4.5 Energy

This section discusses energy use resulting from implementation of the 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 Estimator Model (CalEEModv2020.4.0) modeling results which is contained in Appendix C of this Draft Environmental Impact Report (DEIR).

4.5.1 Setting

The discussion of energy conservation most relevant to the proposed residential Project is focused on Project-generated electricity demand, natural gas demand, and transportation fuel demand.

Electricity

Electricity is a man-made resource. The production of electricity requires the consumption or conversion of renewable and non-renewable 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).

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. According to the California Energy Commission (CEC), total electricity consumption in the SCE service area in 2019 was 80,900 GWh. (27,300 GWh for the residential sector and 53,600 GWh for the non-residential sector). Total electricity consumption in Orange County in 2019 was 19,500 GWh (6,700 GWh for the residential sector and 12,800 GWh for the nonresidential sector).

Natural Gas

Natural gas is a non-renewable fossil fuel. 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 including heating buildings, generating electricity, and powering appliances such as stoves, washing machines and dryers, gas fireplaces, and gas grills.

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. According to the CEC, total natural gas consumption in the SoCalGas service area in 2019 was 5,425 million therms (2,420 million therms for the residential sector). Total natural gas

consumption in Orange County in 2019 was 625 million therms (380 million therms for the residential sector).

Petroleum Transportation Energy

Petroleum is also a non-renewable fossil fuel. According to the U.S. Energy Information Administration (EIA), gasoline is the most used transportation fuel in California, with 95.4 percent of all gasoline being consumed by passenger vehicles including light-duty cars, pickup trucks, and sport utility vehicles. In 2019, total gasoline consumption in California was 360,234 thousand barrels (15.1 billion gallons) or 1,819.9 trillion British Thermal Units (BTU). Of the total gasoline consumption, 343,677 thousand barrels (14.4 billion gallons) or 1,736.6 trillion BTU were consumed for transportation. Based on fuel consumption obtained from the CARB's California Emissions Factor Model (EMFAC2021), 131 million gallons of diesel and 1.2 billion gallons of gasoline are estimated to be consumed from vehicle trips in Orange County in 2021.

4.5.2 Existing Site Conditions

The Project site is primarily undeveloped and vacant with the exception of drainage facilities installed within the remediated hillside that forms the west half of the site, and as a result the does not consume energy as previously mentioned.

4.5.3 Related Policies and Regulations

Federal Regulations

Energy Policy and Conservation Act

Enacted in 1975, this legislation established fuel economy standards for new light-duty vehicles (autos, pickups, vans, and sport-utility vehicles). The law placed responsibility on the National Highway Traffic and Safety Administration, a part of the U.S. Department of Transportation, for establishing and regularly updating vehicle standards. The United States Environmental Protection Agency (EPA) administers the Corporate Average Fuel Economy program, which determines vehicle manufacturers' compliance with existing fuel economy standards 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 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 and has successfully increased passenger car and light duty truck fuel efficiencies.

Intermodal Surface Transportation Efficiency Act of 1991

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address

national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

Energy Star Program

In 1992, the EPA introduced Energy Star as a voluntary labeling program to identify and promote energy-efficient products to reduce GHG emissions. The program applies to major household appliances, lighting, computers, and building components, such as windows, doors, roofs, and heating and cooling systems. Under this program, appliances that meet specification for maximum energy use established under the program are certified to display the Energy Star label. In 1996, the EPA joined with the Energy Department to expand the program, which now includes qualifying commercial and industrial buildings as well as homes.

The Transportation Equity Act for the 21st Century

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

Energy Independence and Security Act

The Energy Independence and Security Act of 2007 (EISA) facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;
- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and
- While superseded by the EPA and NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel

economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green jobs."

Safer Affordable Fuel-Efficient Vehicles Rule

Issued on March 31, 2020, by the NHTSA and EPA, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for model years 2021-2026 passenger cars and light trucks (SAFE Vehicles Rule) amended the CAFE and GHG emission standards established in 2012. The SAFE Vehicles Rule sets standards to increase fuel economy and carbon dioxide standards. Also, it withdrew the California Waiver for the California Advanced Clean Car program, Zero Emissions Vehicle mandate, and GHG emission standards for model years 2021 through 2026.

