Appendix E

Consumption of Energy Resources Analysis, Vista Environmental, October 21, 2019

CONSUMPTION OF ENERGY RESOURCES ANALYSIS

LAKE STREET/I-15 PROPERTY PROJECT

CITY OF LAKE ELSINORE

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Project No. 19034

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
BACT	Best Available Control Technology
BSFC	Brake Specific Fuel Consumption
BTU	British thermal units
CalEEMod	California Emissions Estimator Model
CEC	California Energy Commission
CEQA	California Environmental Quality Act
City	City of Lake Elsinore
CPUC	California Public Utilities Commission
EPA	Environmental Protection Agency
kBTU	kilo-British thermal units
kWhr	kilowatt-hour
MBTU	Mega-British thermal units
MWh	Megawatt-hour
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District

1.0 INTRODUCTION

1.1 Purpose of Analysis and Study Objectives

This Consumption of Energy Resources Analysis has been completed to determine the energy consumption impacts associated with the proposed Lake Street/I-15 Property project (proposed project). The following is provided in this report:

- A description of the proposed project;
- A description of the energy resources regulatory framework;
- A description of the consumption of energy resources thresholds including the California Environmental Quality Act (CEQA) significance thresholds;
- An analysis of the short-term construction related and long-term operational energy consumption impacts; and
- An analysis of the conformity of the proposed project with all applicable energy consumption reduction plans and policies.

1.2 Site Location and Study Area

The project site is located near the northwest corner of the City of Lake Elsinore (City). The approximately 14.44-acre project site is currently vacant and is bounded by Interstate 15 (I-15) to the north, vacant land to the east and south, and Euclid Street and Lake Street to the west. The project location is shown in Figure 1.

1.3 Proposed Project Description

The proposed project consists of development of an RV and boat storage facility that would include a 90,000 square foot structure for indoor boot and RV storage and administrative offices as well as 203 spaces of outdoor storage, of which 104 spaces would be covered. In addition, gas station with a 3,062 square foot mini-market would be constructed on the west side of the project site. The proposed site plan is shown in Figure 2.

1.4 Executive Summary

Standard Energy Regulatory Conditions

The proposed project will be required to comply with the following energy-related regulatory conditions from the State of California (State).

- CCR Title 24 Part 6 – California Building Energy Standards; and
- CCR Title 24 Part 11 – California Green Building Standards.

Summary of Analysis Results

The following is a summary of the proposed project's impacts with regard to the State CEQA Guidelines, consumption of energy resources checklist questions.

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.

Conflict with or obstruct a state or local plan for renewable energy;

Less than significant impact.

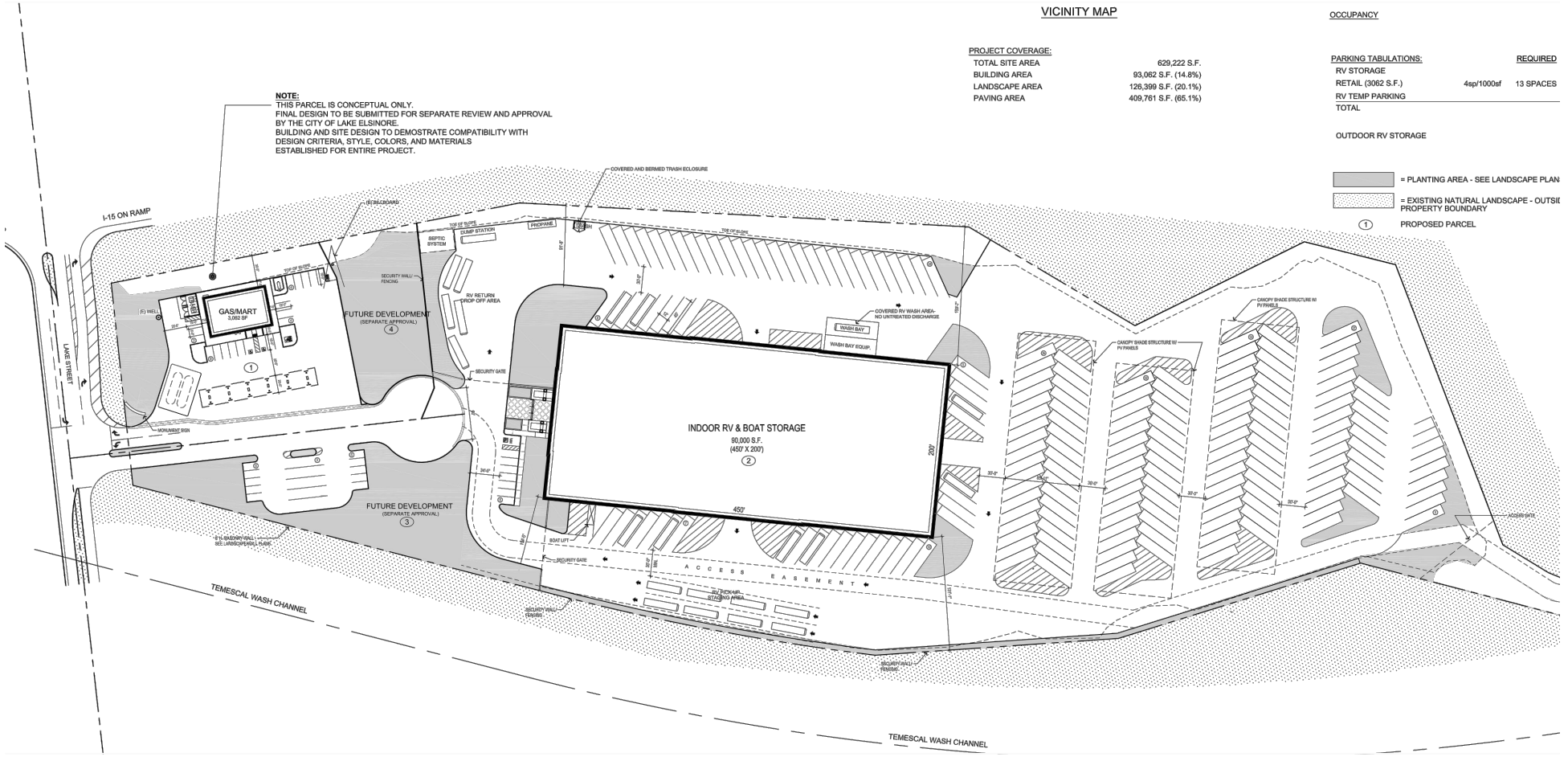
1.5 Mitigation Measures for the Proposed Project

