Appendix C
Energy Assessment

MEMORANDUM

To: Dana Privitt, Kimley-Horn and Associates

From: Elena Ajdari, Kimley-Horn and Associates

Date: June 19, 2023

Subject: Jurupa & Willow Warehouse Project – Energy Assessment

---

1.0 Purpose

The purpose of this technical memorandum is to evaluate potential short- and long-term energy consumption impacts of the Jurupa & Willow Warehouse Project (Project). The purpose of this analysis is to identify the energy consumption associated with construction and operations of the Project associated with the Project and determine the level of impact the Project would have on the environment.

2.0 Project Location

The Project site is located at the northeast corner of Jurupa Avenue and S Willow Avenue in the City of Rialto, California (City). The proposed site is zoned as Light Industrial (M-1) and consists of three parcels (APNs 0258-111-31, -41, and -42) on 6.55 acres. Currently, the site is used for industrial and non-confirming single-family residential uses. The Project site is relatively flat and has elevations ranging from 957 to 977 feet above mean sea level (amsl). The site's topography slightly slopes down to the south.

The Project site is bounded by industrial uses to the north and west, S Willow Avenue to the east, and Jurupa Avenue to the south. Local access to the Project site is provided via Jurupa Avenue and S Willow Avenue. The nearest major freeways to the site include San Bernardino Freeway (I-10), located approximately 1.30-mile to the north; Interstate 210, located approximately 3.00-miles to the east; and Route 60, located approximately 3.22-miles to the south; refer to Exhibit 1: Regional Vicinity Map and Exhibit 2: Site Vicinity Map.

3.0 Project Description

The Project proposes the development of a single new industrial warehouse building totaling 119,908 square feet, including 5,000 square feet of office space. The structure will be supported by a truck yard, vehicular parking areas, drive aisles, dock doors, and landscaped areas. Vehicular access to the Project site will be provided by one new 40-foot-wide driveway off S Willow Avenue and one 35-foot-wide driveway and one 26 foot-wide driveway off Jurupa Avenue. The Project provides a total of 118

parking stalls that includes 35 trailer stalls and 83 standard auto stalls. Refer to Exhibit 3: Site Plan for further Project details.

Hours of Operation

The tenant(s) of the warehouse facility has not been identified; therefore, the precise nature of facility operations cannot be determined at this time. Any future occupant would be required to adhere to the pertinent City regulations. For the purposes of this analysis, the hours of operation are assumed to be 7 days a week, 24 hours per day.

Project Phasing

The Project is anticipated to be developed in one phase. Construction activity of the Project is anticipated to begin in October 2023 with a construction duration of approximately 7 months. Construction of the Project would require the following phases: demolition, site preparation, grading, building construction, paving, and architectural coatings.

Walls and Fences

The Project would include the following walls and fences on-site:

- An 8-foot-high tubular steel fence would be located along the northwestern corner and northern boundaries of the Project site;
- One 14-foot-high concrete screen wall along the warehouse building's northern elevation and standard auto stall parking area, near the access point at Willow Avenue;
- Two 8-foot-high louvered metal gates at the access point at Willow Avenue and along the western boundary of the Project site;

Site Access

Local access to the Project site is provided via Jurupa Avenue, which bounds the south of the site in a west-east direction, and S Willow Avenue, which bounds east of the site in a north-south direction. Regional access to the Project site is provided via San Bernardino Freeway (I-10), located approximately 1.30-mile to the north; Interstate 210, located approximately 3.00-miles to the east; and Route 60, located approximately 3.22-miles to the south. The Project would include one new 40 foot-wide driveway off S Willow Avenue and one 35 foot-wide driveway and one 26 foot-wide driveway off Jurupa Avenue.

Parking

The Project proposes to provide a total of 118 parking stalls that includes 83 standard auto stalls (9 feet by 20 feet) and 35 trailer stalls (10 feet by 55 feet). Trailer stalls would be positioned along the

northern Project boundary, east of the automobile parking area. Standard auto parking stalls would be provided at the northeastern corner of the Project site and along the southern Project boundary.

EXHIBIT 1: Regional Vicinity Map
Jurupa & Willow Warehouse Project
City of Rialto

Not to Scale

Kimley»Horn
Expect More. Experience Better.