State Regulations

Senate Bill 1389, Energy: Planning and Forecasting

In 2002, the Legislature passed Senate Bill (SB) 1389 Energy: Planning and Forecasting, which required the California Energy Commission (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 zero emission (ZE) vehicles and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

California Energy Action Plan

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

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.

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's Energy Efficiency Standards for Residential and Nonresidential Buildings

California's Energy Efficiency Standards for Residential and Nonresidential Buildings was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy-efficient buildings require less electricity. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020. The CEC anticipates that nonresidential buildings will use approximately 30 percent less energy (CEC 2019). The CalEEMod defaults for Title 24 – Electricity and Lighting Energy were reduced by 30 percent in order to reflect consistency with the 2019 Title 24 standard.

Low Carbon Fuel Standard

California is implementing the world's first Low Carbon Fuel Standard for transportation fuels, pursuant to both Executive Order (EO) S-01-07 (signed January 2007) and Assembly Bill (AB) 32. The standard requires a reduction of at least 10 percent in the CO intensity of the State's transportation fuels by 2020. This reduction is aimed to reduce GHG emissions in 2020 by 17.6 million metric tons (MMT) of carbon dioxide equivalent (CO_2e). Also, in 2007, AB 118 created the Alternative and Renewable Fuel and Vehicle Technology Program. The CEC and the California Air Resources Board (CARB) administer this program, which provides funding for alternative fuel and vehicle technology research, development, and deployment in order to attain the State's climate change goals, achieve the State's petroleum reduction objectives and clean air

and Greenhouse Gas (GHG) emission reduction standards, develop public and private partnerships, and ensure a secure and reliable fuel supply.

Senate Bill 375

In addition to vehicle emissions regulations and the Low Carbon Fuel Standard, the third effort to reduce GHG emissions from transportation is the reduction in the demand for personal vehicle travel (i.e., VMT). This measure was addressed in September 2008 through the Sustainable Communities and Climate Protection Act of 2008, or SB 375. The enactment of SB 375 initiated an important new regional land use planning process to mitigate GHG emissions by integrating and aligning planning for housing, land use, and transportation for California's 18 MPOs. The bill directed the CARB to set regional GHG emission reduction targets for most areas of the State. SB 375 also contained important elements related to federally mandated regional transportation plans and the alignment of State transportation and housing planning processes.

Regional Regulations

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

Local Regulations

Laguna Niguel General Plan

The Laguna Niguel General Plan (LNGP) contains goals, policies, and plans that are intended to guide land use and development decisions. The Public Facilities Element was designed to ensure efficient development and the use of modern technologies to minimize energy demand and consumption. Relevant policies are listed below.

Public Facilities Element

Goal 8. Adequate electrical, natural gas, and telecommunications systems to meet the demand of new and existing development.

- **Policy 8.1.** Encourage development that minimizes net energy use and consumption of natural resources.
- **Policy 8.3.** Locate utilities to minimize aesthetic impacts on the surrounding area.

Development proposals will be assessed for potential impacts on energy resources according to CEQA requirements. The City will require that significant impacts either be avoided or mitigated, which may involve further investigation and resource recovery.

4.5.4 Thresholds of Significance

Criteria for determining the significance of impacts related to energy are based on criteria contained in Appendix G of the State CEQA Guidelines and the City's CEQA Manual. The proposed Project could have a significant impact on the environment if it would result in any of the following.

Threshold EN-1 *Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

Threshold EN-2 *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

With regard to Threshold EN-1, this analysis relies upon Appendix F of the State CEQA Guidelines. Appendix F of the State CEQA Guidelines was prepared in response to the requirement in PRC Section 21100(b)(3), which states that an EIR shall include a detailed statement setting forth "mitigation measures proposed to minimize significant effects of the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy." In addition, Appendix F of the State CEQA Guidelines states that the means of achieving the goal of energy conservation includes the following:

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.