This analysis found that implementation of the State's energy consumption reduction regulations were adequate to limit energy usage from the proposed project to less than significant levels. No mitigation measures are required for the proposed project with respect to energy consumption.

SOURCE: Urban Crossroads.

VISTA ENVIRONMENTAL

Figure 1
Project Location Map



SOURCE: Hunsaker & Associates.

VISTA ENVIRONMENTAL

Figure 2
Proposed Site Plan

2.0 ENERGY CONSERVATION MANAGEMENT

The regulatory setting related to energy conservation is primarily addressed through State regulations, which are discussed below.

2.1 State

Energy conservation management in the State was initiated by the 1974 Warren-Alquist State Energy Resources Conservation and Development Act that created the California Energy Resource Conservation and Development Commission (currently named California Energy Commission [CEC]), which was originally tasked with certifying new electric generating plants based on the need for the plant and the suitability of the site of the plant. In 1976 the Warren-Alquist Act was expanded to include new restrictions on nuclear generating plants, that effectively resulted in a moratorium of any new nuclear generating plants in the State. The following details specific regulations adopted by the State in order to reduce the consumption of energy.

California Code of Regulations (CCR) Title 20

On November 3, 1976 the CEC adopted the *Regulations for Appliance Efficiency Standards Relating to Refrigerators, Refrigerator-Freezers and Freezers and Air Conditioners,* which were the first energy-efficiency standards for appliances. The appliance efficiency regulations have been updated several times by the Commission and the most current version is the *2016 Appliance Efficiency Regulations*, adopted January 2017 and now includes almost all types of appliances and lamps that use electricity, natural gas as well as plumbing fixtures. The authority for the CEC to control the energy-efficiency of appliances is detailed in California Code of Regulations (CCR), Title 20, Division 2, Chapter 4, Article 4, Sections 1601-1609.

California Code of Regulations (CCR) Title 24, Part 6

The CEC is also responsible for implementing the CCR Title 24, Part 6: *California's Energy Efficiency Standards for Residential and Nonresidential Buildings* (Title 24) that were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. In 2008 the State set an energy-use reduction goal of zero-net-energy use of all new homes by 2020 and the CEC was mandated to meet this goal through revisions to the Title 24, Part 6 regulations.

The Title 24 standards are updated on a three-year schedule and since 2008 the standards have been incrementally moving to the 2020 goal of the zero-net-energy use. Currently the 2016 Title 24 standards are in effect and on January 1, 2020 the 2019 standards will go into effect, that have been designed so that the average new home built in California will now use zero-net-energy and that non-residential buildings will use about 30 percent less energy than the 2016 standards due mainly to lighting upgrades. The 2019 standards also encourage the use of battery storage and heat pump water heaters, require the more widespread use of LED lighting, as well as improve the building's thermal envelope through high performance attics, walls and windows. The 2019 standards also require improvements to ventilation systems by requiring highly efficient air filters to trap hazardous air particulates as well as improvements to kitchen ventilation systems.

