

4.5 ENERGY

This section discusses energy use resulting from implementation of the Ganahl Lumber Project (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. The energy use analysis in this section is based on information from the California Emissions Estimate Model™ (CalEEMod™) v2016.3.2 modeling results in the *Air Quality and Greenhouse Gas Assessment* (October 2019) and the *Energy Consumption Analysis* (ECORP Consulting, Inc. 2019) prepared for the proposed project, and from the California Air Resources Board (CARB) EMFAC2014 model. The *Air Quality and Greenhouse Gas Assessment* and the *Energy Consumption Analysis* are included in Appendices B and E, respectively, of this Environmental Impact Report (EIR).

4.5.1 Scoping Process

The City of San Juan Capistrano (City) received 11 comment letters during the public review period of the Initial Study/Notice of Preparation (IS/NOP). For copies of the IS/NOP comment letters, refer to Appendix A of this EIR. None of the comment letters included comments related to energy.

4.5.2 Methodology

The analysis of electricity/natural gas usage is based on the CalEEMod modeling conducted by ECORP Consulting, Inc. (ECORP 2019), which quantifies energy use for project operations. The amount of operational automotive fuel use was estimated using CARB's EMFAC2014 computer program, which provides projections for typical daily fuel usage in Orange County. As specified in the *Energy Consumption Analysis*, the amount of total construction-related fuel use was estimated using ratios provided in the Climate Registry's General Reporting Protocol for the Voluntary Reporting Program, Version 2.1.

The analysis focuses on the four sources of energy that are relevant to the proposed project: electricity, natural gas, the equipment fuel necessary for project construction, and vehicle fuel necessary for project operations. For the purposes of this analysis, the amount of electricity, natural gas, construction fuel, and fuel use from operations are quantified and compared to that consumed by non-residential land uses (commercial and industrial) in Orange County. The electricity/natural gas use of the proposed project is first analyzed as a whole on an annual scale. The electricity/natural gas use is then analyzed for each of the three parcels, each with unique proposed uses.

4.5.3 Existing Environmental Setting

4.5.3.1 Electricity

Electricity is a man-made 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).¹

In 2017, California's electricity was generated primarily by natural gas (33.67 percent), coal (4.13 percent), large hydroelectric (14.72 percent), nuclear (9.08 percent), and renewable sources (29 percent). Total electric generation in California in 2017 was 292,039 gigawatt-hours (GWh), up 0.5 percent from the 2016 total generation of 290,567 GWh. In 2017, California produced approximately 70.7 percent and imported 29.3 percent of the electricity it used.²

The project site is within the service territory of Southern California Edison (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 (SCE 2019). According to the California Energy Commission (CEC), total electricity consumption in the SCE service area in 2017 was 84,291.6 GWh. Total electricity consumption in Orange County in 2017 was 20,030.5 GWh (6,745 GWh for the residential sector).³

4.5.3.2 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).⁴

Natural gas consumed in California is used for electricity generation (45 percent), residential uses (21 percent), industrial uses (25 percent), and commercial uses (9 percent). California continues to depend upon out-of-state imports for nearly 90 percent of its natural gas supply.⁵

The Southern California Gas Company (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 California, from Visalia to the Mexican border.⁶ According to the California Energy Commission (CEC), total natural gas consumption in the SoCalGas service area in 2018 was 5,156.1 million therms (2,147.4 million therms for the residential sector). Total natural

¹ United States Energy Information Administration (EIA). 2019a. Electricity Explained-. Website: <https://www.eia.gov/energyexplained/electricity/> (accessed October 24, 2019).

² California Energy Commission. 2019a. Notice of Request for Public Comments on the Draft Scoping Order for the 2019 Integrated Energy Policy Report. Docket No. 19-IEPR-01.

³ California Energy Commission. 2019b. California Gasoline Data, Facts, and Statistics. Website: https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/ (accessed October 24, 2019).

⁴ United States Energy Information Administration (EIA). 2019b. Natural Gas Explained- Use of Natural Gas. https://www.eia.gov/energyexplained/index.php?page=natural_gas_use (accessed October 24, 2019).

⁵ California Energy Commission. 2019c. Supply and Demand of Natural Gas in California. Website: https://ww2.energy.ca.gov/almanac/naturalgas_data/overview.html (accessed October 24, 2019).