Methodology

The analysis of electricity/natural gas usage is based on the CalEEMod modeling conducted by Enplanners (October 2021) which quantifies energy use for Project operations. Fuel consumption (diesel fuel and gasoline) from vehicle trips during operation was estimated for the opening year (2023) of the proposed Project based on trip estimates from the CalEEMod model and the Project's Traffic Assessment (TA) and fuel efficiencies from the California Air Resources Board (CARB) EMFAC2017 model. Estimates of fuel consumption (diesel fuel and gasoline) from construction trucks and construction worker vehicles was based on trip estimates from the CalEEMod model and the TA and fuel efficiencies from the CARB EMFAC2021 model.

The analysis focuses on the four sources of energy that would be utilized by the proposed Project: electricity, natural gas, the equipment and vehicle 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 residential land uses in Orange County. The electricity/natural gas use of the proposed Project is analyzed as a whole on an annual scale.

4.5.5 Project Design Features and Standard Conditions of Approval

PDF EN-1 The Project would be required to adhere to applicable California Building Code, Title 24, Part 6, energy efficiency standards as described in Section 4.5.2 above.

4.5.6 Environmental Impact Evaluation

Threshold EN-1 *Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

Less Than Significant Impact.

Construction. The proposed Project would require site preparation, grading including export of approximately 130 cubic yards of soil, building construction, paving, and architectural coatings (painting) activities during construction as seen below in Table 4.5-1.

Table 4.5-1. Construction Duration

Phase Name	Start Date	End Date	Days
Site Preparation	10/03/22	10/14/22	10
Grading	10/05/22	11/01/22	20
Building Construction	10/11/22	07/17/23	200
Paving	07/18/23	07/31/23	10
Architectural Coating	08/01/23	08/14/23	10

Source: Construction activity based upon information provided by the Project applicant[1]

Construction of the proposed Project would require energy for the manufacture and transportation of construction materials, preparation of the site for grading and building activities, and construction of the building. All or most of this energy would be derived from nonrenewable resources. Petroleum fuels (e.g., diesel and gasoline) would be the primary sources of energy for these activities. However, construction activities are not anticipated to result in an inefficient use of energy as gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the project. Energy (i.e., fuel) usage on the Project site during construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources. Construction of the proposed Project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources and construction-related would be less than significant. No mitigation is required.

Construction of the 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

[1] A conservative (compressed) schedule was used to evaluate air quality impacts since a compressed schedule produces greater daily emissions.

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. The use of energy resources would fluctuate according to the phase of construction. The majority of construction equipment during grading would be gasoline-powered or diesel-powered, and the later construction phases would be electricity-powered. 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, vehicles miles traveled, fuel efficiency of vehicles, and travel modes.

The following tables represent elements of energy use during project construction-related activities and equipment. Table 4.5-2 lists the equipment used during each phase of construction for the estimated duration in days and total equipment usage in hours.

Phase	Off-road Equipment Type	Amount	Usage Hour/ Day	Total Usage Days	Total Usage Hours/ Equipment
Site Preparation	Skid Steer Loaders	1	8	10	80
	Rubber Tired Dozers	1	7	10	70
	Tractors/Loaders/Backhoes	1	8	10	80
Grading	Graders	1	8	40	640
	Rubber Tired Dozers	1	8	40	320
	Tractors/Loaders/Backhoes	2	8	40	1,280
Building Construction	Cranes	1	6	200	1,200
	Forklifts	1	6	200	1,200
	Generator Sets	1	8	200	1,600
	Tractors/Loaders/Backhoes	1	6	200	1,200
	Welders	3	8	200	4,800
Paving	Cement Mortar Mixers	1	6	10	60
	Pavers	1	6	10	60
	Paving Equipment	1	8	10	80
	Tractors/Loaders/Backhoes	1	8	10	80
	Rollers	1	7	10	70
Architectural Coating	Air Compressors	1	6	10	60

Table 4.5-3 provides EMFAC2017 the horsepower ratings and load factors used to estimate the fuel consumption of construction equipment.

