IV. Environmental Impact Analysis

J. Energy Resources

1. Introduction

This section of the Draft EIR analyzes the Project’s potential impacts on energy resources. This analysis was prepared pursuant to Appendix F, Energy Conservation, of the CEQA Guidelines, which requires an EIR to include a discussion of potential energy impacts, with particular emphasis on avoiding or reducing the inefficient, wasteful and unnecessary consumption of energy. In accordance with the goal of Appendix F to conserve energy by decreasing overall per capita energy consumption, decreasing reliance on fossil fuels, and increasing reliance on renewable energy source, this section of the Draft EIR focuses on the following three energy resources: electricity, natural gas, and transportation-related energy (petroleum-based fuels). This section evaluates the demand for energy resources attributable to the Project during construction and operation, demonstrates whether the current and planned electrical, natural gas, and petroleum-based fuel supplies and distribution systems are adequate to meet the Project’s forecasted energy consumption, and makes a determination regarding the Project’s use and conservation of energy resources. The information presented herein is based, in part, on the Energy Calculations for 5901 Sunset Boulevard provided in Appendix J of this Draft EIR.

2. Environmental Setting

a. Regulatory Framework

(1) State

(a) Senate Bill 1389

Senate Bill 1389 (Public Resources Code Sections 25300–25323; SB 1389) requires the development of an integrated plan for electricity, natural gas, and transportation fuels. The California Energy Commission must adopt and transmit to the Governor and Legislature an Integrated Energy Policy Report every two years. The most recently completed report, the 2013 Integrated Energy Policy Report, addresses the State’s “loading order,” reduction of demand response, renewable energy, electricity system,
progress toward its 2050 greenhouse gas (GHG) reduction goals, natural gas supplies, and the transportation sector’s contribution toward the State’s GHG emissions.\(^1,2\)

**(b) Assembly Bill 32**

Assembly Bill 32 (Health and Safety Code Sections 38500–38599; AB 32), also known as the California Global Warming Solutions Act of 2006, commits the State to achieving year 2000 GHG emission levels by 2010 and year 1990 levels by 2020. To achieve these goals, AB 32 tasked the California Public Utilities Commission and the California Energy Commission with providing information, analysis, and recommendations to the California Air Resources Board regarding ways to reduce GHG emissions in the electricity and natural gas utility sectors.

**(c) California Building Standards Code (Title 24)**

**(i) California Building Energy Efficiency Standards (Title 24, Part 6)**

The California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) were adopted to ensure that building construction and system design and installation achieve energy efficiency and preserve outdoor and indoor environmental quality. The California Building Energy Efficiency Standards are updated every three years. The current California Building Energy Efficiency Standards are the 2013 Building Energy Efficiency Standards, which became effective July 1, 2014.\(^3\) The 2013 Building Energy Efficiency Standards focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings, and include requirements to enable both demand reductions during critical peak periods and future solar electric and thermal system installations.\(^4\)

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(ii) California Green Building Standards (Title 24, Part 11)

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, went into effect on January 1, 2014, with energy provisions effective July 1, 2014. The 2013 CALGreen Code includes mandatory measures for non-residential development related to site development; water use; weather resistance and moisture management; construction waste reduction, disposal, and recycling; building maintenance and operation; pollutant control; indoor air quality; environmental comfort; and outdoor air quality. Mandatory measures for residential development pertain to green building; planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; environmental quality; and installer and special inspector qualifications.

(d) California Air Resources Board

(i) Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

The Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling (Title 13, Division 3, Chapter 10, Section 2435) was adopted to reduce public exposure to diesel particulate matter and other air contaminants by limited the idling of diesel-fueled commercial motor vehicles. This section applies to diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds that are or must be licensed for operation on highways. Reducing idling of diesel-fueled commercial motor vehicles reduces the amount of petroleum-based fueled used by the vehicle.

(ii) Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles.

The Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles (Title 13, Division 3, Chapter 1, Section 2025) was adopted to reduce emissions of diesel particulate matter (PM), oxides of nitrogen (NOX) and other criteria pollutants from in-use

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5 Ibid.
diesel-fueled vehicles. This regulation is phased, with full implementation by 2023. The regulation aims to reduce emissions by requiring the installation of diesel soot filters and encouraging the retirements, replacement, or repower of older, dirtier engines with newer emission-controlled models. The newer emission-controlled models would use petroleum-based fuel in a more efficient manner.

(e) California Environmental Quality Act

In accordance with CEQA and Appendix F, Energy Conservation, of the CEQA Guidelines, in order to assure that energy implications are considered in project decisions, EIR’s are required to include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the CEQA Guidelines provides a list of energy-related items that may be included throughout the various chapters of an EIR, including potential mitigation measures. In addition, while not described as significance thresholds for determining the significance of impacts related to energy, Appendix F provides the following items that may be considered in the energy analysis:

- The project’s energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project’s life cycle including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed;
- The effects of the project on local and regional energy supplies and on requirements for additional capacity;
- The effects of the project on peak and base period demands for electricity and other forms of energy;
- The degree to which the project complies with existing energy standards;
- The effects of the project on energy resources; or
- The project’s projected transportation energy use requirements and its overall use of efficient transportation alternatives.

(2) Local

(a) Green LA: An Action Plan to Lead the Nation in Fighting Global Warming and Climate LA

Green LA is the City of Los Angeles’s climate action plan. The Plan, released in May 2007, sets forth a goal of reducing the City’s greenhouse gas emissions to 35 percent below 1990 levels by the year 2030. Climate LA is the implementation program that
provides detailed information about each action item discussed in the Green LA framework. Climate LA includes focus areas addressing environmental issues including but not limited to energy, water, transportation, and waste. The energy focus area includes action items with measures that aim to increase the use of renewable energy to 35 percent by 2020, reduce the use of coal-fired power plants, and present a comprehensive set of green building policies to guide and support private sector development.

