtsa.gov/corporate-average-fuel-economy/.safe#:~:text=The%20Safer%20Affordable%20Fuel%20Efficient%20(SAFE)%20Vehicles%20Rule%2C,model%20years%202021%20through%202026) (accessed April 2021).

minimize the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F to the *CEQA Guidelines*. Appendix F assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the *CEQA Guidelines* also states that the goal of conserving energy implies the wise and efficient use of energy and the means of achieving this goal, including (1) decreasing overall per capita energy consumption; (2) decreasing reliance on fossil fuels such as coal, natural gas, and oil; and (3) increasing reliance on renewable energy sources.

**Senate Bill 1389, Energy: Planning and Forecasting.** In 2002, the State Legislature passed Senate Bill (SB) 1389, which required the CEC to develop an integrated energy plan every 2 years for electricity, natural gas, and transportation fuels for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission vehicles (ZEVs) and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

In compliance with the requirements of SB 1389, the CEC adopts an *Integrated Energy Policy Report* every 2 years and an update every other year. The most recently adopted reports include the *2019 Integrated Energy Policy Report*<sup>1</sup> and the *2020 Integrated Energy Policy Report Update*.<sup>2</sup> The *2019 Integrated Energy Policy Report* covers a broad range of topics, including decarbonizing buildings, integrating renewables, energy efficiency, energy equity, integrating renewable energy, updates on Southern California electricity reliability, climate adaptation activities for the energy sector, natural gas assessment, transportation energy demand forecast, and the California Energy Demand Forecast. The *2020 Integrated Energy Policy Report* provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs. The CEC approved the *2020 Integrated Energy Policy Report* in March 2021.<sup>3</sup>

**Renewable Portfolio Standards.** SB 1078 established the California Renewable Portfolio Standards program in 2002. SB 1078 initially required that 20 percent of electricity retail sales be served by renewable resources by 2017; however, this standard has become more stringent over time. In 2006, SB 107 accelerated the standard by requiring that the 20 percent mandate be met by 2010. In April 2011, SB 2 required that 33 percent of electricity retail sales be served by renewable resources by 2020. In 2015, SB 350 established tiered increases to the Renewable Portfolio Standards of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. In 2018, SB 100 increased the

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<sup>1</sup> CEC. 2020. *2019 Integrated Energy Policy Report*. California Energy Commission. Publication Number: CEC-100-2019-001-V1-CMF. March.

<sup>2</sup> CEC. 2021. *2020 Integrated Energy Policy Report Update*. California Energy Commission. Publication Number: CEC-100-2020-001-V1-CMF. February.

<sup>3</sup> CEC. 2019. Notice of Request for Public Comments on the Draft Scoping Order for the *2019 Integrated Energy Policy Report*. Docket No. 19-IEPR-01.

requirement to 60 percent by 2030 and required that all State's electricity to come from carbon-free resources by 2045. SB 100 took effect on January 1, 2019.

**Title 24, California Building Code.** Energy consumption by new buildings in California is regulated by the Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations (CCR), known as the California Building Code (CBC). The CEC first adopted the Building Energy Efficiency Standards for Residential and Nonresidential Buildings in 1978 in response to a legislative mandate to reduce energy consumption in the State. The CBC is updated every 3 years, and the current 2019 CBC went into effect on January 1, 2020. The efficiency standards apply to both new construction and rehabilitation of both residential and non-residential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in CCR Title 24.

**California Green Building Standards Code (CALGreen Code).** In 2010, the California Building Standards Commission (CBSC) adopted Part 11 of the Title 24 Building Energy Efficiency Standards, referred to as the California Green Building Standards Code (CALGreen Code). The CALGreen Code took effect on January 1, 2011. The CALGreen Code is updated on a regular basis, with the most recent update consisting of the 2019 CALGreen Code standards that became effective January 1, 2020. The CALGreen Code established mandatory measures for residential and non-residential building construction and encouraged sustainable construction practices in the following five categories: (1) planning and design, (2) energy efficiency, (3) water efficiency and conservation, (4) material conservation and resource efficiency, and (5) indoor environmental quality. Although the CALGreen Code was adopted as part of the State's efforts to reduce GHG emissions, the CALGreen Code standards have co-benefits of reducing energy consumption from residential and non-residential buildings subject to the standard.