Table 4.5-2. Construction Off-Road Equipment

Phase	Off-road Equipment Type	Amount	Usage Hour/ Day	Total Usage Days	Total Usage Hours/ Equipment
Site Preparation	Skid Steer Loaders	1	8	10	80
	Rubber Tired Dozers	1	7	10	70
	Tractors/Loaders/Backhoes	1	8	10	80
Grading	Graders	1	8	40	640
	Rubber Tired Dozers	1	8	40	320
	Tractors/Loaders/Backhoes	2	8	40	1,280
Building Construction	Cranes	1	6	200	1,200
	Forklifts	1	6	200	1,200
	Generator Sets	1	8	200	1,600
	Tractors/Loaders/Backhoes	1	6	200	1,200
	Welders	3	8	200	4,800
Paving	Cement Mortar Mixers	1	6	10	60
	Pavers	1	6	10	60
	Paving Equipment	1	8	10	80
	Tractors/Loaders/Backhoes	1	8	10	80
	Rollers	1	7	10	70
Architectural Coating	Air Compressors	1	6	10	60

Table 4.5-3. Off-Road Construction Equipment Diesel Fuel Usage

Phase	Off-Road Equipment Type	Horsepower[1]	Load Factor[1]	Total Usage Hours/ Equipment	Horsepower - Hour[2]	Fuel Usage (gallons)[3]
Site Preparation	Skid Steer Loaders	65	0.37	80	7,696	394
	Rubber Tired Dozers	97	0.37	70	107,383	5,498
	Tractors/ Loaders/ Backhoes	247	0.40	80	147,805	7,568
Total Fuel Use: Site Preparation (gallons)						**13,460**
Grading	Graders	187	0.41	640	49,069	2,512
	Rubber Tired Dozers	247	0.40	320	31,616	1,619
	Tractors/ Loaders/ Backhoes	97	0.37	1,280	45,939	2,352
Total Fuel Use: Grading (gallons)						**6,483**
Building Construction	Cranes	231	0.29	1,200	80,388	4,115
	Forklifts	89	0.20	1,200	21,360	1,093

Phase	Off-Road Equipment Type	Horsepower[1]	Load Factor[1]	Total Usage Hours/ Equipment	Horsepower - Hour[2]	Fuel Usage (gallons)[3]
	Welders	46	0.45	4,800	99,360	5,087
	Generator Sets	84	0.74	1,600	99,456	5,092
	Tractors/ Loaders/ Backhoes	97	0.37	1,200	43,068	2,205
Total Fuel Use: Building Construction (gallons)						**17,592**
Paving	Cement and Mortar Mixers	9	0.56	60	302	15
	Pavers	130	0.42	60	4,368	223
	Paving Equipment	132	0.36	80	3,801	194
	Tractors/ Loaders/ Backhoes	97	0.37	80	2,871	174
	Rollers	80	0.38	70	2,128	108
Total Fuel Use: Paving (gallons)						**714**

Source: CalEEMod. Compiled by Enplanners (August 2021).

1. Load factor and horsepower are CalEEMod defaults for the equipment type.
2. Horsepower-Hour is the basis for the fuel calculation. HP-Hour is calculated using the following formula: HP-Hour = Total Hours × LF × HP.
3. Off-road mobile source fuel usage is calculated using a fuel usage rate of 0.0512 gallon of diesel per horsepower (HP)-hour. This is calculated based on diesel.

CalEEMod = California Emissions Estimator Model

Total fuel consumption in Orange County totaled 1.46 billion gallons in 2019. Vehicle consumption accounts for the majority of the total fuel consumption in California. In 2019, 164 million gallons of diesel fuel and 1,278 million gallons of gasoline were consumed from vehicle trips in Orange County based on fuel consumption emission totals (CARB 2020). Compared to the annual fuel consumption from vehicle trips in Orange County, the estimated diesel fuel consumption of 154,294 gallons from off-road construction equipment during construction would be a small fraction of the annual diesel fuel consumption in Orange County.

Fuel use from construction trucks and construction worker vehicles traveling to the project site was based on the estimated number of trips that project construction would generate and the average trip distance using the default CalEEMod assumptions. Table 4.5-4. Construction Worker Vehicle Gasoline Fuel Use shows construction on-road vehicle gasoline fuel consumption for construction worker vehicles traveling to-and-from the project site daily.