⁶ Southern California Gas Company (SoCalGas). 2019. About SoCalGas. Website: <https://www3.socalgas.com/about-us/company-profile> (accessed October 24, 2019).

gas consumption in Orange County in 2018 was 575.1 million therms (339.0 million therms for the residential sector).¹

4.5.3.3 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 and gasoline.

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 2017, total gasoline consumption in California was 366,820 thousand barrels (15.4 billion gallons) or 1,853.5 trillion British Thermal Units (BTU).² Of the total gasoline consumption, 350,604 thousand barrels (14.7 billion gallons) or 1,771.6 trillion BTU were consumed for transportation.³ Based on fuel consumption obtained from EMFAC2017, 160.5 million gallons of diesel and 1.3 billion gallons of gasoline were consumed from vehicle trips in Orange County in 2018.

4.5.4 Regulatory Setting

4.5.4.1 Federal Regulations

Corporate Average Fuel Economy (CAFE). Congress first passed the Corporate Average Fuel Economy 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 (EPA) 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 EPA and the United States Department of Transportation's (USDOT) NHTSA announced a joint final rule establishing a 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

¹ California Energy Commission. 2019b. California Gasoline Data, Facts, and Statistics. Website: https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/ (accessed October 24, 2019).

² 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.

³ United States Energy Information Administration (EIA). 2019c. 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 (accessed October 24, 2019).

model years 2017 through 2025. This phase required these vehicles to meet an estimated fuel economy standard of 54.5 mpg.¹

On September 15, 2011, the EPA 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 (EPA 2019a). On October 25, 2016, the EPA 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 (EPA 2019a).

Safer Affordable Fuel-Efficient Vehicles Rule. On August 2, 2018, the current Administration released a notice of proposed rulemaking, *The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks* (SAFE Vehicles Rule) 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. Final rulemaking on the SAFE Vehicles Rule is pending.²

4.5.4.2 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 *State CEQA Guidelines* Section 15126.4 to require EIRs to include, where relevant, mitigation measures proposed to minimize the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F to the *State 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 *State CEQA Guidelines* also states that the goal of conserving energy implies the wise and

¹ National Highway Traffic Safety Administration (NHTSA). 2019a. Corporate Average Fuel Economy. Website: <https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy> (accessed October 24, 2019).

² National Highway Traffic Safety Administration (NHTSA). 2019b. The Safer Affordable Fuel-Efficient 'SAFE' Vehicles Rule. Website: <https://www.nhtsa.gov/corporate-average-fuel-economy/safe> (accessed October 24, 2019).

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 1368, Perata, Chapter 598, Statutes of 2006. On September 29, 2006, Governor Arnold Schwarzenegger signed into law Senate Bill (SB) 1368 (Perata, Chapter 598, Statutes of 2006). The law limits long-term investments in baseload generation by the State's utilities to those power plants that meet an Emissions Performance Standard (EPS) jointly established by the CEC and the California Public Utilities Commission (CPUC). The CEC has designed regulations that:

- Establish a standard for baseload generation owned by or under long-term contract to publicly owned utilities, of 1,100 pounds carbon dioxide per megawatt hour. This would encourage the development of power plants that meet California's growing energy needs while minimizing their emissions of greenhouse gas;
- Require posting of notices of public deliberations by publicly owned utilities on long-term investments on the CEC website. This would facilitate public awareness of utility efforts to meet customer needs for energy over the long term while meeting the State's standards for environmental impact; and
- Establish a public process for determining the compliance of proposed investments with the EPS.¹

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 *2017 Integrated Energy Policy Report* (CEC 2018a) and the *2018 Integrated Energy Policy Report Update* (CEC 2018b). The *2017 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 *2017 Integrated Energy Policy Report* covers a broad range of topics, including implementation of SB 350, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand

¹ ECORP Consulting, Inc. 2019. *Energy Consumption Analysis*. September.

Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas, updates on Southern California electricity reliability, natural gas outlook, and climate adaptation and resiliency. The *2018 Integrated Energy Policy Report Update* included a review of the implementation of California's energy policies and updated the 2017 California energy demand forecasts that were adopted as part of the *2017 Integrated Energy Policy Report* proceedings.