California Code of Regulations (CCR) Title 24, Part 11

CCR Title 24, Part 11: *California Green Building Standards* (Title 24) was developed in response to continued efforts to reduce GHG emissions associated with energy consumption. The CalGreen Building

Standards are also updated every three years and the current version is the 2016 California Green Building Standards Code, which became effective on January 1, 2017. The 2019 California Green Building Standard Code will become effective on January 1, 2020.

The CALGreen Code contains requirements for construction site selection; storm water control during construction; construction waste reduction; indoor water use reduction; material selection; natural resource conservation; site irrigation conservation; and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their maximum efficiency.

The CALGreen Code provides standards for bicycle parking, carpool/vanpool/electric vehicle spaces, light and glare reduction, grading and paving, energy efficient appliances, renewable energy, graywater systems, water efficient plumbing fixtures, recycling and recycled materials, pollutant controls (including moisture control and indoor air quality), acoustical controls, storm water management, building design, insulation, flooring, and framing, among others. Implementation of the CALGreen Code measures reduces energy consumption and vehicle trips and encourages the use of alternative-fuel vehicles, which reduces pollutant emissions.

Some of the notable changes in the 2019 CALGreen Code over the current 2016 CALGreen Code include: an alignment of building code engineering requirements with the national standards that include anchorage requirements for solar panels, provides design requirements for buildings in tsunami zones, increases Minimum Efficiency Reporting Value (MERV) for air filters from 8 to 13, increased electric vehicle charging requirements in parking areas, and sets minimum requirements for use of shade trees.

Senate Bill 100

Senate Bill 100 (SB 100) was adopted September 2018 and requires that by December 1, 2045 that 100 percent of retail sales of electricity to be generated from renewable or zero-carbon emission sources of electricity. SB 100 supersedes the renewable energy requirements set by SB 350, SB 1078, SB 107, and SB X1-2. However, the interim renewable energy thresholds from the prior Bills of 44 percent by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030, will remain in effect.

Executive Order B-48-18 and Assembly Bill 2127

The California Governor issued Executive Order B-48-18 on January 26, 2018 that orders all state entities to work with the private sector to put at least five million zero-emission vehicles on California roads by 2030 and to install 200 hydrogen fueling stations and 250,000 electric vehicle chargers by 2025. Currently there are approximately 350,000 electric vehicles operating in California, which represents approximately 1.5 percent of the 24 million vehicles total currently operating in California. Implementation of Executive Order B-48-18 would result in approximately 20 percent of all vehicles in California to be zero emission electric vehicles. Assembly Bill 2127 (AB 2127) was codified into statute on September 13, 2018 and requires that the California Energy Commission working with the State Air Resources Board prepare biannual assessments of the statewide electric vehicle charging infrastructure needed to support the levels of zero emission vehicle adoption required for the State to meet its goals of putting at least 5 million zero-emission vehicles on California roads by 2030.

Assembly Bill 1109

California Assembly Bill 1109 (AB 1109) was adopted October 2007, also known as the Lighting Efficiency and Toxics Reduction Act, prohibits the manufacturing of lights after January 1, 2010 that contain levels of hazardous substances prohibited by the European Union pursuant to the RoHS Directive. AB 1109 also requires reductions in energy usage for lighting and is structured to reduce lighting electrical consumption by: (1) At least 50 percent reduction from 2007 levels for indoor residential lighting; and (2) At least 25 percent reduction from 2007 levels for indoor commercial and all outdoor lighting by 2018. AB 1109 would reduce GHG emissions through reducing the amount of electricity required to be generated by fossil fuels in California.

Assembly Bill 1493

California Assembly Bill 1493 (also known as the Pavley Bill, in reference to its author Fran Pavley) was enacted on July 22, 2002 and required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2004, CARB approved the "Pavley I" regulations limiting the amount of GHGs that may be released from new passenger automobiles that are being phased in between model years 2009 through 2016. These regulations will reduce GHG emissions by 30 percent from 2002 levels by 2016. In June 2009, the EPA granted California the authority to implement GHG emission reduction standards for light duty vehicles, in September 2009, amendments to the Pavley I regulations were adopted by CARB and implementation of the "Pavley I" regulations started in 2009.