As shown in Table 4.5-4, the construction worker trips would consume an estimated 28,612 gallons of gasoline during project construction. This would represent a small percentage of the annual gasoline consumption in Orange County. Impacts related to energy use during construction would be temporary and would be relatively small in comparison to Orange County's overall usage and

the State's available energy sources. For these reasons, project construction would not result in the wasteful, inefficient, or unnecessary consumption of energy resources. Therefore, project impacts would be less than significant, and no mitigation is required.

Table 4.5-4. Construction Worker Vehicle Gasoline Fuel Use

Phase	Total One-Way Trips/Day	Total Days	Trip Length (miles)	Total Vehicle Miles Traveled (VMT)	Gasoline Fuel Efficiency (miles/gallon)	Fuel Usage (gallons/year)
Site Preparation	8	10	14.70	1,176	22.0	53
Grading	10	20	14.70	2,940	22.0	133
Building Construction	16	200	14.70	47,040	22.0	2,138
Paving	13	10	14.70	1,911	22.0	86
Architectural Coating	3	10	14.70	441	22.0	20
Total Gasoline Fuel Usage						**2,430**

Sources: CalEEMod and EMFAC2017 (CARB 2019).
CalEEMod = California Emissions Estimator Model
CARB = California Air Resources Board

Operation

Energy use consumed during operation of the proposed Project would be associated with electricity consumption and gasoline to fuel project-related vehicle trips. In addition, electricity and natural gas use was estimated for the Project using default energy intensities by land use type in CalEEMod. Table 4.5-5 illustrates the estimated increase in electricity, natural gas, and fuel demand associated with the proposed Project. Although Table 4.5.E shows a significant increase in energy use from the Project sites current vacancy to operation, the Project has been designed and will comply with the County's Green Building Standards and the State's CALGreen Building Code. The Project will include such energy efficient standards of which will reduce energy consumption impacts to less than significant by including energy efficient lighting and appliance fixtures, energy-efficient heaters and air conditioning systems, and/or other appliances. By virtue of compliance with these codes, operation of the Project would not cause wasteful, inefficient, or unnecessary consumption of energy resources.

Table 4.5-5. Existing and Estimated Annual Energy Use at the Proposed Project

Land Use	Electricity Use (kWh/year)	Natural Gas Use (therms/year)	Residents, Employees, and Visitors Vehicles Gasoline (gallons/year)
Existing Energy Usage			
Vacant Lot	0	0	0
Proposed Project Energy Usage			
Dwellings	106,311	363,120	24,906
Net Energy Usage	**106,311**	**363,120**	**24,906**

Source: CalEEMod (California Emissions Estimator Model)

Threshold EN-2 *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

Less than Significant Impact. Energy usage on the Project site during construction would be temporary in nature as mentioned previously in Threshold EN-1. In addition, energy usage associated with operation of the proposed project would be relatively small in comparison to the State's available energy sources for which a majority of the energy will be consumed once the Project is occupied will be related to lighting, cooling, and ventilation. Also, California's energy conservation planning actions are conducted at a regional level, and such impacts resulting from the project would be negligible and would not conflict with or obstruct California's energy conservation plans as described in the CEC's 2019 Integrated Energy Policy Report.

The proposed Project would be required to comply with the California Building Code (CBC) and the CALGreen Code pertaining to energy and water conservation standards in effect at the time of construction plan check submittal to the City and ultimately construction of the renewable energy and energy efficiency. Impacts would be less than significant, and no mitigation is required.

4.5.7 Cumulative Impacts

Less than Significant Impact. The areas considered for cumulative impacts to electricity and natural gas supplies are the service areas of SCE and SoCalGas, respectively, described above in Section 4.5.5 Threshold EN-1. Other projects would generate increased electricity and natural gas demands. However, all projects within the SCE and SoCalGas service areas would be required to comply with the Building Energy Efficiency Standards and CALGreen, which would contribute to minimizing wasteful energy consumption and promoting renewable energy sources. Therefore, cumulative impacts would be less than significant, and project impacts would not be cumulatively considerable.

4.5.8 Summary of Mitigation Measures

Impacts would be less than significant, and no mitigation is required.

4.5.9 Significant Environmental Impacts

The analysis above indicates that the project will not exceed significance criteria for energy conservation impacts. Therefore, all energy conservation impacts are **less than significant**, and no mitigation measures are required.

4.5.10 References

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