The CEC circulated the 2019 Integrated Energy Policy Report for public review in February 2019 and is anticipated to approve the report in February 2020.¹

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 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, 2019.²

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 2016 CBC went into effect on January 1, 2017. The next update is anticipated to become effective 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). 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). CALGreen took effect on January 1, 2011. CALGreen is updated on a regular basis, with the most recent update consisting of the 2016 CALGreen standards that became effective January 1, 2017. The next update is anticipated to become effective on January 1, 2020. CALGreen 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

¹ California Energy Commission. 2019a. Notice of Request for Public Comments on the Draft Scoping Order for the 2019 Integrated Energy Policy Report. Docket No. 19-IEPR-01.

² California Public Utilities Commission (CPUC). 2019. Renewables Portfolio Standard (RPS) Program. Website: <https://www.cpuc.ca.gov/rps/> (accessed October 24, 2019).

quality. Although CALGreen was adopted as part of the State's efforts to reduce GHG emissions, the CALGreen 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 (CPUC 2008). 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:

- All new residential construction will be zero net energy (ZNE) by 2020.
- All new commercial construction will be ZNE by 2030.
- 50 percent of commercial buildings will be retrofit to ZNE by 2030.
- 50 percent of new major renovations of State buildings will be ZNE by 2025.

4.5.4.3 Regional Regulations

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

4.5.4.4 Local Regulations

The City of San Juan Capistrano has adopted the 2016 California Green Building Standards Code (CalGreen Code) and incorporated the CalGreen Code by reference into the City Municipal Code (Title 8, Building Regulations, Chapter 16: California Green Building Standards Code).

4.5.5 Thresholds of Significance

The thresholds for energy impacts used in this analysis are consistent with Appendix G of the *State CEQA Guidelines* and the *City's Local Guidelines for Implementing CEQA* (2019). The proposed project may be deemed to have a significant impact with respect to energy if it would:

Threshold 4.5.1: Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Threshold 4.5.2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

4.5.6 Project Impacts

Threshold 4.5.1: Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant Impact.

Construction. Construction of the proposed project is anticipated to last 24 months, and would require energy for activities such as the manufacture and transportation of building materials, demolition and grading activities, and building construction. Construction of the proposed project would require electricity to power construction-related equipment. Construction of the proposed project would not involve the consumption of natural gas. The construction-related equipment would not be powered by natural gas, and no natural gas demand is anticipated during construction.

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 (e.g., diesel fuel and/or gasoline). 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 type and number of trips, VMT, the fuel efficiency of the vehicles, and travel mode.

As indicated in Table 4.5.A, the project would consume approximately 381,084 gallons of fuel during construction, which would increase the annual construction generated fuel use in Orange County by approximately 2.2 percent. 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 Orange 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.

Table 4.5.A: Proposed Project Energy Consumption

Energy Type	Annual Energy Consumption	Percentage Increase Countywide
Electricity Consumption	1,840,033 kWh	0.014%
Natural Gas Consumption	19,536 therms	0.008%
Automotive Fuel Consumption		
Project Construction	381,084 gallons	2.2%
Project Operations	422,889 gallons	0.031%

Source: *Energy Consumption Analysis* (ECORP Consulting, Inc. 2019).
kWh = kilowatt-hours

For these reasons, fuel consumption during construction would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature and impacts would be less than significant. No mitigation is required.

Operation. Energy use consumed by the proposed project would be associated with natural gas use, electricity consumption, and fuel used for vehicle trips associated with the project. As

shown in Table 4.5.A, the estimated potential increase in electricity demand associated with the operation of the proposed project is 1,840,033 kWh per year. Total electricity demand in Orange County in 2018 was approximately 13,044,070,989 kWh. Therefore, operation of the proposed project would increase the annual electricity consumption in Orange County by approximately 0.014 percent. However, it should be noted that the proposed project is the relocation of a Ganahl Lumber store currently operating, and consuming electricity, in the adjacent City of Dana Point.

As shown in Table 4.5.A, the estimated potential increase in natural gas demand associated with the proposed project is 19,536 therms per year. Total natural gas consumption in Orange County in 2018 was 236,102,647 therms. Therefore, operation of the proposed project would negligibly increase the annual natural gas consumption in Orange County by approximately 0.008 percent. However, it should be noted that the proposed project is the relocation of a Ganahl Lumber store currently operating, and consuming natural gas, in the adjacent City of Dana Point.

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. Title 24 building energy efficiency standards establish minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting. Compliance with Title 24 standards is required as identified in Regulatory Compliance Measure E-1 which would significantly reduce energy usage. Impacts are considered less than significant and no mitigation is required.