EXHIBIT 2: Site Vicinity Map
Jurupa & Willow Warehouse Project
City of Rialto

Not to Scale

Kimley»Horn
Expect More. Experience Better.

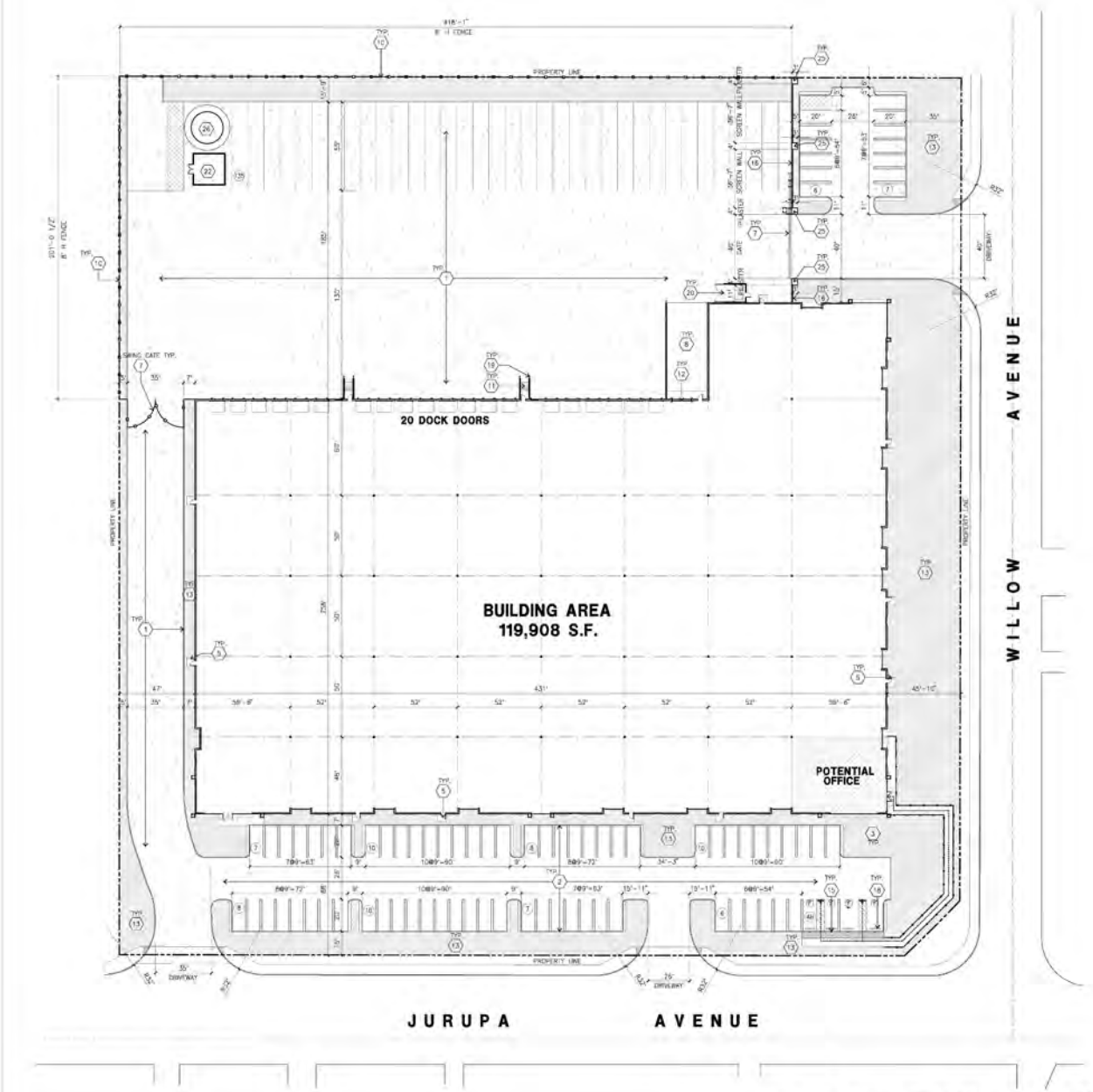

EXHIBIT 3: Site Plan
Jurupa & Willow Warehouse Project
City of Rialto

Not to Scale

Kimley»Horn
Expect More. Experience Better.