The second set of regulations "Pavley II" was developed in 2010, and is being phased in between model years 2017 through 2025 with the goal of reducing GHG emissions by 45 percent by the year 2020 as compared to the 2002 fleet. The Pavley II standards were developed by linking the GHG emissions and formerly separate toxic tailpipe emissions standards previously known as the "LEV III" (third stage of the Low Emission Vehicle standards) into a single regulatory framework. The new rules reduce emissions from gasoline-powered cars as well as promote zero-emissions auto technologies such as electricity and hydrogen, and through increasing the infrastructure for fueling hydrogen vehicles. In 2009, the U.S. EPA granted California the authority to implement the GHG standards for passenger cars, pickup trucks and sport utility vehicles and these GHG emissions standards are currently being implemented nationwide. However, EPA has performed a midterm evaluation of the longer-term standards for model years 2022-2025, and based on the findings of this midterm evaluation, the EPA has proposed to amend the corporate average fuel economy (CAFE) and GHG emissions standards for light vehicles for model years 2021 through 2026. The EPA's proposed amendments do not include any extension of the legal waiver granted to California by the 1970 Clean Air Act and which has allowed the State to set tighter standards for vehicle pipe emissions than the EPA standards. On September 20, 2019, California filed suit over the EPA decision to revoke California's legal waiver that has been joined by 22 other states.

3.0 MODELING PARAMETERS AND ASSUMPTIONS

3.1 Construction-Related Energy Use

Construction of the proposed project is anticipated to use energy in the forms of petroleum fuel for both off-road equipment as well as from the transport of workers and materials to and from the project site and the calculations for each source are described below.

Off-Road Construction Equipment

The off-road construction equipment fuel usage was calculated through use of the off-road equipment assumptions from the *Lake Street/I-15 Property Air Quality Impact Analysis* (Air Quality Analysis), prepared by Urban Crossroads, October 3, 2019. The fuel usage was calculated through use of the *2017 Off-road Diesel Emission Factors* spreadsheet, prepared by CARB (https://ww3.arb.ca.gov/msei/ordiesel.htm). The Spreadsheet provides the following formula to calculate fuel usage from off-road equipment:

Fuel Used = Load Factor x Horsepower x Total Operational Hours x BSFC / Unit Conversion

Where:

Load Factor - Obtained from CalEEMod default values

Horsepower – Obtained from CalEEMod default values

Total Operational Hours – Calculated by multiplying CalEEMod default daily hours by CalEEMod default number of working days for each phase of construction

BSFC – Brake Specific Fuel Consumption (pounds per horsepower-hour) – If less than 100 Horsepower = 0.408, if greater than 100 Horsepower = 0.367

Unit Conversion – Converts pounds to gallons = 7.109

Table A shows the off-road construction equipment fuel calculations based on the above formula. Table A shows that the off-road equipment utilized during construction of the proposed project would consume 55,387 gallons of fuel.

Table A – Off-Road Equipment and Fuel Consumption from Construction of the Proposed Project

Equipment Type	Equipment Quantity	Horse-power	Load Factor	Operating Hours per Day	Total Operational Hours[1]	Fuel Used (gallons)
Site Preparation						
Rubber Tired Dozers	3	247	0.40	8	240	1,224
Tractors/Loaders/Backhoes	4	97	0.37	8	320	659
Grading						
Excavators	2	158	0.38	8	480	1,488
Graders	1	187	0.41	8	240	950
Rubber Tired Dozers	1	247	0.40	8	240	1,224
Scrapers	2	367	0.48	8	480	4,365
Tractors/Loaders/Backhoes	2	97	0.37	8	480	989

Equipment Type	Equipment Quantity	Horse-power	Load Factor	Operating Hours per Day	Total Operational Hours[1]	Fuel Used (gallons)
Building Construction						
Cranes	1	231	0.29	8	2,400	8,300
Forklifts	3	89	0.20	8	7,200	7,355
Generator Sets	1	84	0.74	8	2,400	8,562
Tractors/Loaders/Backhoes	3	97	0.37	8	7,200	14,831
Welders	1	46	0.45	8	2,400	2,851
Paving						
Pavers	2	130	0.42	8	320	902
Paving Equipment	2	132	0.36	8	320	785
Rollers	2	80	0.38	8	320	558
Architectural Coating						
Air Compressor	1	78	0.48	8	160	344
				Total Off-Road Equipment Fuel Used during Construction (gallons)		**55,387**

Notes:
[1] Based on: 10 days for Site Preparation; 30 days for Grading; 300 days for Building Construction; 20 days for Paving; and 20 days for Painting.
Source: Urban Crossroads, 2019; CARB, 2018.

On-Road Construction-Related Vehicle Trips

The on-road construction-related vehicle trips fuel usage was calculated through use of the construction vehicle trip assumptions from the CalEEMod model run as detailed in the Air Quality Analysis. The calculated total construction miles was then divided by the fleet average for all of Southern California miles per gallon rates for the year 2020 calculated through use of the EMFAC2017 model (https://www.arb.ca.gov/emfac/2017/) and the EMFAC2017 model printouts are shown in Appendix A.