(b) City of Los Angeles Green Building Ordinance

On December 17, 2013, the Los Angeles City Council approved Ordinance No. 182,849, which amended Chapter IX of the Los Angeles Municipal Code (LAMC), referred to as the “Los Angeles Green Building Code,” by amending certain provisions of Article 9 to reflect local administrative changes and incorporating by reference portions of the 2013 CALGreen Code. Projects filed on or after January 1, 2014, must comply with the Los Angeles Green Building Code as amended to comply with various provisions of the 2013 CALGreen Code. Specific mandatory requirements and elective measures are provided for three categories: (1) low-rise residential buildings; (2) nonresidential and high-rise residential buildings; and (3) additions and alterations to nonresidential and high-rise residential buildings. Article 9, Division 5 includes measures for newly constructed nonresidential and high-rise residential buildings. Energy efficiency measures include exceeding California Energy Code requirements, based on the 2008 Energy Efficiency Standards, by 15 percent, and prewiring the development for future electrical solar system.

(c) City of Los Angeles Solid Waste Programs and Ordinances

The City of Los Angeles includes programs and ordinances related to solid waste. They include 1) the City of Los Angeles Solid Waste Management Policy Plan, which was adopted in 1993 and is a long-range policy plan promoting source reduction for recycling for a minimum of 50 percent of the City's waste by 2000 and 70 percent of the waste by 2020; 2) the RENEW LA Plan, which is a Resource Management Blueprint with the aim to achieve a zero waste goal through reducing, reusing, recycling, or converting the resources now going to disposal so as to achieve an overall diversion level of 90 percent or more by 2025; and 3) the Waste Hauler Permit Program (Ordinance 181519), which requires that all private waste haulers collecting solid waste, including construction and demolition waste, to obtain AB 939 Compliance Permits and to transport construction and demolition waste to City certified construction and demolition processing facilities. These solid waste reduction programs and ordinances not only help to reduce the number of trips to haul solid waste, therefore reducing the amount of petroleum-based fuel, but they also help to reduce the energy used to process solid waste.
b. Existing Conditions

(1) Electricity

Electricity, a consumptive utility, 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. The delivery of electricity involves a number of system components, including substations and transformers that lower transmission line power (voltage) to a level appropriate for on-site distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Conveyance of electricity through transmission lines is typically responsive to market demands.

Energy capacity, or electrical power, is generally measured in watts while energy use is measured in watt-hours. For example, if a light bulb has a capacity rating of 100 watts, the energy required to keep the bulb on for 1 hour would be 100 watt-hours. If ten 100 watt bulbs were on for 1 hour, the energy required would be 1,000 watt-hours or 1 kilowatt-hour. On a utility scale, a generator’s capacity is typically rated in megawatts, which is one million watts, while energy usage is measured in megawatt-hours or gigawatt-hours, which is one billion watt-hours.

The Los Angeles Department of Water and Power (LADWP) provides electrical service to the City of Los Angeles. LADWP generates electricity from a variety of sources, including hydropower, coal, gas, nuclear sources, and, renewable resources such as wind, solar, and geothermal sources. According to LADWP’s 2014 Power Integrated Resource Plan, the LADWP has a net dependable generation capacity greater than 7,639 MW. During the 2013 fiscal year ending June 30, the most recent period for which data is available, LADWP delivered a total of approximately 23.5 million MWh of electricity to its customers.

LADWP customers consume approximately 10 percent of all the electricity consumed in California while LADWP has a transmission capacity of approximately 25 percent of California’s total transmission capacity. LADWP owns and/or operates approximately 20,000 miles of alternating current (AC) and direct current (DC) transmission and distribution circuits operating at voltages ranging from 120 volts to 500 kilovolts (kV).

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which are used to deliver electricity from generating plants to customers. The LADWP transmission and distribution system supplies power to the Project Site from as many as 25 different sources.

LADWP supplies electrical power to the Project Site from electrical service lines located in the Project vicinity. Based on the existing use of the Project Site as a surface parking lot, the existing electrical consumption at the Project Site is limited to power for pole lighting. It is estimated that the existing Project Site consumes approximately 71,808 kWh of electricity per year.

(2) Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs, mainly located outside the State, and delivered through high-pressure transmission pipelines. The natural gas transportation system is a nationwide network and, therefore, resource availability is typically not an issue. Natural gas satisfies almost one-third of the State's total energy requirements and is used in electricity generation, space heating, cooking, water heating, industrial processes, and as a transportation fuel. Natural gas is measured in terms of cubic feet.

Natural gas is provided to the City of Los Angeles by the Southern California Gas Company (SoCalGas). The service territory of SoCalGas encompasses approximately 20,000 square miles in diverse terrain throughout Central and Southern California, from the City of Visalia to the Mexican border.\(^\text{10}\) SoCalGas receives gas supplies from several sedimentary basins in the western United States and Canada, including the Rocky Mountains and western Canada, as well as local California supplies.\(^\text{11}\) Natural gas for SoCalGas is delivered to the region through interstate pipelines. Gas supply available to SoCalGas from all sources was approximately 2,775 million cubic feet per day in 2013 (the most recent year for which data are available).\(^\text{12}\)

The Project Site is currently occupied by a surface parking lot and does not consume any natural gas.