The proposed project would also result in energy usage associated with gasoline fuel consumed by project-related vehicle trips. As shown in Table 4.5.A, fuel use associated with the vehicle trips generated by the proposed project is estimated at 422,889 gallons. The amount of operational fuel use was estimated using CARB's EMFAC2014 model, which provided projections for typical daily fuel usage in Orange County. This analysis conservatively assumes that all vehicle trips generated as a result of project operation would be new to Orange County. Further, it should be noted that the proposed project is the relocation of a Ganahl Lumber store currently operating in the adjacent City of Dana Point; fuel consumption due to vehicle trips is already occurring under the existing conditions. Total fuel consumption in Orange County in 2018 includes on-road automotive fuel consumption and off-road equipment fuel consumption, and is estimated at approximately 1,402,492,695 gallons. Therefore, operation of the proposed project would increase the annual automotive fuel consumption in Orange County by approximately 0.031 percent. The proposed project would not result in excessive long-term operational automotive fuel consumption. 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. Furthermore, the project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Impacts are considered less than significant, and no mitigation is required.

Threshold 4.5.2: Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact. In 2002, the Legislature passed 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 ZEVs and their infrastructure needs, and encouragement of urban designs that reduce VMT and accommodate pedestrian and bicycle access.

The CEC recently adopted the *2017 Integrated Energy Policy Report* (CEC 2018a) and the *2018 Integrated Energy Policy Report Update* (CEC 2018b). The 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 Integrated Energy Policy Report covers a broad range of topics, including implementation of SB 350, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas, updates on Southern California electricity reliability, natural gas outlook, and climate adaptation and resiliency. The City of San Juan Capistrano 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 Orange County, and the State's available energy sources and energy impacts would be negligible at the regional level. 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 Integrated Energy Policy Report. Additionally, as demonstrated above under Threshold 4.5.1, the proposed project would not result in the inefficient, wasteful, and unnecessary consumption of energy. Potential impacts related to conflict with or obstruction of a State or local plan for renewable energy or energy efficiency would be less than significant, and no mitigation is required.

4.5.7 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.

4.5.8 Regulatory Compliance Measures and Mitigation Measures

4.5.8.1 Regulatory Compliance Measures (RCMs)

The proposed project would comply with the following regulatory standards.

RCM E-1 California Code of Regulations (CCR), Title 24. Prior to issuance of building permits, the City of San Juan Capistrano (City) Director of Development Services, 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 Code [CalGreen Code]). The City Director of Development Services shall confirm that the project complies with the mandatory measures listed in the CalGreen Code for non-residential building construction.

4.5.8.2 Mitigation Measures (MMs)

No mitigation is required for the proposed project.

4.5.9 Level of Significance after Mitigation

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

4.5.10 Cumulative Impacts

The geographic area for electricity is that of the SCE boundaries, while the geographic area for natural gas service is that of the SoCalGas boundaries. The proposed project would result in an increased services demand in electricity and natural gas. Although the proposed project would result in a net increase in 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 the SCE service area in 2017 was 84,291.6 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.¹ While this forecast represents a large increase in electricity consumption, the proposed project's percent 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 2018 was 5,156.1 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.² The proposed

¹ California Energy Commission. 2018c. 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 October 24, 2019).

² Ibid.

project's percent 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. In addition, 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 its 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 Orange 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 E-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.

4.5.11 Project Alternatives

4.5.11.1 Alternative 1

Alternative 1 would allow for the future construction of a 161,385-square-foot (sf) Ganahl Lumber hardware store and lumber yard and a 399-space vehicle storage facility, but no drive-through restaurant uses would be developed. This alternative represents a reduction of 6,000 sf of drive-through restaurant use as compared to the proposed project. Under Alternative 1, Area A would provide 150 parking spaces, compared to 62 parking spaces provided in Area A as part of the proposed project.

Most components of the proposed project, such as outdoor lighting, circulation and access, signage, utilities and drainage, sustainability features, landscaping, and construction phasing, and grading, would not significantly change with the implementation of Alternative 1. Components specific to Area A, such as the location of walkways, retaining walls fences, and gates, would also not change under Alternative 1. The modification and installation of existing and new utilities and infrastructure associated with the proposed project would still occur under Alternative 1. Alternative 1 would involve the grading and paving of Area A for surface parking; however, no construction of a drive-through restaurant uses would occur. Although Alternative 1 would not involve the development of structures on Area A as the proposed project would, the entirety of Area A would still be cleared, excavated, graded, and paved to accommodate surface parking.