Table B shows the on-road construction vehicle trips modeled in CalEEMod and the fuel usage calculations. Table B shows that the on-road construction-related vehicle trips would consume 89,137 gallons of fuel.

Table B – On-Road Vehicle Trips and Fuel Consumption from Construction of the Proposed Project

Vehicle Trip Types	Daily Trips	Trip Length (miles)	Total Miles per Day	Total Miles per Phase[1]	Fleet Average Miles per Gallon[2]	Fuel Used (gallons)
Site Preparation						
Worker Trips	18	14.7	265	2,646	24.6	108
Grading						
Worker Trips	20	14.7	294	8,820	24.6	359
Building Construction						
Worker Trips	258	14.7	3,793	1,137,780	24.6	46,286
Vendor Trips	103	6.9	711	213,210	7.8	27,359
Paving						
Worker Trips	15	14.7	221	4,410	24.6	179
Architectural Coating						
Worker Trips	52	14.7	764	15,288	24.6	622
				Total Fuel Used from On-Road Construction Vehicles (gallons)		**74,291**

Notes:
[1] Based on: 10 days for Site Preparation; 30 days for Grading; 300 days for Building Construction; 20 days for Paving; and 20 days for Painting.
[2] From EMFAC 2017 model (Attached to Letter). Worker Trips based on entire fleet of gasoline vehicles and Vendor Trips based on only truck fleet of diesel vehicles.
Source: CalEEMod Version 2016.3.2; CARB, 2018.

As shown above in Table A and Table B, construction of the proposed project would result in the consumption of 129,678 gallons of petroleum fuel.

3.2 Operations-Related Energy Use

The operation of the proposed project is anticipated to use energy in the forms of petroleum fuel, electricity, and natural gas, and the calculations for each source are described below.

Operational Petroleum Fuel

The on-road operations-related vehicle trips fuel usage was calculated through use of the total annual vehicle miles traveled assumptions from the CalEEMod model run as detailed in the Air Quality Analysis, which found that operation of the proposed project would generate 3,055,960 vehicle miles traveled per year. The calculated total construction miles was then divided by the Southern California fleet average rate of 24.6 miles per gallon, which was calculated through use of the EMFAC2017 model and based on the year 2020. The EMFAC2017 model printouts are shown in Appendix A. Based on the above calculation methodology, operation of the proposed project would consume 124,320 gallons per year.

Operational Electricity Use

The operations-related electricity usage was calculated in the CalEEMod model run that is provided in the Air Quality analysis that found the proposed convenience market with gas pumps will use 561,164 kilowatt hours (kWh) per year, the proposed parking lots will use 157,275 kWh per year and the proposed RV and boat storage facility structure will use 310,895 kWh per year. Based on the above, it is anticipated that the proposed project would utilize 1,029,334 kWh per year of electricity.

Operational Natural Gas Use

The operations-related natural gas usage was calculated in the CalEEMod model run that is provided in the Air Quality analysis that found the proposed convenience market with gas pumps will use 98,637 kilo British Thermal Units (kBTU) per year, the proposed parking lots will use 0 kBTU per year and the proposed RV and boat storage facility structure will use 267,422 kBTU per year. Based on the above, it is anticipated that the proposed project would utilize 366,059 kBTU per year of natural gas, which is equivalent to 366 mega-British Thermal units (MBTU) per year of natural gas.

4.0 THRESHOLDS OF SIGNIFICANCE

The new 2018 amendments and additions to the CEQA Checklist now includes an Energy Section that analyzes the proposed project's energy consumption in order to avoid or reduce inefficient, wasteful or unnecessary consumption of energy. Since the Energy Section was just added, no state or local agencies have adopted specific criteria or thresholds to be utilized in an energy impact analysis. However, the 2018 *Guidelines for the Implementation of the California Environmental Quality Act,* provide the following direction on how to analyze a project's energy consumption:

> "If analysis of the project's energy use reveals that the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources, the EIR shall mitigate that energy use. This analysis should include the project's energy use for all project phases and components, including transportation-related energy, during construction and operation. In addition to building code compliance, other relevant considerations may include, among others, the project's size, location, orientation, equipment use and any renewable energy features that could be incorporated into the project. (Guidance on information that may be included in such an analysis is presented in Appendix F.) This analysis is subject to the rule of reason and shall focus on energy use that is caused by the project. This analysis may be included in related analyses of air quality, greenhouse gas emissions, transportation or utilities in the discretion of the lead agency."

