

ENVIRONMENTAL SETTING

Existing Conditions

The Southern California Edison Company (SCE) provides electrical service to the City. The Malibu area is served by a system of SCE distribution substations and circuits. In 2013 SCE delivered more than 87 billion kilowatt hours (kWh) of electricity.¹

Service to the Project site and the surrounding Civic Center area is available through adjacent or nearby electricity lines in the Nicholas Distribution Circuit, with a 16 kilovolt (kV) circuit voltage from the Tapia 66/16 kV Distribution Substation. Facilities within the immediate vicinity of the project site include two transformers located along Pacific Coast Highway (PCH) and Civic Center Way, as well as overhead power lines, which traverse the project site between Malibu Canyon Road and PCH.

The applicant is working with SCE to place the overhead lines currently crossing the project site underground and to relocate two transformers in addition to adding transformers to the project site for additional power. All plans will be submitted to and approved by the SCE before the approval of grading permits.

Deregulation

In 1996, the California Assembly voted unanimously to deregulate the state's electric industry. Under deregulation, the state's investor-owned utilities, Southern California Edison (SCE) and Pacific Gas & Electric (PG&E), were required to sell most of their power generating plants to unregulated private companies. They were required to transfer operational control of transmission lines and power grids to a private nonprofit organization – the Independent System Operator (ISO). The companies retained control and ownership of the distribution system. The California Public Utilities Commission (PUC) transferred pricing to the California Power Exchange (PX), overseen by the Federal Energy Regulatory Commission (FERC). The PX is a private, nonprofit organization that in concert with the ISO buys electricity according to need by auction from in-state power plants and elsewhere on the open market.

¹ Southern California Edison Website, https://www.sce.com/wps/portal/home/about-us/who-we-are!/ut/p/b1/hc_RCoIwFABgZ-kFPKemZpeTZM6gMgXnbkjjLUFdmeTrp-BtdU5--H74D0gQINviU-mir0xb1FOW7nXtMRryBDILbQe5v9kS5nOSBs4I8hHgJ6P4r5-BXCJ7257BjmEQRqcJxAQ5ifGYUEoQ3RksbIhA6tqU4z9ZAJIdXkrQaTltS-JpkJ26q0511sO8exDDMFjaGF0r62YaeDYCq3Nzyelq9QUlRQiH/dl4/d5/L2dBISEvZ0FBIS9nQSEh/, June 5, 2014

Deregulation has led to a certain amount of instability in the available supply of electricity in California. Energy shortages led to rolling blackouts throughout the summer of 2000 in Southern California. New energy efficiency measures were developed in 2001 in response to the energy crisis of 2000.

Energy Conservation

Energy consumption from new buildings in California is regulated by the state Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations. The efficiency standards apply to new construction 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 that these standards meet or exceed those provided in Title 24 guidelines. Examples of these guidelines are listed below:

- Roofing products installed in construction to take compliance credit for reflectance and emittance shall have a clear packaging label that lists the reflectance and emittance tested in accordance with ASTM Standards.
- Service water-heating systems of equipment must be equipped with automatic temperature controls capable of adjusting for the intended use.
- All exterior lighting of over 100 watts attached to buildings with air conditioning systems shall have source efficacy of at least 60 lumens per watt or be controlled by a motion sensor.

REGULATORY FRAMEWORK

Federal

Federal Energy Regulatory Commission

On October 1, 1977, the Federal Energy Regulatory Commission (FERC) was created through the Department of Energy Organization Act, and FERC assumed the responsibilities of its predecessor, the Federal Power Commission. FERC's legal authority comes from the Federal Power Act of 1935, the Natural Gas Act (NGA) of 1938, and the Natural Gas Policy Act of 1992. It is an independent regulatory agency within the Department of Energy that:

- regulates the transmission and sale of natural gas for resale in interstate commerce;
- regulates the transmission of oil by pipeline in interstate commerce;
- regulates the transmission and wholesale of electricity in interstate commerce;
- licenses and inspects private, municipal, and state hydroelectric projects;

- oversees environmental matters related to natural gas, oil, electricity, and hydroelectric projects;
- administers accounting and financial reporting regulations and conduct of jurisdictional companies; and
- approves site choices as well as abandonment of interstate pipeline facilities.