4.0 Energy Conservation

In 1975, largely in response to the 1970's oil crisis, the California State Legislature adopted Assembly Bill 1575 (AB 1575), which created the California Energy Commission (CEC). The CEC's statutory mission is to forecast future energy needs, license thermal power plants of 50 megawatts or larger, develop energy technologies and renewable energy resources, plan for and direct State responses to energy emergencies, and, perhaps most importantly, promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code Section 21100(b)(3) to require Environmental Impact Reports (EIRs) to consider the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F, *Energy Conservation*, in the California Environmental Quality Act Guidelines (CEQA Guidelines). CEQA Guidelines Appendix F is an advisory document that assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy.

In addition, the California Natural Resources Agency finalized updates to the State CEQA Guidelines in December 2018. New CEQA Guidelines Section 15126.2(b) treats "wasteful, inefficient, or unnecessary" energy consumption as a significant environmental impact. As a result, energy thresholds have been incorporated into State CEQA Guidelines Appendix G. This technical memorandum has been prepared to assess energy impacts in accordance with State CEQA Guidelines Appendix G.

Environmental Setting

Energy consumption is analyzed in this technical memorandum due to the potential direct and indirect environmental Project impacts. Such impacts include the depletion of nonrenewable resources and emissions of pollutants during both construction and long-term operational phases.

Electricity Services

Southern California Edison (SCE) provides electrical services to the City through State-regulated public utility contracts. Over the past 15 years, California's electricity generation has undergone a transition. Historically, California has relied heavily on oil- and gas-fired plants to generate electricity. Spurred by regulatory measures and tax incentives, California's electrical system has become more reliant on renewable energy sources (e.g., cogeneration, wind energy, solar energy, geothermal energy, biomass conversion, transformation plants, and small hydroelectric plants). Unlike petroleum production, electricity generation is not usually tied to the location of the fuel source and can be delivered great distances via the electrical grid. The generating capacity of a unit of electricity is expressed in megawatts (MW). Net generation refers to the gross amount of energy produced by a unit, minus the

amount of energy the unit consumes. Generation is typically measured in megawatt-hours (MWh), kilowatt-hours (kWh), or gigawatt-hours (GWh).

Natural Gas Services

Southern California Gas Company (SoCalGas) provides natural gas services to the City of Rialto (City) and San Bernardino County (County). Natural gas is a hydrocarbon fuel found in reservoirs beneath the Earth's surface and is composed primarily of methane (CH_4). It is used for space and water heating, process heating and electricity generation, and as transportation fuel. Use of natural gas to generate electricity is expected to increase in coming years because it is a relatively clean alternative to other fossil fuels (e.g., oil and coal). In California and throughout the western United States, many new electrical generation plants fired by natural gas are being brought online. Thus, there is great interest in importing liquefied natural gas from other parts of the world. California's natural gas-fired electric generation increased by 2 percent in 2021, accounting for 50 percent of in-state generation.[1]

Energy Consumption

Energy consumption is typically quantified using the British Thermal Unit (BTU). Total energy consumption in California was 6,922.8 trillion BTUs in 2020 (the most recent year for which this specific data is available).[2] Of California's total annual energy consumption in 2020, the breakdown by sector is 34.0 percent transportation, 24.6 percent industrial, 19.6 percent commercial, and 21.8 percent residential.[3] Electricity and natural gas in California are generally consumed by stationary users such as residences, commercial, and industrial uses, whereas petroleum consumption is generally accounted for by transportation-related energy use. In 2021, California's taxable gasoline sales (including aviation gasoline) accounted for 13,060,407,775 gallons of gasoline.[4]

The County's electricity consumption from 2011 to 2021 is shown in **Table 1: Electricity Consumption in San Bernardino 2011-2021**. As indicated in **Table 1**, the County's energy consumption has steadily increased between 2011 and 2021.

---

1 California Energy Commission, *2021 Total System Electric Generation*, https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2021-total-system-electric-generation, accessed June 2023.