If the proposed project creates inefficient, wasteful or unnecessary consumption of energy during construction or operation activities or conflicts with a state or local plan for renewable energy or energy efficiency, then the proposed project would create a significant energy impact.

5.0 IMPACT ANALYSIS

5.1 CEQA Thresholds of Significance

Consistent with CEQA and the State CEQA Guidelines, a significant impact related to energy conservation would occur if the proposed project is determined to:

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

5.2 Energy Consumption

The proposed project would impact energy resources during construction and operation. Energy resources that would be potentially impacted include electricity, natural gas, and petroleum based fuel supplies and distribution systems. This analysis includes a discussion of the potential energy impacts of the proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. A general definition of each of these energy resources are provided below.

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.

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.

Petroleum-based fuels currently account for a majority of the California's transportation energy sources and primarily consist of diesel and gasoline types of fuels. However, the state has been working on developing 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 GHG emissions from the transportation sector, and reduce vehicle miles traveled (VMT). Accordingly, petroleum-based fuel consumption in California has declined.

The following section calculates the potential energy consumption associated with the construction and operations of the proposed project and provides a determination if any energy utilized by the proposed project is wasteful, inefficient, or unnecessary consumption of energy resources.

Construction Energy

The construction activities for the proposed project are anticipated to include grading of the project site, building construction and application of architectural coatings to the proposed convenience market and gas station, and paving of the proposed parking lot and driveways. The proposed project would consume energy resources during construction in three (3) 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.

Construction-Related Electricity

During construction the proposed project would consume electricity to construct the new building and infrastructure. Electricity would be supplied to the project site by Southern California Edison and would be obtained from the existing electrical lines in the vicinity of the project site. The 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 proposed 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.

Since the project site already has electrical service, it is anticipated that only nominal improvements would be required to Southern California Edison distribution lines and equipment with development of the proposed project. 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 City's guidelines and requirements would ensure that the proposed project fulfills its responsibilities relative to infrastructure installation, coordinates any electrical infrastructure removals or relocations, and limits any impacts associated with grading, construction, and development. Construction of the project's electrical infrastructure is not anticipated to adversely affect the electrical infrastructure serving the surrounding uses or utility system capacity.

Construction-Related Natural Gas

Construction of the proposed project typically would not involve the consumption of natural gas. Natural gas would not be supplied to support construction activities, thus there would be no demand generated by construction. Since the project site is located in a developed community that has natural gas line in the

vicinity of the project site, construction of the proposed project would be limited to installation of new natural gas connections within the project site (if any are required for the project). Development of the proposed project would likely not require extensive infrastructure improvements to serve the project site. Construction-related energy usage impacts associated with the installation of natural gas connections are expected to be confined to trenching in order to place the lines below surface. In addition, prior to ground disturbance, the proposed project 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.

Construction-Related Petroleum Fuel Use

Petroleum-based fuel usage represents the highest amount of transportation energy potentially consumed during construction, which would utilized by both off-road equipment operating on the project site and on-road automobiles transporting workers to and from the project site and on-road trucks transporting equipment and supplies to the project site.

The off-road construction equipment fuel usage was calculated through use of the off-road equipment assumptions and fuel use assumptions shown above in Section 3.1, which found that the off-road equipment utilized during construction of the proposed Project would consume 55,387 gallons of fuel. The on-road construction trips fuel usage was calculated through use of the construction vehicle trip assumptions and fuel use assumptions shown above in Section 3.1, which found that the on-road trips generated from construction of the proposed Project would consume 54,033 gallons of fuel. As such, the combined fuel used from off-road construction equipment and on-road construction trips for the proposed Project would result in the consumption of 59,908 gallons of fuel.

Construction activities associated with the proposed project would be required to adhere to all State and SCAQMD regulations for off-road equipment and on-road trucks, which provide minimum fuel efficiency standards. As such, construction activities for the proposed project would not result in the wasteful, inefficient, and unnecessary consumption of energy resources. 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 proposed project. 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.

Operational Energy

The on-going operation of the proposed RV and boat storage facility and convenience market and gas station would require the use of energy resources for multiple purposes including, but not limited to, gas pumps, heating/ventilating/air conditioning (HVAC), refrigeration, lighting, appliances, and electronics. Energy would also be consumed during operations related to water usage, solid waste disposal, landscape equipment and vehicle trips.