**California Energy Efficiency Strategic Plan.** On September 18, 2008, the California Public Utilities Commission (CPUC) adopted California's first Long-Term Energy Efficiency Strategic Plan, presenting a roadmap for energy efficiency in California. The Plan articulates a long-term vision and goals for each economic sector and identifies specific near-term, mid-term, and long-term strategies to assist in achieving those goals. The Plan also reiterates the following four specific programmatic goals known as the "Big Bold Energy Efficiency Strategies" that were established by the CPUC in Decisions D.07-10-032 and D.07-12-051:

1. All new residential construction is expected to implement zero net energy (ZNE) by 2020.
2. All new commercial construction will be ZNE by 2030.
3. 50 percent of commercial buildings will be retrofitted to ZNE by 2030.
4. 50 percent of new major renovations of State buildings will be ZNE by 2025.

### *Regional Regulations*

There are no regional energy regulations that apply to the proposed project.

### Local Regulations

**Menifee Municipal Code.** The City of Menifee has adopted the 2019 CALGreen Code and incorporated the CALGreen Code by reference into the City Municipal Code (Chapter 5, Buildings, Article 1, Building Code, Section 5-1 California Building Codes – Adopted).

**Menifee General Plan Open Space & Conservation Element.** The following goals and policies are applicable to the proposed project:

- OSC-4** Efficient and environmentally appropriate use and management of energy and mineral resources to ensure their availability for future generations.
- OCS-4.1** Apply energy efficiency and conservation practices in land use, transportation demand management, and subdivision and building design.
- OCS-4.2** Evaluate public and private efforts to develop and operate alternative systems of energy production, including solar, wind, and fuel cell.
- OCS-4.3** Advocate for cost-effective and reliable production and delivery of electrical power to residents and businesses throughout the community.

### METHODOLOGY

This memorandum discusses energy use resulting from implementation of the proposed project and evaluates whether the proposed project would result in the wasteful, inefficient, or unnecessary consumption of energy resources or conflict with any applicable plans for renewable energy and energy efficiency. Annual natural gas and electricity usage estimates associated with project operation were obtained from the California Emissions Estimator Model Version 2016.3.2 (CalEEMod) output, which is included in Appendix A of the *Boulder Mixed-Use Project Air Quality and Greenhouse Gas Emissions Analysis* prepared for the proposed project.<sup>1</sup> In addition, fuel consumption during project operation is based on VMT estimates included in the CalEEMod output and USEPA fuel economy estimates.

Estimates of fuel consumption (diesel fuel and gasoline) from construction equipment, trucks, and construction worker vehicles were based on trip estimates from the CalEEMod model and fuel efficiencies from the California Air Resources Board (CARB) EMFAC2017 model.

### THRESHOLD OF SIGNIFICANCE

The State of California has developed guidelines to address the significance energy impacts based on Appendix G of the *CEQA Guidelines* (14 CCR 15000 et seq.), which provides guidance that a project would have a significant environmental impact if it would:

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<sup>1</sup> The *Boulder Mixed-Use Project Air Quality and Greenhouse Gas Emissions Analysis Memorandum* (LSA 2021) includes the CalEEMod results for the annual, summer, and winter scenarios. The CalEEMod results for the annual scenario for construction and operations were obtained from the GHG analysis.

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

For purposes of this analysis, impacts to energy resources would be considered to be significant if the project would result in the wasteful, inefficient, or unnecessary consumption of fuel or energy, and conversely if the project would not incorporate renewable energy or energy efficiency measures into building design, equipment use, transportation, or other project features.

## IMPACT ANALYSIS

### Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources

The proposed project would increase the demand for energy through day-to-day operations and fuel consumption associated with project construction. This section discusses energy use resulting from implementation of the proposed project and evaluates whether the proposed project would result in the wasteful, inefficient, or unnecessary consumption of energy resources or conflict with any applicable plans for renewable energy and energy efficiency.

#### *Construction-Related Energy Use*

Construction of the proposed project is anticipated to last 16 months, and would require energy for activities such as the manufacture and transportation of building materials, grading activities, and building construction. Construction of the proposed project would require fossil fuels to power construction-related equipment. Construction of the proposed project would not involve the consumption of natural gas because none of the construction-related equipment would be powered by natural gas.

Transportation energy represents the largest energy use during construction and would occur from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction worker vehicles that would use petroleum fuels. Therefore, the analysis of energy use during construction focuses on fuel consumption. Construction trucks and vendor trucks hauling materials to and from the project site would be anticipated to use diesel fuel, whereas construction workers traveling to and from the project site would be anticipated to use gasoline-powered vehicles. Fuel consumption from transportation uses depends on the types and number of trips, VMT, vehicle fuel efficiency, and travel mode.