2 U.S. Energy Information Administration, *Table F33: Total Energy Consumption, Price, and Expenditure Estimates, 2020,* https://www.eia.gov/state/seds/sep_fuel/html/fuel_te.html, accessed June 2023.

3 U.S. Energy Information Administration, *California State Profile and Energy Estimates*, *California Energy Consumption by End-Use Sector, 2020*, https://www.eia.gov/state/?sid=CA#tabs-2, accessed June 2023.

4 California Department of Tax and Fee Administration, March *2022 – Motor Vehicle Fuel 10 Year Reports*, https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm, accessed June 2023.

Table 1: Electricity Consumption in San Bernardino County 2011-2021	
Year	**Electricity Consumption (in millions of kilowatt hours)**
2011	13,730
2012	14,348
2013	14,374
2014	14,731
2015	14,731
2016	14,946
2017	15,282
2018	15,376
2019	15,316
2020	15,969
2021	16,181
Source: California Energy Commission, *Electricity Consumption by County*, http://www.ecdms.energy.ca.gov/, accessed June 2023.	

The County's natural gas consumption from 2011 to 2021 is shown in **Table 2: Natural Gas Consumption in San Bernardino County 2011-2021**. As shown in **Table 2**, the County's natural gas consumption relatively increased from 2011 to 2021.

Table 2: Natural Gas Consumption in San Bernardino County 2011-2021	
Year	**Natural Gas Consumption (in millions of therms)**
2011	504
2012	489
2013	511
2014	469
2015	485
2016	494
2017	493
2018	500
2019	547
2020	527
2021	561
Source: California Energy Commission, *Natural Gas Consumption by County*, http://www. ecdms.energy.ca.gov/, accessed June 2023.	

The County's automotive fuel consumption from 2012 to 2022 is shown in **Table 3: Automotive Fuel Consumption in San Bernardino County 2012-2022**. As shown in **Table 3**, the County's on-road automotive fuel consumption relatively increased from 2012 to 2019, decreased in 2020, and increased again in 2021, and 2022. Heavy-duty vehicle fuel consumption generally increased since 2012.

Table 3: Automotive Fuel Consumption in San Bernardino County 2012-2022		
Year	**On-Road Automotive Fuel Consumption (gallons)**	**Heavy-Duty Vehicle/Diesel Fuel Consumption (Construction Equipment) (gallons)**
2012	823,824,155	221,468,396
2013	823,575,913	231,100,540
2014	833,908,390	233,757,358
2015	862,282,542	236,687,334
2016	886,951,688	251,535,041
2017	894,270,493	263,723,118
2018	894,127,745	259,783,109
2019	894,821,914	261,139,639
2020	763,765,305	265,477,739
2021	869,262,611	272,787,528
2022	867,249,837	276,240,473
Source: California Air Resources Board, EMFAC2021.		

5.0 Regulatory Setting

The following is a description of State and local environmental laws and policies related to energy consumption that are relevant to the proposed Project.

5.1 State of California

California's Energy Efficiency Standards for Residential and Non-Residential Buildings (Title 24)

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission) in June 1977 and are updated every three years (Title 24, Part 6, of the California Code of Regulations). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On June 10, 2015, the CEC adopted the 2016 Building Energy Efficiency Standards, which went into effect on January 1, 2017. On May 9, 2018, the CEC adopted the 2019 Building Energy Efficiency Standards, which took effect on January 1, 2020. On August 11, 2021, the CEC adopted the 2022 Building Energy Efficiency Standards, which went into effect on January 1, 2023.

The 2016 Standards improved upon the previous 2013 Standards for new construction of and additions and alterations to residential and nonresidential buildings. Under the 2016 Standards, residential buildings are 28 percent more energy efficient and nonresidential buildings are 5 percent more energy efficient than under the 2013 Standards. Buildings that are constructed in accordance with the 2013 Building Energy Efficiency Standards are 25 percent (residential) to 30 percent

(nonresidential) more energy efficient than the prior 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features.

The 2019 Standards improve upon the 2016 Standards. Under the 2019 Title 24 standards, residential buildings are about 7 percent more energy efficient, and when the required rooftop solar is factored in for low-rise residential construction, residential buildings that meet 2019 Title 24 standards use about 53 percent less energy than those built to meet the 2016 standards.