Operations-Related Electricity

Operation of the proposed project would result in consumption of electricity at the project site. As detailed above in Section 3.2 the proposed project would consume 1,029,334 kilowatt-hours per year of electricity. It should be noted that, the proposed project would comply with all Federal, State, and City requirements related to the consumption of electricity, that includes CCR Title 24, Part 6 *Building Energy*

Efficiency Standards and CCR Title 24, Part 11: *California Green Building Standards.* The CCR Title 24, Part 6 and Part 11 standards require numerous energy efficiency measures to be incorporated into the proposed buildings, including enhanced insulation, use of energy efficient lighting and appliances as well as requiring a variety of other energy-efficiency measures to be incorporated into all of the proposed structures. Therefore, it is anticipated the proposed project will be designed and built to minimize electricity use and that existing and planned electricity capacity and electricity supplies would be sufficient to support the proposed 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.

Operations-Related Natural Gas

Operation of the proposed project would result in increased consumption of natural gas at the project site. As detailed above in Section 3.2 the proposed project would consume 366 MBTU per year of natural gas. It should be noted that, the proposed project would comply with all Federal, State, and City requirements related to the consumption of natural gas, that includes CCR Title 24, Part 6 *Building Energy Efficiency Standards* and CCR Title 24, Part 11: *California Green Building Standards.* The CCR Title 24, Part 6 and Part 11 standards require numerous energy efficiency measures to be incorporated into the proposed structures, including enhanced insulation as well as use of efficient natural gas appliances and HVAC units. Therefore, it is anticipated the proposed project will be designed and built to minimize natural gas use and that existing and planned natural gas capacity and natural gas supplies would be sufficient to support the proposed project's natural gas demand. Thus, impacts with regard to natural gas supply and infrastructure capacity would be less than significant and no mitigation measures would be required.

Operations-Related Transportation Energy

Operation of the proposed project would result in increased consumption of petroleum-based fuels related to vehicular travel to and from the project site. As detailed above in Section 3.2 the proposed project would consume 124,320 gallons of transportation fuel per year. It should be noted that, the proposed project would comply with all Federal, State, and City requirements related to the consumption of transportation energy that includes California Code of Regulations Title 24, Part 11 California Green Building Standards that require all new parking lots to provide preferred parking for clean air vehicles. Therefore, it is anticipated the proposed project will be designed and built to minimize transportation energy through the promotion of the use of electric-powered vehicles and it is anticipated that existing and planned capacity and supplies of transportation fuels would be sufficient to support the proposed project's demand. Thus, impacts with regard transportation energy supply and infrastructure capacity would be less than significant and no mitigation measures would be required.

In conclusion, the proposed project would comply with regulatory compliance measures outlined by the State and City related to Air Quality, Greenhouse Gas Emissions (GHG), Transportation/Circulation, and Water Supply. Additionally, the proposed project would be constructed in accordance with all applicable City Building and Fire Codes. Therefore, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Impacts would be less than significant.

Level of Significance

Less than significant impact.

5.3 Energy Plan Consistency

The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The applicable energy plan for the proposed project is the *City of Lake Elsinore General Plan,* adopted December 13, 2011. The proposed project's consistency with the applicable energy-related policies in the General Plan are shown in Table C.

Table C – Proposed Project Compliance with Applicable General Plan Energy Policies

Policy No.	General Plan Policy	Proposed Project Implementation Actions
12.1	Coordinate with the utility agencies to provide for the continued maintenance, development and expansion of electricity, natural gas, and telecommunications systems to serve residents and businesses.	**Consistent.** The project applicant has received "Will Serve" letters from Southern California Edison and SoCal Gas verifying that the energy utilities are able to accommodate the additional demand for service.
12.2	Encourage developers to contact Southern California Edison early in their planning process, especially for large-scale residential and non-residential development or specific plans, to ensure the projected electric loads for these projects are factored into SCE's load forecasts for the community.	**Consistent.** The project applicant has informed Southern California Edison of the proposed project.
12.3	Encourage developers to incorporate energy efficient design measures into their projects and pursue available energy efficiency assistance programs from SCE and other utility agencies	**Consistent.** The proposed project is required to be design to meet the Title 24 Part 6 Building Energy Efficiency Standards that require the incorporation of energy-efficient building features. The City requires a Title 24 report to be completed that shows compliance with the current Title 24 requirements, prior to issuance of a building permit.

Source: City of Lake Elsinore, 2011.

As shown in Table C, the proposed project would be consistent with all applicable energy-related policies from the General Plan. Therefore, the proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Impacts would be less than significant.

Level of Significance

Less than significant impact.

6.0 REFERENCES

Breeze Software, *California Emissions Estimator Model* (CalEEMod) version 2016.3.2.

California Energy Commission, *2016 Appliance Efficiency Regulations,* January 2017.

California Energy Commission, *2019 Building Energy Efficiency Standards Frequently Asked Questions*.