(3) Transportation Energy

According to the California Energy Commission, transportation accounts for nearly 40 percent of California’s total energy consumption and approximately 39 percent of the State’s greenhouse gas emissions.\(^{13}\) In 2013, California consumed 14.53 billion gallons of gasoline and 2.74 billion gallons of diesel fuel.\(^{14}\) Petroleum-based fuels currently account for 92 percent of California’s transportation energy sources.\(^{15}\) However, the state is now working on developing flexible strategies to reduce petroleum use. Over the last decade California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and GHGs from the transportation sector, and reduce vehicle miles traveled (VMT). Accordingly, gasoline consumption in California has declined. The California Energy Commission predicts that the demand for gasoline will continue to decline over the next ten years and there will be an increase in the use of alternative fuels, such as natural gas, biofuels, and electricity. Since parking lots are not land uses that independently generate daily trips, the impact discussion below assumed that existing use of the Project Site does not consume transportation related energy.

3. Environmental Impacts

a. Methodology

Analysis of the Project’s energy impacts is based in part on the Energy Calculations for 5901 Sunset Boulevard provided in Appendix J of this Draft EIR. For construction activities, fuel consumption from on-site heavy-duty construction equipment was calculated based on the equipment mix and usage factors provided in the California Emissions Estimator Model (CalEEMod) construction output files included in Appendix J of this Draft EIR. The total horsepower was then multiplied by fuel usage estimates per horsepower-hour included in Table A9-3-E of the SCAQMD’s CEQA Air Quality Handbook. Fuel consumption from construction worker, vendor, and delivery/haul trucks was calculated using the trip rates and distances provided in the CalEEMod construction output files. Total vehicle miles traveled (VMT) was then calculated for each type of construction-related trip.


and divided by the corresponding county-specific miles per gallon factor using California Air Resources Board’s (CARB’s) EMFAC 2011 model. EMFAC provides the total annual VMT and fuel consumed for each vehicle type. Consistent with CalEEMod, construction worker trips were assumed to include 50 percent light duty gasoline auto and 50 percent light duty gasoline trucks. Construction vendor and delivery/haul trucks were assumed to be heavy-duty diesel trucks. Please refer to Appendix J of the Draft EIR for detailed calculations. Electricity from the supply and conveyance of water used for dust control during construction were then calculated using CalEEMod.

For operational activities, annual electricity and natural gas consumption were calculated using demand factors provided in the CalEEMod as part of the greenhouse gas analysis included in Section IV.C, Greenhouse Gas Emissions, of this Draft EIR.\[16\] CalEEMod provides default factors based on the 2008 Title 24 standards. Although 2013 Title 24 went into effect July 1, 2014, CalEEMod has not been updated to include these factors. Therefore, this is a conservative analysis. Energy impacts associated with transportation during operation were also assessed. Daily trip generation used in this analysis was based on the Traffic Study prepared for the Project included in Appendix H of this Draft EIR. As discussed therein, the trip generation for the Project was determined based on the Institute of Transportation Engineers trip generation for office and supermarket land uses. The daily Project-related trips were then input into CalEEMod, which calculated the annual VMT. The resulting annual VMT was used as part of the greenhouse gas analysis included in Section IV.C, Greenhouse Gas Emissions, of this Draft EIR. Based on this annual VMT, gasoline and diesel consumption rates were calculated using the county-specific miles per gallon calculated using EMFAC2011. The vehicle fleet mix for vehicles anticipated to visit the Project Site was calculated consistent with the CalEEMod default for Los Angeles County.

The Project’s estimated energy demands were then analyzed relative to LADWP’s and SoCalGas’ existing and planned energy supplies in 2017 (i.e., the Project buildout year) to determine if these two energy utility companies would be able to meet the Project’s energy demands.

**b. Thresholds of Significance**

Appendix G of the CEQA Guidelines provides a set of screening questions that address impacts with regard to several environmental topics. Appendix G does not contain specific thresholds to identify when a significant energy-use impact would occur. As discussed above, Appendix F of the CEQA Guidelines states that the potentially significant

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energy implications of a project should be considered in an EIR and provides direction as to the type of information, analysis, and mitigation measures that may be considered in evaluating a project. However, Appendix F of the CEQA Guidelines does not provide set significance thresholds regarding energy. Therefore, in accordance with Appendix F of the CEQA Guidelines, for purposes of this EIR, the Project would result in a significant impact with regard to energy if the Project would:

- Conflict with adopted energy conservation plans;
- Violate State or federal energy standards;
- Cause wasteful, inefficient, and unnecessary consumption of energy during construction, operation, and/or maintenance; or
- Result in an increase in demand for electricity or natural gas that exceeds available supply or distribution infrastructure capabilities that could result in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

c. Regulatory Compliance Measures and Project Design Features

(1) Regulatory Compliance Measures

The Project would comply with the regulatory compliance measures included in Section IV.B, Air Quality, Section IV.C, Greenhouse Gas Emissions, and Section IV.I Water Supply of this Draft EIR that would improve energy efficiency. Those regulatory compliance measures are listed here as they would also apply to the energy analysis.

**Regulatory Compliance Measure B-2:** In accordance with Sections 2485 in Title 13 of the California Code of Regulations, the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to five minutes at any location.

**Regulatory Compliance Measure C-1:** In accordance with the City of Los Angeles Green Building Code (Chapter IX, Article 9, of the Los Angeles Municipal Code, as amended pursuant to the City of Los Angeles Ordinance No. 182,849), the Project shall comply with applicable provisions of the 2013 CALGreen Code.