State

California Building Energy Efficiency Standards

Title 24, Part 6 of the California Code of Regulations, known as the Building Energy Efficiency Standards, was established 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 efficiency technologies and methods. After adoption of the California Energy Security and Reliability Act of 2000 (AB 970), the California Energy Commission produced changes to the Building Energy Efficiency Standards. In November 2003, the California Energy Commission adopted these updated standards. The California Building Standards Commission adopted the 2005 changes in July 2003, and the updated standards took effect on October 1, 2005. Included in this update were requirements identified under senate Bill 5X of 2001, part of which required the California Energy Commission to adopted energy efficiency standards for outdoor lighting. The 2013 Building Energy Efficiency Standards took effect on July 1, 2014 mandatory measures include:

- Duct sealing in all climate zones
- Residential Heating, ventilation, and air conditioning (HVAC) system improvements including fan power and airflow testing or return air to increase heating or cool air output by improving the return of flow air to the air handler.
- Require insulation on pipes 0.75 inch and larger
- Require 250 square feet of a solar ready zone on single-family roofs

Prescriptive measures include:

- Reducing the U-factor² on high performance windows, to decrease the rate of heat loss

² The rate of heat loss is indicated in terms of the U-factor (U-value) of a window assembly. The lower the U-factor, the greater a window's resistance to heat flow and the better its insulating properties.

- Increase the minimum standard for duct insulation for climate zones 6,³ 7, and 8, to reduce air leaking from ducts
- Adding Radiant Barrier⁴ requirements to Climate Zones 3, and 5 through 7⁵
- Requiring the installation of night ventilation⁶ systems
- Increasing wall insulation to R15/4 in all climate zones

California Independent System Operator

The California Independent System Operator (CALISO) is a not-for-profit public-benefit corporation charged with operating the majority of California's high-voltage wholesale power grid. Balancing the demand for electricity with an equal supply of megawatts, the independent system operator (ISO) is the impartial link between power plants and the utilities that serve more than 30 million consumers. The ISO provides equal access to the grid for all qualified users and strategically plans for the transmission needs. CALISO was established in 1998 and operates the region's power grid and wholesale electric markets so as to:

- maintain reliable electric services;
- improve the efficiency of electric system operations, including the provision of open and non-discriminatory access to the transmission facilities under its control; and,
- identify and promote new investments in transmission infrastructure in a coordinated, open, transparent, and participatory manner.

CALISO covers most of California and northern Baja California (Mexico). CALISO uses natural gas sources to supplement its marginal supply. Generating capacity in the summer of 2006 was 56,347 megawatts (MW) with a reserve capacity of 6,077 MW. CALISO's reserve margin in 2006 was 12 percent. CALISO's peak summer demand in 2006, 2007, 2008, and 2009 was 50,085 MW, 48,490 MW, 46,814, and 45,809, respectively.

In late July 2006, load records were set in regions covered by CALISO, Los Angeles Department of Water and Power, and Sacramento Municipal Utility District. A severe heat wave resulted in 100+ degree

³ A small portion located in the central eastern area of California is located within Climate Zone 6. No portions of California are located in Climate Zones 7 or 8.

⁴ Radiant barriers are installed in homes, usually in attics to primarily to reduce summer heat gain and reduce cooling costs. The barriers consist of a highly reflective material that reflects radiant heat rather than absorbing it.

⁵ California is comprised of the following Climate Zones: 2, 3, 4, (marine and non-marine), 5 and 6.

⁶ Night ventilation systems keep windows and other passive ventilation openings closed during the day, but open at night to flush warm air out of the building and cool thermal mass for the next day.

temperatures over most of the state, with some areas topping 110 degrees. California's utilities, CALISO, and state officials urged consumers to conserve. CALISO declared a Stage 2 Emergency (calling for conservation) on July 24th when operating reserves dropped below 5 percent, which allowed CALISO to direct participating utilities to curtail non-firm load and customers on interruptible programs. Conservation efforts, curtailed load, and distribution system outages kept peak load under the 52,000 MW that CALISO anticipated that day, with the peak reaching 50,270 MW on July 24th. No curtailment of non-firm load was needed. The proposed project is located in CALISO zone SP-15.

California Public Utilities Commission

The California Public Utilities Commission (PUC) regulates privately owned telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation companies, in addition to authorizing video franchises. Among the PUC's goals for energy regulation are: to establish service standards and safety rules, authorize utility rate changes, oversee markets to inhibit anti-competitive activity, prosecute unlawful utility marketing and billing activities, govern business relationships between utilities and their affiliates, resolve complaints by customers against utilities, implement energy efficiency and conservation programs and programs for the low-income and disabled, oversee the merger and restructure of utility corporations, and enforce The California Environmental Quality Act (CEQA) for utility construction.