Estimates of fuel consumption (diesel fuel and gasoline) from construction equipment, construction trucks, and construction worker vehicles were based on construction equipment assumptions and trip estimates from CalEEMod and fuel efficiencies from the EMFAC2017 model. Fuel consumption estimates are presented in Table A. Detailed calculations are attached.

**Table A: Construction-Related Fuel Consumption**

Category	Estimated Annual Fuel Consumption (gallons)
<b>Diesel Fuel</b>	
Construction Equipment	39,964
Construction Vendor Trips	21,041
<b>Total Diesel Consumption</b>	<b>61,005</b>
Construction Worker Trips	63,724
<b>Total Gasoline Consumption</b>	<b>63,724</b>

Source: Compiled by LSA (May 2021).

As indicated in Table A, the project would consume approximately 61,005 gallons of diesel fuel and approximately 63,724 gallons of gasoline during construction. Based on fuel consumption obtained from EMFAC2017, 701.5 million gallons of diesel and 2.0 billion gallons of gasoline were consumed from vehicle trips in Riverside County in 2019. Therefore, construction of the proposed project would increase the annual construction generated fuel use in Riverside County by approximately 0.01 percent for diesel fuel usage and less than 0.1 percent for gasoline fuel usage. As such, project construction would have a negligible effect on local and regional energy supplies. Furthermore, impacts related to energy use during construction would be temporary and relatively small in comparison to Riverside County’s overall use of the State’s available energy sources. No unusual project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the State.

In addition, the equipment used for project construction would conform to CARB regulations and California emissions standards. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities or equipment that would not conform to current emissions standards (and related fuel efficiencies). All construction equipment would utilize, at minimum, Tier 2 engines, which were included in CalEEMod. The project would have a balanced cut-and-fill quantity of soil on site. Equipment employed in construction of the proposed project would therefore not result in inefficient, wasteful, or unnecessary fuel consumption.

The proposed project would utilize construction contractors who practice compliance with applicable CARB regulations regarding retrofitting, repowering, and replacement of diesel off-road construction equipment. Additionally, CARB has adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other toxic air contaminants (TACs).<sup>1</sup> Compliance with anti-idling and emissions regulations would result in a more efficient use of construction-related energy and the minimization or elimination of wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

<sup>1</sup> CARB. Airborne Toxic Control Measures. Website: <https://ww2.arb.ca.gov/resources/documents/airborne-toxic-control-measures> (accessed April 2021).

Additionally, certain incidental construction-source energy efficiencies would likely accrue through implementation of California regulations and best available control measures (BACM). More specifically, CCR Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. To ensure adherence to these regulations, the Applicant/Developer would be required to comply with Regulatory Compliance Measure 1, provided below, which requires the placement of signage on the project site informing the construction workers that engines must be shut off at or before five minutes of idling.

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

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

In general, the construction processes promote conservation and efficient use of energy by reducing raw materials demands, with related reduction in energy demands associated with raw materials extraction, transportation, processing, and refinement. Use of materials in bulk reduces energy demands associated with the preparation and transport of construction materials as well as the transport and disposal of construction waste and solid waste in general, with corollary reduced demands on area landfill capacities and energy consumed by waste transport and landfill operations. With adherence to Regulatory Compliance Measure 1, the proposed project would result in less than significant impacts related to energy during construction.

### *Operational Energy Use*

Energy consumption associated with project operations would include transportation energy demands (e.g., energy consumed by future residents, employees, and delivery vehicles accessing the project site) and facilities energy demands (e.g., energy consumed by building operations and site maintenance activities).

**Transportation Energy Demands.** Energy that would be consumed by project-generated traffic is a function of total VMT and estimated vehicle fuel economies of the various types of vehicles accessing the project site. The project would implement NEV charging stations. Trip generation rates used in CalEEMod for the proposed project were based on the project's trip generation estimates from the prepared Traffic Study. The proposed project would generate 1,910 average daily trips. Based on CalEEMod, the proposed project would generate approximately 4,961,054 VMT per year.

The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has steadily increased from about 14.9 mpg in 1980 to 22.2 mpg in 2019.<sup>1</sup> Therefore, using

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<sup>1</sup> U.S. Department of Transportation (USDOT). "Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles." Website: <https://www.bts.dot.gov/bts/bts/content/average-fuel-efficiency-us-light-duty-vehicles> (accessed May 20, 2021).

the USEPA fuel economy estimates for 2019, the proposed project would result in the consumption of approximately 223,471 gallons of fuel (gasoline and diesel) per year.