**Regulatory Compliance Measure I-1:** In accordance with the requirements for new non-residential construction set forth in the City of Los Angeles Green Building Code (Chapter IX, Article 9, of the Los Angeles Municipal Code), indoor water use shall be reduced by at least 20 percent by using one of the following methods:
• Incorporating water saving fixtures or flow restrictors; and/or
• Demonstrating a 20 percent reduction in the baseline water use.

(2) Project Design Features

The Project would also include project design features designed to improve energy efficiency as set forth in Section IV.C, Greenhouse Gas Emissions and Section IV.I Water Supply, of this Draft EIR. Those project design features are listed here as they would also apply to the energy analysis.

Project Design Feature C-1: The new buildings and infrastructure shall be designed to be environmentally sustainable and to achieve the standards of the Silver Rating under the U.S. Green Building Council’s Leadership in Energy Efficiency and Design (LEED®) green building program or equivalent green building standards.

Project Design Feature C-2: The Applicant shall develop and implement a Transportation Demand Management Program that includes strategies to promote non-auto travel and reduce the use of single-occupant vehicle trips. The Transportation Demand Management Program shall be subject to review and approval by the Department of City Planning and LADOT. The Transportation Demand Management Program shall implement measures able to achieve a 15-percent reduction in daily trips related to proposed office use and 10-percent reduction in daily trips related to the proposed supermarket.

Project Design Feature I-1: The Project shall include implementation of the following water conservation measures:

• High-efficiency toilets with flush volume of 1.0 gallon of water per flush.
• Kitchen faucets with flow rate of 1.5 gallons per minute or less.
• Waterless urinals.
• Showerheads with flow rate of 1.5 gallons per minute or less.
• Rotating sprinkler nozzles for landscape irrigation—0.5 gallon per minute.
• Drought-tolerant plants—Landscaped areas would comprise a total of approximately 15,858 square feet. Of this amount, 26 percent of the total landscaping would comprise low-water use plants and 33 percent of total landscaping would comprise low to moderate water use plants. The remainder would include 34 percent of moderate water use and seven percent high water use.
• Domestic water heating system located in close proximity to point(s) of use.
• Individual metering and billing for water use.
• Tankless and on-demand water heaters.
• Cooling Tower Conductivity Controllers or Cooling Tower pH Conductivity Controllers.
• Drip/Sub-surface Irrigation (Micro-Irrigation)—Majority of planting shall be irrigated by sub-surface drip irrigation. Trees shall be irrigated with bubblers at 0.5 gallon per minute.
• Micro-Spray—Turf shall be irrigated with micro-spray at 0.5 gallon per minute.
• Proper Hydro-zoning.
• Zoned Irrigation.
• Landscaping contouring to minimize precipitation runoff. All excess runoff shall be directed to a filtration planter before being discharged to the street.
• Limited Use of Turf—Approximately seven percent of landscaping shall comprise high water use turf.
• Weather based controller for irrigation.

d. Analysis of Project Impacts

(1) Energy Demand

(a) Construction

During Project construction, energy would be consumed in three general forms: (1) petroleum-based fuels used to power off-road construction vehicles and equipment on the Project Site, construction worker travel to and from the Project Site, as well as delivery and haul truck trips (e.g. hauling of demolition material to off-site reuse and disposal facilities); (2) electricity associated with the conveyance of water that would be used during Project construction for dust control (supply and conveyance) and electricity to power any necessary lighting during construction, electronic equipment, or other construction activities necessitating electrical power; and (3) energy used in the production of construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass. As shown in Table IV.J-1 on page IV.J-13, a total of 13,763 kWh of electricity, 109,705 gallons of diesel fuel, and 61,140 gallons of gasoline is estimated to be consumed during Project construction.
Table IV.J-1
Summary of Energy Use During Construction\(^a\)

<table>
<thead>
<tr>
<th>Fuel Type</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td></td>
</tr>
<tr>
<td>Water Consumption</td>
<td>13,763 kWh</td>
</tr>
<tr>
<td>Lighting during construction, electronic equipment,</td>
<td>N/A(^b)</td>
</tr>
<tr>
<td>other construction activities necessitating electrical</td>
<td></td>
</tr>
<tr>
<td>power</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13,763 kWh</td>
</tr>
<tr>
<td>Diesel</td>
<td></td>
</tr>
<tr>
<td>On-Road Construction Equipment</td>
<td>55,246 Gallons</td>
</tr>
<tr>
<td>Off-Road Construction Equipment</td>
<td>54,459 Gallons</td>
</tr>
<tr>
<td>Total</td>
<td>109,705 Gallons</td>
</tr>
<tr>
<td>Gasoline</td>
<td></td>
</tr>
<tr>
<td>On-Road Construction Equipment</td>
<td>61,140 Gallons</td>
</tr>
<tr>
<td>Off-Road Construction Equipment</td>
<td>0 Gallons</td>
</tr>
<tr>
<td>Total</td>
<td>61,140 Gallons</td>
</tr>
</tbody>
</table>

\(^{kWh} =\) kilowatt hours

\(^{a}\) Detailed calculations are provided in Appendix J of this Draft EIR.

\(^{b}\) Electricity usage associated with this line item is not easily quantifiable. Such electricity demand would be temporary, nominal, and would cease upon the completion of construction.

Source: Eyestone Environmental, 2015.