Local

City of Malibu General Plan

The City's General Plan is primarily a policy document that sets goals concerning the community and gives direction to growth and development. In addition, it outlines the programs that were developed to accomplish the goals and policies of the General Plan. The Plan's Conservation Element serves as a guide for the conservation, protection, restoration, management, development, and appropriate and responsible utilization of the City's utilities. The Conservation Element includes goals and policies pertaining to electricity service including educating the community on the importance of energy conservation, encouraging state of the art energy efficiency standards for all new construction, protecting solar access and encouraging the use of solar and other non-polluting renewable energy sources. The Conservation Element includes the following goals and policies pertaining to the proposed project and energy resources:

- CON Goal 3:** Energy conserved.
- CON Policy 3.1.1:** The City shall educate the community regarding the importance of and techniques for energy conservation.
- CON Policy 3.1.2** The City shall encourage state-of-the-art energy efficiency standards for all new construction design.
- CON Policy 3.1.3** The City shall protect solar access.
- CON Policy 3.1.4** The City shall encourage the use of solar and other non-polluting, renewable energy sources.

PROJECT DESIGN FEATURES

Several sustainable design features are included in the proposed project's design to decrease the project's electricity consumption. Landscape features include green walls and mature trees to provide shade and reduce the heat island effect and the need for air conditioning. Bicycle parking, electrical vehicle charging stations, and walkways will reduce energy usage and air pollution from vehicle trips. High efficiency systems including filtration, air conditioning would be installed, and ENERGY STAR windows and appliances. Lighting features would include LED lighting where applicable, daylight sensor controls, lighting occupancy sensors, and bi-level⁷ lighting controls in parking areas.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

The following thresholds for determining the significance of impacts related to electricity were taken from the City of Malibu General Plan EIR. Impacts to electricity are considered significant if the proposed project would:

- result in activities which use large amounts of electricity or which use electricity in a wasteful manner, or
- result in an increased demand for electricity which exceeds either the existing supply or capacity of the infrastructure (or financially feasible infrastructure that could be developed) required to service additional demand and/or equipment (electric lines and substations, etc.), or
- alter the nature of demand for electricity services causing increased costs or service delivery limitations.

⁷ Bi-level controls switch lighting between a high and low setting rather than on or off.

Impact Analysis

- Threshold 3.14.1-1** **Result in activities which use large amounts of electricity or which use electricity in a wasteful manner**
- Threshold 3.14.1-2** **Result in an increased demand for electricity which exceeds either the existing supply or capacity of the infrastructure (or financially feasible infrastructure that could be developed) required to service additional demand and/or equipment (electric lines and substations, etc.)**
- Threshold 3.14.1-3** **Alter the nature of demand for electricity services causing increased costs or service delivery limitations**

During construction of the proposed project energy would be required to serve construction trailers, power tools, tool sheds, work and storage areas, and other facilities associated with development activities. This energy would be expected to be supplied by gasoline, propane, or diesel-powered generators provided by construction crews, rather than drawing power from the local electrical grid. The amount of energy that would be necessary for construction would be minimal (i.e., power tools). Temporary service outages may result in the surrounding area as construction workers upgrade and extend the necessary infrastructure to service the project site. Such temporary disruptions in service are generally planned in advance to avoid peak demand times, however, inadvertent or unexpected periodic electricity outages may occur. As such, construction impacts would be less than significant.

The project site is currently vacant and does not support any uses that consume electricity resources. The proposed project would require the use of electricity for lighting, power, and other uses such as refrigeration for the Whole Foods as well as for potential restaurant uses. As such, implementation of the proposed project would result in an increase in the amount of electricity consumed on the project site. Electricity consumption associated with the proposed project was calculated using generation factors based on land use classifications in accordance with the 1993 South Coast Air Quality Management District (SCAQMD) *CEQA Air Quality Handbook*. The commercial/retail nature of the proposed project would not demand excessive amounts of energy which would exceed the capacity of the existing infrastructure. As shown in **Table 3.14.1-1, Proposed Project Electricity Consumption**, the proposed project, as a whole, is anticipated to consume approximately 1,214.36 kWh of electricity per year (approximately 3.3 kWh per day).

**Table 3.14.1-1
Proposed Project Electricity Consumption**

Building	Building Size	Consumption Rate (kWh/1,000 sf)	Yearly Consumption (kWh)
Whole Foods	24,549 sf	40.69	998.89
Commercial/Retail ¹	13,876 sf	12.8	177.61
Parking Lot	43,225 sf	0.876	37.86
Total Electricity Consumption			1,214.36

Source: SCAQMD, California Emissions Estimator Model Guide (CalEEMod), Appendix D, Table 8.1, non-historical values

Notes: The City of Malibu is located in climate zone 8

It should be noted that the Title 24 standards were updated in 2013. The 2013 standards will take effect July 1, 2014. The consumption values taken from CalEEMod do not reflect the 2013 standards.