Construction. Similar to the proposed project, Alternative 1 would require gasoline-powered haul trucks for construction activities. However, as Alternative 1 would result in a reduction of 6,000 sf of

drive-through restaurant use, fuel consumption under this alternative would be slightly less than estimated for the proposed project, as shown in Table 4.5.B.

Table 4.5.B: Alternative 1 Energy Consumption

Energy Type	Proposed Project		Alternative 1		Reduction from Proposed Project
	Annual Energy Consumption	Percentage Increase Countywide	Annual Energy Consumption	Percentage Increase Countywide	
Electricity Consumption	1,840,033 kWh	0.014%	1,621,144 kWh	0.012%	12%
Natural Gas Consumption	19,536 therms	0.008%	3,973 therms	0.001%	80%
Automotive Fuel Consumption					
Project Construction	381,084 gallons	2.176%	±381,084 gallons	2.176%	0%
Project Operations	422,889 gallons	0.031%	262,191 gallons	0.019%	37%

Source: *Energy Consumption Analysis* (ECORP Consulting, Inc. 2019).
 kWh = kilowatt-hours

Operation. Under Alternative 1, daily trips would decrease approximately 37 percent as compared to the proposed project, and would therefore reduce operational fuel consumption. As shown in Table 4.5.B, Alternative 1 would result in the use of 160,697 less gallons of fuel per year during operations as compared to the proposed project. Additionally, natural gas consumption would be reduced by approximately 80 percent, and electricity consumption would be reduced by approximately 12 percent during operation as compared to the proposed project.

Summary. Electricity, natural gas, and operational fuel consumption would be reduced under Alternative 1. However, construction-related fuel consumption would remain unchanged. Overall, impacts to energy under Alternative 1 are reduced, but similar to impacts associated with the proposed project. Regulatory Compliance Measure E-1 would still be applicable under Alternative 1 to ensure that the project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. With incorporation of Regulatory Compliance Measure E-1, Alternative 1 would have less than significant impacts with respect to energy. Because impacts related to energy for Alternative 1 would be less than those associated with the proposed project, cumulative impacts would also be less than cumulatively significant, and no mitigation would be required.

4.5.11.2 Alternative 2

Alternative 2 would allow for the future construction of a 161,385 sf Ganahl Lumber hardware store and lumber yard, a 399-space vehicle storage facility, and 2,000 sf of drive-through restaurant uses, which represents a reduction of 4,000 sf of drive-through restaurant uses as compared to the proposed project. Specifically, Alternative 2 would provide 80 parking spaces, compared to 62 parking spaces provided in Area A as part of the proposed project.

Most components of the proposed project, such as outdoor lighting, circulation and access, signage, utilities and drainage, sustainability features, landscaping, and construction phasing and grading, would not significantly change with the implementation of Alternative 2. Components specific to Area A, such as the location of walkways, retaining walls, fences, and gates, would also not change under Alternative 2. The modification and installation of existing and new utilities and infrastructure associated with the proposed project would still occur under Alternative 2. Under Alternative 2,

similar to the proposed project, the entirety of Area A would be cleared, excavated, graded, and paved to accommodate surface parking and a building pad.

Construction. Although Alternative 2 would result in a reduction of 4,000 sf of drive-through restaurant uses, Site A would still require grading and site preparation, and the required construction equipment and schedule would remain similar to the proposed project. As shown in Table 4.5.C, automotive fuel consumption during construction would remain unchanged as compared to the proposed project.

Table 4.5.C: Alternative 2 Energy Consumption

Energy Type	Proposed Project		Alternative 1		Reduction from Proposed Project
	Annual Energy Consumption	Percentage Increase Countywide	Annual Energy Consumption	Percentage Increase Countywide	
Electricity Consumption	1,840,033 kWh	0.014 %	1,694,104 kWh	0.013%	8%
Natural Gas Consumption	19,536 therms	0.008 %	9,161 therms	0.003%	53%
Automotive Fuel Consumption					
Project Construction	381,084 gallons	2.176%	381,084 gallons	2.176%	0%
Project Operations	422,889 gallons	0.031 %	317,166 gallons	0.023%	25%

Source: *Energy Consumption Analysis* (ECORP Consulting, Inc. 2019).

kWh = kilowatt-hours

Operation. Under Alternative 2, daily trips would decrease approximately 25 percent as compared to the proposed project, and would therefore reduce operational fuel consumption. As shown in Table 4.5.C, Alternative 2 would result in the use of 105,722 less gallons of fuel per year during operations as compared to the proposed project. Additionally, natural gas consumption would be reduced by approximately 53 percent, and electricity consumption would be reduced by 8 percent during operation as compared to the proposed project.