**Facility Energy Demands.** Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as in plug-in appliances. In California, the California Building Standards Code Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. Non-building energy use, or “plug-in” energy use can be further subdivided by specific end-use (refrigeration, cooking, appliances, etc.).

Annual natural gas and electricity usage estimates associated with project operation were obtained from CalEEMod. The energy reduction features that were incorporated into the CalEEMod analysis include the following:

- Neighborhood electric vehicle (NEV) charging stations;
- Energy Star appliances in apartment land use subtypes;
- Natural Gas reduction of 40 percent for apartment land-use types;
- No non-Title 24 energy usage for all land use types;
- Compliance with 2019 Title 24 standards;
- No natural gas hearths; and
- State CalRecycle 75 percent initiative of solid waste to be recycled, reduced, or composted.

Table B provides the proposed project’s estimated annual operational energy usage. Detailed calculations are attached.

**Table B: Estimated Annual Energy Use of the Proposed Project**

Land Use	Electricity Use (kWh per year)	Natural Gas Use (therms per year)	Fuel Consumption (gallons per year)
Apartments Mid Rise	211,414	11,466	181,317
Day-Care Center	27,579	535	17,292
General Office Building	97,061	831	24,862
Enclosed Parking Structure	338,081	0	0
Parking Lot	7,770	0	0
<b>Total</b>	<b>681,905</b>	<b>12,832</b>	<b>223,471</b>

Source: Compiled by LSA (May 2021).  
kWh = kilowatt-hour(s)

As shown in Table B, the estimated potential increase in electricity demand associated with the operation of the proposed project is 681,905 kWh per year. Total electricity demand in Riverside County in 2019 was approximately 15,520 GWh (15,520,129,785 kWh). Therefore, operation of the proposed project would increase the annual electricity consumption in Riverside County by less than 0.1 percent.

As shown in Table B, the estimated potential increase in natural gas demand associated with the proposed project is 12,832 therms per year. Total natural gas consumption in Riverside County in 2019 was 453 million therms (452,992,090 therms). Therefore, operation of the proposed project

would negligibly increase the annual natural gas consumption in Riverside County by less than 0.1 percent.

Electrical and natural gas demand associated with project operations would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. Furthermore, the proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. The project would be required to adhere to all federal, State, and local requirements for energy efficiency, including the Title 24 standards as discussed above. Compliance with Title 24 standards is required as identified in Regulatory Compliance Measure 2, which would significantly reduce energy usage.

The proposed project would also result in energy usage associated with gasoline and diesel fuel consumed by project-related vehicle trips. As shown in Table B, fuel use associated with the vehicle trips generated by the proposed project is estimated at 223,471 gallons of fuel (gasoline and diesel). Based on fuel consumption obtained from EMFAC2017, 701.5 million gallons of diesel and 1,944.2 million gallons of gasoline would be consumed in Riverside County during the projects opening year. . Therefore, operation of the proposed project would result in a negligible increase in the annual gasoline and diesel fuel consumption in Riverside County. Fuel consumption associated with vehicle trips generated by project operations would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region.

### **Conflict or Obstruct a State or Local Plans**

In 2002, the Legislature passed SB 1389, which required the CEC to develop an integrated energy plan every two years for electricity, natural gas, and transportation fuels for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for ZEVs and their infrastructure needs, and encouragement of urban designs that reduce VMT and accommodate pedestrian and bicycle access.

The CEC approved the *2020 Integrated Energy Policy Report* in March 2021.<sup>1</sup> The *2020 Integrated Energy Policy Report* provides the results of the CEC's assessments of a variety of energy issues facing California. The City of Menifee relies on the State integrated energy plan and does not have its own local plan to address renewable energy or energy efficiency.

As indicated above, energy usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the overall use in the County. In addition, energy usage associated with operation of the proposed project would be relatively small in comparison to the overall use in Riverside County, and the State's available energy sources. Therefore, energy impacts at the regional level would be negligible.

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<sup>1</sup> CEC. 2019. Notice of Request for Public Comments on the Draft Scoping Order for the *2019 Integrated Energy Policy Report*. Docket No. 19-IEPR-01.

Because California's energy conservation planning actions are conducted at a regional level, and because the proposed project's total impact on regional energy supplies would be minor, the proposed project would not conflict with or obstruct California's energy conservation plans as described in the CEC's *2020 Integrated Energy Policy Report*. Therefore, the proposed project would not conflict with or obstruction of a State or local plan for renewable energy or energy efficiency.

### Level of Significance Prior to Mitigation

Energy impacts related to the inefficient, wasteful, and unnecessary consumption of energy are considered less than significant, and no mitigation is required.