(i) Electricity

During construction of the Project, electricity would be consumed to construct the new building. Electricity would be supplied to the Project Site by LADWP and would be obtained from the existing electrical lines that connect to the Project Site. As such, use of electricity from existing power lines rather than temporary diesel or gasoline powered generators would minimize impacts on energy use. Electricity consumed during Project construction would vary throughout the construction period based on the construction activities being performed. Various construction activities include electricity associated with the conveyance of water that would be used during Project construction for dust control (supply and conveyance) and electricity to power any necessary lighting during construction, electronic equipment, or other construction activities necessitating electrical power. Such electricity demand would be temporary, nominal, and would cease upon the completion of construction. Overall, construction activities associated with the Project would require limited electricity consumption that would not be expected to have an adverse impact on available electricity supplies and infrastructure. Therefore, the use of electricity during Project construction would not be wasteful, inefficient, or unnecessary.
Construction of the Project’s electrical infrastructure would primarily occur within the Project Site. Off-site construction activities to connect the Project’s electrical infrastructure with primary electrical distribution lines could occur. Where feasible, the new service installations and connections would be scheduled and implemented in a manner that would not result in electrical service interruptions to other properties. Compliance with LADWP’s guidelines and requirements would ensure that the Project Applicant fulfills its responsibilities relative to infrastructure installation, coordinates any electrical infrastructure removals or relocations with LADWP, and limits any impacts associated with grading, construction, and development within LADWP easements. As such, construction of the Project’s electrical infrastructure is not anticipated to adversely affect the electrical infrastructure serving the surrounding uses or utility system capacity.

(ii) Natural Gas

Construction of the Project typically would not involve the consumption of natural gas. Natural gas would not be supplied to support Project construction activities, thus there would be no demand generated by construction. The Project would, however, involve installation of new natural gas connections to serve the Project Site. Since the Project is located in an area already served by existing natural gas infrastructure, the Project would likely not require extensive infrastructure improvements to serve the Project Site. Construction impacts associated with the installation of natural gas connections are expected to be confined to trenching in order to place the lines below surface. Vehicular and pedestrian access within the Project Site and immediately surrounding the Project Site could be affected by such construction activities. However, as described in Section IV.H, Traffic, Access, and Parking, of this Draft EIR, during construction of the Project, a Construction Management Plan would be implemented to ensure that adequate and safe access is available within and near the Project Site during construction activities. As part of the Construction Management Plan, provisions for temporary traffic control (e.g., flag persons) would be provided during all construction activities adjacent to public rights-of-way to maintain and improve traffic flows. In addition, prior to ground disturbance, Project contractors would notify and coordinate with SoCalGas to identify the locations and depth of all existing gas lines and avoid disruption of gas service. Therefore, construction-related impacts to natural gas supply and infrastructure would be less than significant.

(iii) Transportation Energy

The petroleum-based fuel use summary provided above in Table IV.J-1 on page IV.J-13 represents the highest amount of transportation energy potentially consumed during Project construction. As shown, on- and off-road vehicles would consume an estimated 61,140 gallons of gasoline and approximately 109,705 gallons of diesel fuel throughout the Project’s entire construction period. However, consumption of such resources would be temporary and would cease upon the completion of construction. In
addition, compliance with Regulatory Compliance Measure B-2, presented above and in Section IV.B, Air Quality, of this Draft EIR, would reduce the Project’s reliance on petroleum-based fuels during construction activities and the Project’s consumption of petroleum-based fuels would not have an adverse impact on available supplies. For comparison, the State of California consumed 14.53 billion gallons of gasoline and 2.74 billion gallons of diesel fuel in 2013.\textsuperscript{17} The fuel usage during Project construction would account for approximately 0.0004 percent of the existing gasoline related energy consumption and 0.004 percent of the existing diesel fuel related energy consumption in the State of California.

With regard to truck trips for hauling demolition material, the City has adopted several plans and regulations to promote the reduction, reuse, recycling, and conversion of solid waste going to disposal systems. The Project’s compliance with these regulations would further reduce the number of trips and fuel required to transport construction debris and in turn would reduce the wasteful, inefficient, and unnecessary consumption of energy.\textsuperscript{18} Therefore, the Project would not result in the wasteful, inefficient, and unnecessary consumption of energy resources. As such, impacts regarding transportation energy would be less than significant.

Development of the Project would not result in the need to manufacture construction materials or create new building material facilities specifically to supply the Project. The Applicant would acquire all necessary materials from market supplies. While it is difficult to measure the energy used in the production of construction materials such as asphalt, steel, and concrete, it is reasonable to assume that the production of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest of minimizing the cost of doing business.

\textbf{(b) Operation}

During operation of the Project, energy would be consumed for multiple purposes including, but not limited to, heating/ventilating/air conditioning (HVAC), refrigeration, lighting, electronics, office equipment, and commercial machinery (including kitchen appliances). Energy would also be consumed during Project operations related to water usage, solid waste disposal, and vehicle trips. As shown in Table IV.J-2 on page IV.J-16, without incorporation of project design features, the Project would result in a demand for


\textsuperscript{18} See Regulatory Framework discussion above on City of Los Angeles Solid Waste Programs and Ordinances.
Table IV.J-2
Summary of Annual Energy Use During Operation

<table>
<thead>
<tr>
<th>Source</th>
<th>Without Project Features</th>
<th>With Project Features</th>
<th>Percent Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building</td>
<td>5,218,360 kWh</td>
<td>4,288,469 kWh</td>
<td>-18%</td>
</tr>
<tr>
<td>Water</td>
<td>867,999 kWh</td>
<td>694,399 kWh</td>
<td>-20%</td>
</tr>
<tr>
<td>Total Electricity</td>
<td>6,086,359 kWh</td>
<td>4,982,868 kWh</td>
<td>-18%</td>
</tr>
<tr>
<td>Natural Gas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building</td>
<td>318,621 cf/mo</td>
<td>209,130 cf/mo</td>
<td>-34%</td>
</tr>
<tr>
<td>Mobile</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gasoline</td>
<td>537,482 gallons</td>
<td>439,887 gallons</td>
<td>-18%</td>
</tr>
<tr>
<td>Diesel</td>
<td>90,409 gallons</td>
<td>73,993 gallons</td>
<td>-18%</td>
</tr>
</tbody>
</table>

KWh = kilowatt hours

cf/mo = cubic feet per month

\(^a\) Detailed calculations are provided in Appendix J of this Draft EIR.