¹ *Includes Building 1, 2, and 3*

Strip Mall electricity consumption was used as a proxy for Commercial/Retail

kWh = kilowatt-hour; sf = square feet.

Based on the estimates provided in **Table 3.14.1-1**, the proposed project would comprise approximately 0.0000001 percent of all electricity delivered by SCE in 2013; however, the electricity estimates provided in **Table 3.14.1-1** are considered to be conservative as they do not factor in the energy efficiency features of the proposed project. These include:

- High efficiency AC equipment
- High efficiency HVAC systems such as variable refrigerant flow
- CFC and HCFC free AC equipment
- Economizer on AC equipment
- Energy recovery/enthalpy wheel
- High efficiency electric motor
- Effective ventilation system and proper air circulation
- Hot water solar heating, where possible
- Use exposed concrete as finished floor where possible
- Cool roof
- Install demonstrated long-term durability
- ENERGY STAR appliances

- ENERGY STAR windows
- Efficient insulation for envelope, ducts, and piping
- High efficiency filtration
- Provide for future installation of renewable energy systems
- Passive solar design
- Use building materials with recycled content to extent possible
- Use rapidly renewable materials
- Provide narrow floor plates to enable natural ventilation
- Introduce daylight to indoor spaces and reduce artificial lighting
- Provide shading on south and west facing windows
- Provide ceiling fans

Thus, the proposed project would not result in the consumption of significant amounts of electricity, use electricity in a wasteful manner, increase demand for electricity which exceeds either the existing supply or capacity of the infrastructure, or alter the nature of demand for electricity services causing increased costs or service delivery limitations. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts

Impacts would be less than significant.

Cumulative Impacts

Implementation of the proposed project in conjunction with the related projects would further increase the demand for electricity service. As shown in **Table 3.14.1-2, Proposed Project and Related Projects Electricity Consumption**, the total electricity consumed by the related projects and the proposed project would be approximately 2,235,211.8 kWh per year (approximately 6,123.86 kWh per day).

**Table 3.14.1-2
Proposed Project and Related Projects Electricity Consumption**

Land Use	Building Size (Units/sf)	Consumption Rate (kWh/1,000 sf or kWh/du)	Yearly Consumption (kWh)
Residential			
Single-Family	57 units	7,089.66	404,110.62
Condominium/Townhome	40 units	4,324.63	172,985.2
Restaurant	13,004 sf	39.33	511.44
Hotel	274,936 sf	10.09	2,774.10
Commercial/Office ¹	68,639 sf	15.62	1,072.14
Commercial/Retail ²	81,627 sf	12.8	1,044.82
Regional Shopping Center	129,423	12.8	1,643,814.4
Educational Facilities			
High School	35,315 sf	6.91	244.02
Satellite Junior College Campus	25,000 sf	14.05	351.25
Public Facilities			
Fire Station ³	1 unit (6,033 sf)	7,089.66	7,089.66
		Subtotal	2,233,997.5
		Proposed Project	1,214.36
		Total	2,235,211.8

Source: SCAQMD, California Emissions Estimator Model Guide (CalEEMod), Appendix D, Table 8.1

Notes: The City of Malibu is located in climate zone 8

It should be noted that the Title 24 standards were updated in 2013. The 2013 standards will take effect July 1, 2014. The consumption values taken from CalEEMod do not reflect the 2013 standards.

kWh = Kilowatt Hour, sf = square feet, du = dwelling unit.

¹ General Office building consumption was used as a proxy for Commercial/Office

² Strip Mall electricity consumption was used as a proxy for Commercial/Retail

³ Single-Family electricity consumption was used as a proxy for the Fire Station

This increase in demand could require the installation of additional service equipment including lines and substations. The construction of any power distribution facilities required in association with any related project may cause limited local short-term impacts in the forms of unavoidable noise, air pollution, and traffic congestion during construction. All new development served by SCE would be required to pay applicable fees assessed by the utility company to provide service to the specific project. Further, SCE would not provide service to new developments if there were not adequate supplies and infrastructure to maintain existing service levels and meet the anticipated demands of the specific development requesting service. In addition, SCE maintains projection demands to ensure minimal disruption (if any) for existing customers and to be able to meet future electricity demands for proposed projects. As all proposed projects which could result in potential electricity impacts would be required to undergo an environmental review process, cumulative impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Residual Impacts

Less than significant