### Regulatory Compliance Measures and Mitigation Measures

#### *Regulatory Compliance Measures*

The following regulatory compliance measures are existing regulations that are applicable to the proposed project and are considered in the analysis of potential impacts related to energy. The City of Menifee considers these requirements to be mandatory; therefore, they are not mitigation measures.

#### **Regulatory Compliance Measure 1**

**Idling Restriction Signage.** Prior to the issuance of grading permits, the City of Menifee (City) Community Development Director shall confirm that the grading plans for the project include a requirement that a sign shall be posted on site stating that construction workers shall shut off engines at or before five minutes of idling.

#### **Regulatory Compliance Measure 2**

**California Code of Regulations (CCR), Title 24.** Prior to the issuance of building permits, the City Chief Building Official, or designee, shall confirm that the project design complies with the 2019 Building Energy Efficiency Standards (CCR Title 24) energy conservation and green building standards, as well as those listed in Part 11 (California Green Building Standards [CALGreen Code]). The City's Chief Building Official shall confirm that the project complies with the mandatory measures listed in the CALGreen Code for residential and non-residential building construction.

#### *Mitigation Measures*

No mitigation is required for the proposed project.

### Level of Significance after Mitigation

Construction and operational impacts related to energy use would be less than significant. No mitigation is required.

## Cumulative Impacts

The geographic area for cumulative analysis of electricity is that of the SCE service area, while the geographic area for cumulative analysis of natural gas service is that of the SoCalGas service area. The proposed project would result in an increased demand for electricity and natural gas service. Although the proposed project would result in an increase in demand for electricity, this increase would not require SCE to expand or construct infrastructure that could cause substantial environmental impacts. As discussed previously, the total annual electricity consumption in the SCE service area in 2019 was 80,912.7 GWh. By 2030, consumption is anticipated to increase by approximately 12,000 GWh for the low-demand scenario and by 22,000 GWh for the high-demand scenario.<sup>1</sup> While this forecast represents a large increase in electricity consumption, the proposed project's share of cumulative consumption would be negligible. The proposed project, in combination with cumulative development, is well within SCE's system-wide net annual increase in electricity supplies over the 2018 to 2030 period, and there are sufficient planned electricity supplies in the region for estimated net increases in energy demands.

Similarly, additional natural gas infrastructure is not anticipated due to cumulative development. Total natural gas consumption in the SoCalGas service area in 2019 was 5,424.7 million therms. Between 2018 and 2035, total natural gas consumption in the SoCalGas service area is forecast to remain steady for the low- and mid-demand scenarios and to increase by approximately 650 million therms in the high-demand scenario due to intense energy efficiency efforts.<sup>2</sup> The proposed project's share of cumulative consumption of natural gas in the SoCalGas service area would be negligible. It is anticipated that SoCalGas would be able to meet the natural gas demand of the related projects without additional facilities. In addition, both SCE and SoCalGas demand forecasts include the growth contemplated by the proposed project and the related projects. Increased energy efficiency to comply with building energy efficiency standards will reduce energy consumption on a per-square-foot basis. Furthermore, utility companies are required to increase their renewable energy sources to meet the Renewable Portfolio Standards mandate of 60 percent renewable supplies by 2030. SCE and SoCalGas plan to continue to provide reliable service to their customers and upgrade their distribution systems as necessary to meet future demand.

Transportation energy use would also increase; however, this transportation energy use would not represent a major amount of energy use when compared to the amount of existing development and to the total number of vehicle trips and VMT throughout Riverside County and the region. The proposed project and related projects are required to comply with various federal and State government legislation to improve energy efficiency in buildings, equipment, and appliances, and reduce VMT.

Compliance with Regulatory Compliance Measure 1 would ensure that the proposed project does not result in an inefficient, wasteful, and unnecessary consumption of energy. Therefore, the proposed project's contribution to impacts related to the inefficient, wasteful, and unnecessary consumption of energy would not be cumulatively considerable, and no mitigation is required.

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<sup>1</sup> CEC. 2018. California Energy Demand, 2018–2030 Revised Forecast. Publication Number: CEC-200-2018-002-CMF. February. Website: <https://efiling.energy.ca.gov/getdocument.aspx?tn=223244> (accessed April 2021).

<sup>2</sup> Ibid.

**CONCLUSION**

Based on the analysis presented above, construction of the proposed project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation and would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

Attachment: Energy Calculations

**ATTACHMENT**

**ENERGY CALCULATIONS**