Source: Eyestone Environmental, 2015.

energy including approximately 6,086,359 kWh of electricity, 318,621 cubic feet/month of natural gas, 90,409 gallons of diesel fuel, and 537,482 gallons of gasoline per year. With incorporation of project design features, the Project’s energy demand would be reduced to approximately 4,982,868 kWh of electricity, 209,130 cubic feet/month of natural gas, 73,993 gallons of diesel fuel, and 439,887 gallons of gasoline per year.

(i) Electricity

As shown in Table IV.J-2, without incorporation of regulatory compliance measures and project design features, buildout of the Project would result in a projected consumption of electricity totaling approximately 6,086,359 kWh/year. As previously discussed, the estimated existing electrical consumption at the Project Site is approximately 71,808 kWh. As such, the Project would result in a net new consumption of electricity within the Project Site. However, as provided above, the Project would comply with Regulatory Compliance Measure C-1 and Project Design Feature C-1, presented above and in Section IV.C, Greenhouse Gas Emissions, of this Draft EIR, and Regulatory Compliance Measure I-1 and Project Design Feature I-1, presented above and in Section IV.I, Water Supply, of this Draft EIR. Implementation of applicable regulatory requirements and project design features would reduce the Project’s estimated electricity consumption by approximately 18 percent to 4,982,868 kWh/year. When accounting for the existing electricity usage at the Project Site, the Project would result in a net new consumption of electricity totaling approximately 4,911,060 kWh/year. Based on LADWP’s 2013 Power Integrated Resource
Plan, LADWP forecasts that its total energy sales in the 2017-2018 fiscal year (the Project buildout year) will be 22,823 gigawatt-hours (GWh) of electricity.\textsuperscript{19,20} As such, the Project-related net annual electricity consumption would represent approximately 0.02 percent of LADWP’s projected sales in 2017. Therefore, it is anticipated that LADWP’s existing and planned electricity capacity and electricity supplies would be sufficient to support the Project’s electricity demand. Thus, impacts with regard to electrical supply and infrastructure capacity would be less than significant and no mitigation measures would be required.

(ii) Natural Gas

As provided in Table IV.J-2 on page IV.J-16, without incorporation of regulatory compliance measures and project design features, buildout of the Project is projected to generate an annual demand for natural gas totaling approximately 318,621 cubic feet/month. As previously discussed, the Project Site is currently occupied by a surface parking lot and does not consume any natural gas. As such, the Project would result in a net new consumption of natural gas within the Project Site. As provided above, the Project would comply with applicable regulatory requirements regarding energy conservation and would implement project design features to further reduce energy use. Implementation of applicable regulatory requirements and project design features would reduce the Project’s estimated demand for natural gas by approximately 34 percent to 209,130 cubic feet/month, or 6,871 cubic feet per day (cu ft/day). Based on the 2014 California Gas Report, the California Energy Commission estimates natural gas consumption within SoCalGas’ planning area will be approximately 2,697 million cubic feet per day (mm cu ft/day) in 2017.\textsuperscript{21} The Project would account for approximately 0.0002 percent of the 2017 forecasted consumption in SoCalGas’ planning area. Therefore, it is anticipated that SoCalGas’ existing and planned natural gas supplies would be sufficient to support the Project’s demand for natural gas. Thus, impacts with regard to natural gas supply and infrastructure capacity would be less than significant and no mitigation measures would be required.

\textsuperscript{19} LADWP defines its future electricity supplies in terms of sales that will be realized at the meter.
(iii) Transportation Energy

During operation, the Project would result in the consumption of petroleum-based fuels related to vehicular travel to and from the Project Site. As summarized in Table IV.J-2 on page IV.J-16, without incorporation of regulatory requirements and project design features, buildout of the Project would consume approximately 537,482 gallons of gasoline and 90,409 gallons of diesel per year, or a total of 627,891 gallons of petroleum-based fuels per year. As described above in Project Design Feature C-2, the Project would include vehicular trip reduction measures as part of a Transportation Demand Management Program that would provide for a 10-percent reduction in supermarket trips and a 15-percent reduction in office trips. In addition, the Project Site’s location in an urbanized area and in close proximity to several bus routes would provide employees with various public transportation opportunities. Implementation of the Transportation Demand Management Program and use of public transportation would serve to reduce vehicle miles and result in a corresponding reduction in the consumption of petroleum-based fuels. Overall, when accounting for the measures that would be implemented to reduce vehicle miles traveled, the Project’s petroleum-based fuel usage would be reduced by 18 percent to approximately 439,887 gallons of gasoline and 73,993 gallons of diesel per year or a total of 513,880 gallons of petroleum-based fuels.