California Energy Resources Conservation and Development Commission, *Regulations for Appliance Efficiency Standards Relating to Refrigerators, Refrigerator-Freezers and Freezers and Air Conditioners*, November 3, 1976.

City of Lake Elsinore, *City of Lake Elsinore General Plan*, December 13, 2011.

International Code Council, *Guide to the 2016 California Green Building Standards Code Nonresidential,* January 2017.

Urban Crossroads, *Lake Street/I-15 Property Air Quality Impact Analysis City of Lake Elsinore,* October 3, 2019.

Urban Crossroads, *Lake Street/I-15 Property Greenhouse Gas Analysis City of Lake Elsinore,* October 3, 2019.

APPENDIX A

EMFAC2017 Model Printouts

EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Air Basin
Region: SOUTH COAST
Calendar Year: 2020
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Y	Vehicle Ca	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption
SOUTH COAST	2020	HHDT	Aggregated	Aggregated	GAS	87.06695	7544.942081	1742.036	1.924993227
SOUTH COAST	2020	LDA	Aggregated	Aggregated	GAS	6178149	245245789.6	29171004	8365.832232
SOUTH COAST	2020	LDT1	Aggregated	Aggregated	GAS	673575	25456837.2	3092733	1009.703307
SOUTH COAST	2020	LDT2	Aggregated	Aggregated	GAS	2108550	81418834.91	9872323	3534.790518
SOUTH COAST	2020	LHDT1	Aggregated	Aggregated	GAS	173614.6	6333810.586	2586599	612.6252653
SOUTH COAST	2020	LHDT2	Aggregated	Aggregated	GAS	28771.82	1018932.099	428657.2	113.1501167
SOUTH COAST	2020	MCY	Aggregated	Aggregated	GAS	269351.1	1916380.232	538702.2	52.6214956
SOUTH COAST	2020	MDV	Aggregated	Aggregated	GAS	1509433	54618603.59	6970808	2902.923832
SOUTH COAST	2020	MH	Aggregated	Aggregated	GAS	35045.57	331213.3277	3505.959	66.05937563
SOUTH COAST	2020	MHDT	Aggregated	Aggregated	GAS	24612.45	1335068.759	492445.8	269.6494288
SOUTH COAST	2020	OBUS	Aggregated	Aggregated	GAS	5846.823	252354.2354	116983.2	51.34879326
SOUTH COAST	2020	SBUS	Aggregated	Aggregated	GAS	2268.163	93420.86198	9072.651	10.43507716
SOUTH COAST	2020	UBUS	Aggregated	Aggregated	GAS	938.2571	88202.7311	3753.029	18.36430248

vehicle miles per day (All Categories) 418,116,993

17,009 1,000 gall per day
17,009,429 gallons per day

Fleet Avg Miles per gallon 24.6

EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Air Basin
Region: SOUTH COAST
Calendar Year: 2020
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Y	Vehicle Cat	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption
SOUTH COAST	2020	HHDT	Aggregated	Aggregated	DSL	94401.01	11283644	946656.7	1766.775921
SOUTH COAST	2020	LDA	Aggregated	Aggregated	DSL	49858.73	2047191.98	236026.5	44.27440932
SOUTH COAST	2020	LDT1	Aggregated	Aggregated	DSL	436.3696	10308.3494	1529.802	0.467774015
SOUTH COAST	2020	LDT2	Aggregated	Aggregated	DSL	11074.64	498881.676	54951.17	14.81780046
SOUTH COAST	2020	LHDT1	Aggregated	Aggregated	DSL	103329.4	4276352.72	1299754	203.9630505
SOUTH COAST	2020	LHDT2	Aggregated	Aggregated	DSL	40572.87	1644689.8	510355.6	86.79286353
SOUTH COAST	2020	MDV	Aggregated	Aggregated	DSL	26705.38	1126984.42	131705	43.60769552
SOUTH COAST	2020	MH	Aggregated	Aggregated	DSL	11453.97	113100.72	1145.397	10.93302012
SOUTH COAST	2020	MHDT	Aggregated	Aggregated	DSL	116761.7	7338725.15	1166319	723.8084841
SOUTH COAST	2020	OBUS	Aggregated	Aggregated	DSL	4066.241	300794.137	39836.27	37.44688162
SOUTH COAST	2020	SBUS	Aggregated	Aggregated	DSL	6271.332	198203.043	72370.31	26.62266433
SOUTH COAST	2020	UBUS	Aggregated	Aggregated	DSL	18.19692	1877.44623	72.78767	0.296796191

Diesel Truck (HHDT, MDV, MHDT) vehicle miles per day	19,749,354	2,534	1,000 gall per day
		2,534,192	gallons per day
Diesel Truck Fleet Avg Miles per gallon	7.8		