Summary. Electricity, natural gas, and operational fuel consumption would be reduced under Alternative 2. However, construction-related fuel consumption would remain unchanged. Overall, impacts to energy under Alternative 2 are reduced, but similar to impacts associated with the proposed project. Regulatory Compliance Measure E-1 would still be applicable under Alternative 2 to ensure that the project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. With incorporation of Regulatory Compliance Measure E-1, Alternative 2 would have less than significant impacts with respect to energy. Because impacts related to energy for Alternative 2 would be less than those associated with the proposed project, cumulative impacts would also be less than cumulatively significant, and no mitigation would be required.

4.5.11.3 Alternative 3

Alternative 3 would allow for the future construction of a 161,385 sf Ganahl Lumber hardware store and lumber yard, a 399-space vehicle storage facility, and 4,000 sf of drive-through restaurant uses, which represents a reduction of 2,000 sf of drive-through restaurant use as compared to the proposed project. Specifically, Area A would provide 101 parking spaces, compared to 62 parking spaces provided as part of the project. Under Alternative 3, these additional parking spaces would be used by the drive-through restaurant use.

Most components of the proposed project, such as outdoor lighting, circulation and access, signage, utilities and drainage, sustainability features, landscaping, construction phasing, and grading, would not significantly change under the implementation of Alternative 3. Components specific to Area A, such as the location of walkways, retaining walls, fences, and gates, would also not change under Alternative 3. The modification and installation of existing and new utilities and infrastructure associated with the proposed project would still occur under Alternative 3. Under Alternative 3, similar to the proposed project, the entirety of Area A would be cleared, excavated, graded, and paved to accommodate surface parking and a building pad.

Construction. Although Alternative 2 would result in a reduction of 2,000 sf of drive-through restaurant uses, Site A would still require grading and site preparation, and the required construction equipment and schedule would remain similar to the proposed project. As shown in Table 4.5.D, automotive fuel consumption during construction would remain unchanged as compared to the proposed project.

Table 4.5.D: Alternative 3 Energy Consumption

Energy Type	Proposed Project		Alternative 1		Reduction from Proposed Project
	Annual Energy Consumption	Percentage Increase Countywide	Annual Energy Consumption	Percentage Increase Countywide	
Electricity Consumption	1,840,033 kWh	0.014%	1,767,064 kWh	0.014%	4%
Natural Gas Consumption	19,536 therms	0.008%	14,338 therms	0.008%	26%
Automotive Fuel Consumption					
Project Construction	381,084 gallons	2.176%	381,084 gallons	2.176%	0%
Project Operations	422,889 gallons	0.031%	367,913 gallons	0.027%	12%

Source: *Energy Consumption Analysis* (ECORP Consulting, Inc. 2019).

kWh = kilowatt-hours

Operation. Under Alternative 3, daily trips would decrease approximately 12 percent as compared to the proposed project, and would therefore reduce operational fuel consumption. As shown in Table 4.5.D, Alternative 3 would result in the use of 54,975 less gallons of fuel per year during operations as compared to the proposed project. Additionally, natural gas consumption would be reduced by approximately 26 percent, and electricity consumption would be reduced by 4 percent during operation as compared to the proposed project.

Summary. Electricity, natural gas, and operational fuel consumption would be reduced under Alternative 3 as compared to the proposed project. However, construction-related fuel consumption would remain unchanged under Alternative 3. Overall, impacts to energy under Alternative 3 are reduced, but similar to impacts associated with the proposed project. Regulatory Compliance Measure E-1 would still be applicable under Alternative 3 to ensure that the project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. With incorporation of Regulatory Compliance Measure E-1, Alternative 3 would have less than significant impacts with respect to energy. Because impacts related to energy for Alternative 3 would be less than those associated with the proposed project, cumulative impacts would also be less than cumulatively significant, and no mitigation would be required.

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