(2) Energy Conservation

As described above, green building design and construction practices capable of achieving the standards of the Silver Rating under the U.S. Green Building Council’s Leadership in Energy Efficiency and Design (LEED®) green building program or equivalent green building standards would be implemented as part of the Project. Accordingly, the Project would incorporate the City’s Green Building Standards and comply with Title 24. With regard to the use of energy provided by alternative (i.e. renewable) resources, off-site and on-site, to meet the Project’s operational demands, such use is constrained by the energy portfolio mix managed by the LADWP and limitations on the availability or feasibility of on-site energy generation. In accordance with Senate Bill 2 and the California Energy Commission Renewable Portfolio Standard Enforcement Procedures, the LADWP is required to obtain a minimum of an average of 20 percent renewable energy between 2011 and 2013; 25 percent of their energy portfolio from renewable resources by 2016; and 33 percent of their energy portfolio from renewable resources by 2020. The current renewable resources procured by the LADWP include biomass and biowaste, geothermal, small hydroelectric, solar, and wind. These sources account for approximately 23 percent

of the LADWP’s overall energy mix in 2013, the most recent year for which data is available. More specifically, approximately 14 percent of LADWP’s renewable energy resources are from wind energy, 6 percent from biomass and biowaste, 1 percent from geothermal, 1 percent from solar, and 1 percent from small hydroelectric. This represents the available off-site renewable sources of energy that would meet the Project demand. Regarding the availability and feasibility of on-site energy generation, there are no local sources of energy from the following sources: biodiesel, biomass hydroelectric and small hydro, digester gas, fuel cells, landfill gas, municipal solid waste, ocean thermal, ocean wave, tidal current technologies, multi-fuel facilities using renewable fuels, geothermal, methane, wind, and solar power. Notwithstanding, the Project would comply with all applicable regulatory requirements aimed at reducing energy use, including recycling of construction materials, and use of recycled building materials where feasible, and would implement project design features to further reduce the Project’s energy consumption. Design features that could be implemented would include, but not be limited to, efficient lighting and lighting control systems, energy-efficient heating and cooling systems and controls, and a variety of water conservation features.

Overall, the Project would be designed and constructed in accordance with state and local green building standards that would serve to reduce the energy demand of the Project. Additionally, based on the above, the Project’s energy demand would be within the existing and planned electricity and natural gas capacities of LADWP and SoCalGas, respectively. Therefore, development of the Project would not cause wasteful, inefficient, and unnecessary consumption of energy and would be consistent with the intent of Appendix F of the CEQA Guidelines. In addition, Project operations would not conflict with adopted energy conservation plans.

(3) Alternatives

As discussed in Section V, Alternatives, of this Draft EIR, there were five alternatives analyzed for the Project, including the No Project/No Build Alternative, Rotated Tower Design Alternative, Reduced Density (3.0:1 FAR) Mixed-Use Alternative, Office Use Only (4.5:1 FAR) Alternative, and the Residential Mixed-Use Alternative. As further described in Section V, Alternatives, of this Draft EIR, the No Project/No Build Alternative and the Reduced Density (3.0:1 FAR) Mixed-Use Alternative would generate a demand for energy resources during both construction and operation that would be less than the Project. During construction, the Office Use Only (4.5:1 FAR) Alternative and the Residential Mixed-Use Alternative would generate an energy demand that would be similar to the Project.

However, the energy demand during operation for the Office Use Only (4.5:1 FAR) Alternative and the Residential Mixed-Use Alternative would be reduced compared to the Project. As the Rotated Tower Design Alternative would be developed in a similar manner to the Project, the energy demand under this Alternative would be similar to the Project during both construction and operation.

4. Cumulative Impacts

Cumulative impacts occur when impacts that are significant or less than significant from a proposed project combine with similar impacts from other past, present, or reasonably foreseeable projects in a similar geographic area. Based on the information presented in Section III, Environmental Setting, of this Draft EIR, there are 71 related projects located within the vicinity of the Project Site. The geographic context for the cumulative analysis of electricity is LADWP’s service area and the geographic context for the cumulative analysis of natural gas is SoCalGas’ service area. The geographic context for transportation energy use is the City of Los Angeles. Growth within these geographies is anticipated to increase the demand for electricity, natural gas, and transportation energy, as well as the need for energy infrastructure, such as new or expanded energy facilities.

a. Electricity

Buildout of the Project, the 71 related projects, and additional growth forecasted to occur in the City would increase electricity consumption during Project construction and operation and, thus, cumulatively increase the need for energy supplies and infrastructure capacity, such as new or expanded energy facilities. LADWP forecasts that its total energy sales in the 2017-2018 fiscal year (the Project buildout year) will be 22,823 gigawatt-hours (GWh) of electricity. Based on the Project’s estimated net new electrical consumption of 4,911,060 kWh/year kWh per year, the Project would account for approximately 0.02 percent of LADWP’s projected sales for the Project’s build-out year. Although future development would result in the irreversible use of renewable and non-renewable electricity resources during Project construction and operation which could limit future availability, the use of such resources would be on a relatively small scale and would be consistent with growth expectations for LADWP’s service area. Furthermore, like the Project, during construction and operation, other future development projects would be expected to incorporate energy conservation features, comply with applicable regulations including

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24 LADWP defines its future electricity supplies in terms of sales that will be realized at the meter.
CALGreen and state energy standards under Title 24, and incorporate mitigation measures, as necessary. Accordingly, the Project’s contribution to cumulative impacts related to electricity consumption would not be cumulatively considerable and, thus, would be less than significant.