On August 11, 2021, the CEC adopted the 2022 Title 24 standards (2022 Energy Code). Among other updates like strengthened ventilation standards for gas cooking appliances, the 2022 Energy Code includes updated standards in three major areas:

- New electric heat pump requirements for residential uses, schools, offices, banks, libraries, retail, and grocery stores.
- The promotion of electric-ready requirements for new homes including the addition of circuitry for electric appliances, battery storage panels, and dedicated infrastructure to allow for the conversion from natural gas to electricity.
- The expansion of solar photovoltaic and battery storage standards to additional land uses including high-rise multifamily residences, hotels and motels, tenant spaces, offices, (including medical offices and clinics), retail and grocery stores, restaurants, schools, and civic uses (including theaters auditoriums, and convention centers).

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development. CALGreen standards require new residential and commercial buildings to comply with mandatory measures under five topical areas: planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality. CALGreen also provides voluntary measures (CALGreen Tier 1 and Tier 2) that local governments may adopt which encourage or require additional measures in the five green building topics. The CEC has approved the 2022 California Green Building Standards Code and it took effect January 1, 2023. Projects whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 Energy Code.[5]

[5] California Energy Commission, *2022 Building Energy Efficiency Standards*, https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency, accessed June 2023.

California Public Utilities Commission Energy Efficiency Strategic Plan

The California Public Utilities Commission (CPUC) prepared an Energy Efficiency Strategic Plan in 2011 with the goal of promoting energy efficiency and a reduction in greenhouse gases. Assembly Bill 1109, adopted in 2007, also serves as a framework for lighting efficiency. This bill requires the State Energy Resources Conservation and Development Commission to adopt minimum energy efficiency standards as a means to reduce average Statewide electrical energy consumption by not less than 50 percent from the 2007 levels for indoor residential lighting and not less than 25 percent from the 2007 levels for indoor commercial and outdoor lighting by 2018. According to the Energy Efficiency Strategic Plan, lighting comprises approximately one-fourth of California's electricity use while non-residential sector exterior lighting (parking lot, area, walkway, and security lighting) usage comprises 1.4 percent of California's total electricity use, much of which occurs during limited occupancy periods.

Renewable Portfolio Standard

In 2002, California established its Renewable Portfolio Standard program with the goal of increasing the annual percentage of renewable energy in the state's electricity mix by the equivalent of at least 1 percent of sales, with an aggregate total of 20 percent by 2017. The CPUC subsequently accelerated that goal to 2010 for retail sellers of electricity (Public Utilities Code Section 399.15(b)(1)). Then-Governor Schwarzenegger signed Executive Order S-14-08 in 2008, increasing the target to 33 percent renewable energy by 2020. In September 2009, then-Governor Schwarzenegger continued California's commitment to the Renewable Portfolio Standard by signing Executive Order S-21-09, which directs the California Air Resources Board under its AB 32 authority to enact regulations to help the State meet its Renewable Portfolio Standard goal of 33 percent renewable energy by 2020. In September 2010, the California Air Resources Board adopted its Renewable Electricity Standard regulations, which require all of the State's load-serving entities to meet this target. In October 2015, then-Governor Brown signed into legislation Senate Bill 350, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030. Signed in 2018, SB 100 revised SB 350's goal, revising it to achieve the 50 percent renewable resources target by December 31, 2026 and to achieve a 60 percent target by December 31, 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

5.2 City of Rialto

City of Rialto General Plan

The following are relevant policies of the Rialto General Plan, which may contribute to reducing potential energy impacts.

Goal 2-30: Incorporate green building and other sustainable building practices into development projects.

Policy 2-30.1: Explore and adopt the use of green building standards and Leadership in Energy and Environmental Design (LEED) or similar in both private and public projects.

Policy 2-30.2: Promote sustainable building practices that go beyond the requirements of Title 24 of the California Administrative Code, and encourage energy-efficient design elements, as appropriate.

Goal 2-31: Conserve energy resources.

Policy 2-31.1: Require the incorporation of energy conservation features into the design of all new construction and site development activities.