Electricity infrastructure is typically expanded in response to increasing demand, and system expansion and improvements by LADWP are ongoing. As described in LADWP’s 2013 Power Integrated Resource Plan, LADWP would continue to expand delivery capacity as needed to meet demand increases within its service area at the lowest cost and risk consistent with LADWP’s environmental priorities and reliability standards. The Power Integrated Resource Plan takes into account future energy demand, advances in renewable energy resources and technology, energy efficiency, conservation, and forecast changes in regulatory requirements. Development projects within the LADWP service area would also be anticipated to incorporate site-specific infrastructure improvements, as necessary. As such, cumulative impacts with respect to electricity infrastructure would not be cumulatively considerable and, thus, would be less than significant.

b. Natural Gas

Buildout of the Project and related projects in SoCalGas’ service area is expected to increase natural gas consumption during Project construction and operation and, thus, cumulatively increase the need for natural gas supplies and infrastructure capacity. Based on the 2014 California Gas Report, the California Energy Commission estimates natural gas consumption within SoCalGas’ planning area will be approximately 2,697 million cubic feet/day in 2017. The Project would account for approximately 0.0002 percent of the 2017 forecasted consumption in SoCalGas’s planning area. SoCalGas’ forecasts take into account projected population growth and development based on local and regional plans. Although future development projects would result in the irreversible use of natural gas resources which could limit future availability, the use of such resources would be on a relatively small scale and would be consistent with regional and local growth expectations for SoCalGas’ service area. Furthermore, like the Project, during Project construction and operation other future development projects would be expected to incorporate energy conservation features, comply with applicable regulations including CALGreen and state energy standards under Title 24, and incorporate mitigation measures, as necessary. Accordingly, the Project’s contribution to cumulative impacts related to natural gas consumption would not be cumulatively considerable and, thus, would be less than significant.

Natural gas infrastructure is typically expanded in response to increasing demand, and system expansion and improvements by SoCalGas occur as needed. It is expected that SoCalGas would continue to expand delivery capacity if necessary to meet demand increases within its service area. Development projects within its service area would also be anticipated to incorporate site-specific infrastructure improvements, as appropriate. As such, cumulative impacts with respect to natural gas infrastructure would not be cumulatively considerable and, thus, would be less than significant.

c. Transportation Energy

Buildout of the Project and related projects in the City of Los Angeles is expected to increase transportation energy consumption during Project construction and operation and, thus, cumulatively increase the need for energy for transportation-related uses. Based on the Traffic Study prepared for the Project, included in Appendix H of this Draft EIR, there are 71 related projects anticipated in the Project area, which would generate approximately 173,570 daily trips. Yearly cumulative consumption for related projects was estimated to be 17,553,223 gallons of gasoline and 2,966,464 gallons of diesel fuel per year. As described above, the State of California consumed 14.53 billion gallons of gasoline and 2.74 billion gallons of diesel fuel in 2013. As described above, at buildout, the Project would consume a total of 439,887 gallons of gasoline and 73,993 gallons of diesel per year. When combined with consumption estimates for the related projects, there would be a cumulative increase of approximately 17,993,110 gallons of gasoline and 3,040,457 gallons of diesel per year. Thus, the Project and related projects would account for approximately 0.12 percent of the existing gasoline related energy consumption and 0.11 percent of the existing diesel fuel related energy consumption in the State of California. The potential use of alternative-fueled, electric, and hybrid vehicles utilized by visitors to the Project Site would reduce the Project’s consumption of gasoline and diesel; however, the above estimates do not account for these other more energy efficient vehicle types. Therefore, this estimate is conservative.

As described above, petroleum currently accounts for 92 percent of California’s transportation energy sources; however, over the last decade California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and GHGs from the

27 Daily trips are multiplied by the average trip length and the number of days per year. The resulting miles per year is then multiplied by the fleet mix percentage and divided by estimated miles per gallon of fuel for the Project buildout year (i.e. 2017).

transportation sector, and reduce VMT which would reduce reliance on petroleum. Accordingly, gasoline consumption in California has declined. The California Energy Commission predicts that the demand for gasoline will continue to decline over the next ten years and there will be an increase in the use of alternative fuels, such as natural gas, biofuels, and electricity. Furthermore, like the Project, during construction and operation, other future development projects would be expected to reduce VMT by encouraging the use of alternative modes of transportation and other project features that promote the reduction of VMT. Thus, while there would be an increase in consumption of petroleum-based fuels, the Project’s contribution to cumulative impacts related to transportation energy consumption would not be cumulatively considerable and, thus, would be less than significant.

d. Conclusion

Project construction and operations would result in an increase in the consumption of electricity, natural gas, and transportation-related energy. As discussed earlier in this section of the Draft EIR, the Project’s energy usage would be reduced through the implementation of Regulatory Compliance Measure B-2, presented above and in Section IV.B, Air Quality, of this Draft EIR, Regulatory Compliance Measure C-1 and Project Design Features C-1 and C-2, presented above and in Section IV.C, Greenhouse Gas Emissions, of this Draft EIR, and Regulatory Compliance Measure I-1 and Project Design Feature I-1, presented above and in Section IV.I, Water Supply, of this Draft EIR. Based on the analysis provided above, the Project’s contribution to cumulative impacts related to energy consumption (i.e., electricity, natural gas, and transportation) would not result in the inefficient use of energy resources, conflict with an adopted plan regarding energy conservation, or create energy utility system capacity problems. As such, the Project’s impacts would not be cumulatively considerable, and therefore, the Project’s cumulative energy impacts are concluded to be less than significant.

5. Mitigation Measures

Given the Project’s less than significant impacts, no mitigation measures are required.

6. Level of Significance After Mitigation

Project-level and cumulative energy impacts would be less than significant.