City of Rialto Climate Adaptation Plan

The City of Rialto Climate Adaptation Plan (Rialto CAP)[6] outlines goals to reduce energy consumption and greenhouse gas (GHG) emissions to become a more sustainable community. Goals include:

- Prevent truck routes from disproportionately impacting disadvantaged communities;
- Create a clean air checklist for new development of sensitive land uses;
- Increase use of low-emission and electric vehicles where feasible; and
- Adopt building and maintenance standards that reflect the regional best practices in reducing urban heat island effect.

[6] City of Rialto, *Rialto Climate Adaption Plan*, https://www.yourrialto.com/DocumentCenter/View/1761/Rialto-Climate-Adaptation-Draft-Plan-July-2021, accessed June 2023.

6.0 CEQA Thresholds and Methodology

In accordance with State CEQA Guidelines, the effects of a project are evaluated to determine whether they would result in a significant adverse impact on the environment. This memorandum will focus on these effects and offer mitigation measures to reduce or avoid any significant impacts that are identified. The criteria used to determine the significance of impacts may vary depending on the nature of the project. According to State CEQA Guidelines Appendix G, the proposed Project would have a significant impact related to energy, if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation; and/or

- Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

The impact analysis focuses on the three sources of energy that are relevant to the proposed Project: electricity, natural gas, and transportation fuel for vehicle trips associated with the Project as well as the fuel necessary for Project construction. The analysis of the Project's electricity and natural gas use is based on the California Emissions Estimator Model (CalEEMod), which quantifies energy use for occupancy. The results of CalEEMod are included in the Project's Air Quality Assessment, prepared by Kimley-Horn (2023). Modeling related to Project energy use was based primarily on the default settings in CalEEMod. The amount of operational fuel use was estimated using CalEEMod outputs for the Project and CARB Emissions Factor (EMFAC) 2021 computer program for typical daily fuel use in San Bernardino County. Construction fuel was calculated based on CalEEMod emissions outputs and conversion ratios from the Climate Registry.

7.0 Impacts and Mitigation Measures

Threshold 7.1 Would the project result in wasteful, inefficient, or unnecessary consumption of energy resources?

Construction-Related Energy

The energy associated with Project construction includes electricity use associated with water utilized for dust control; diesel fuel from on-road hauling trips, vendor trips, and off-road construction diesel equipment; and gasoline fuel from on-road worker commute trips. Because construction activities typically do not require natural gas, it is not included in the following discussion. The methodology for each category is discussed below. This analysis relies on the construction equipment list and operational characteristics from CalEEMod; refer to **Appendix A: Energy Data**. Energy consumption associated with the proposed Project is summarized in **Table 4: Energy Use During Construction**.

Table 4: Energy Use During Construction			
Project Source	**Total Construction Energy[4]**	**San Bernardino County Annual Energy Consumption**	**Percentage of Countywide Consumption**
Electricity Use			
Water[1]	0.0047 GWh	16,181 GWh	<0.0001%
Diesel Use			
On-Road Construction Trips[2]	24,629 gallons	280,907,070 gallons	0.0088%
Off-Road Construction Equipment[3]	24,290 gallons		0.0087%
Construction Diesel Total	48,918 gallons		0.0175%
Gasoline Use			
On-Road Construction Trips	4,805 gallons	846,846,001 gallons	0.0006%
Notes: [1] Construction water use based on acres disturbed per day during grading and site preparation and estimated water use per acre. [2] On-road mobile source fuel use based on vehicle miles traveled (VMT) from CalEEMod and fleet-average fuel consumption in gallons per mile from EMFAC2021 in San Bernardino County for construction year 2024. [3] Construction fuel use was calculated based on CalEEMod emissions outputs and conversion ratios from the Climate Registry. [4] Total Construction Energy is the combined energy usage over approximately 7 months of construction.			
Refer to **Appendix A: Energy Data** for assumptions used in this analysis.			

Electricity

Water for Construction Dust Control. Electricity use associated with water usage for construction dust control is calculated based on total water use and the energy intensity for supply, distribution, and treatment of water. The total number of gallons of water used is calculated based on acreage disturbed during grading and site preparation, as well as the daily watering rate per acre disturbed.

- The total acres disturbed are calculated using the methodology described in Chapter 4.2 of Appendix A of the CalEEMod User's Guide, available at: http://www.caleemod.com/.

- The water application rate of 3,020 gallons per acre per day is from the Air and Waste Management Association's Air Pollution Engineering Manual (1992).

The energy intensity value is based on the CalEEMod default energy intensity per gallon of water for San Bernardino County. As summarized in **Table 4**, the total electricity demand associated with water use for construction dust control would be approximately 0.0047 GWh over the duration of construction.

Petroleum Fuel

On-Road Diesel Construction Trips. The diesel fuel associated with on-road construction mobile trips is calculated based on vehicle miles traveled (VMT) from vehicle trips (i.e., worker, vendor, and hauling), the CalEEMod default diesel fleet percentage, and vehicle fuel efficiency in miles per gallon (MPG). VMT for the entire construction period is calculated based on the number of trips multiplied

by the trip lengths for each phase shown in CalEEMod. Construction fuel was calculated based on CalEEMod emissions outputs and conversion ratios from the Climate Registry. In summary, the total diesel fuel associated with on-road construction trips would be approximately 24,629 gallons over the duration of buildout of the Project; refer to **Table 4**.

Off-Road Diesel Construction Equipment. Similarly, the construction diesel fuel associated with the off-road construction equipment is calculated based on CalEEMod emissions outputs and conversion ratios from the Climate Registry. The total diesel fuel associated with off-road construction equipment is approximately 24,290 gallons for duration of buildout of the Project; refer to **Table 4**.

On-Road Gasoline Construction Trips. The gasoline fuel associated with on-road construction mobile trips is calculated based on VMT from vehicle trips (i.e., worker, vendor, and hauling), the CalEEMod default gasoline fleet percentage, and vehicle fuel efficiency in MPG using the same methodology as the construction on-road trip diesel fuel calculation discussed above. The total gasoline fuel associated with on-road construction trips would be approximately 4,805 gallons over the duration of buildout of the Project; refer to **Table 4**.

Construction Energy Use Conclusion

In total, construction of the Project would use approximately 0.0047 GWh of electricity, 4,805 gallons of gasoline, and 48,918 gallons of diesel. In 2021, San Bernardino County used 16,181 GWh of electricity. Project construction electricity use would represent less than 0.0001 percent of the current electricity use in San Bernardino County.

In 2024, the year Project construction is anticipated to commence, San Bernardino County is anticipated to use approximately 846,846,001 gallons of gasoline and approximately 280,907,070 gallons of diesel fuel. During construction, gasoline fuel consumption would constitute 0.0006 percent of average annual gasoline usage in the County and diesel fuel consumption would constitute 0.0175 percent of average annual diesel used in the County. Based on the total Project's relatively low construction fuel use proportional to annual County use, the Project would not substantially affect existing energy fuel supplies or resources. New capacity or additional sources of construction fuel are not anticipated to be required.

Transportation fuels (gasoline and diesel) are produced from crude oil, which can be domestic or imported from various regions around the world. Based on current proven reserves, current crude oil production would be sufficient to meet 50 years of worldwide consumption.[7] As such, it is expected that existing and planned transportation fuel supplies would be sufficient to serve the Project's temporary construction demand.

[7] BP Global, *Statistical Review of World Energy*, 2021.

SCE's total energy sales are projected to be 101,958 GWh of electricity in 2024.[8] Therefore, the Project's construction-related annual electricity consumption of 0.0047 GWh would represent less than 0.0001 percent of SCE's projected annual sales. Therefore, it is anticipated that SCE's existing and planned electricity capacity and electricity supplies would be sufficient to serve the Project's temporary construction electricity demand.

Furthermore, there are no unusual characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region or State. In addition, some energy conservation would occur during construction through compliance with State requirements that equipment not in use for more than five minutes be turned off. Project construction equipment would also be required to comply with the latest EPA and CARB engine emissions standards. These engines use highly efficient combustion engines to minimize unnecessary fuel use.

The Project would have construction activities that would use energy, primarily in the form of diesel fuel (e.g., mobile construction equipment) and electricity (e.g., power tools). Contractors would be required to monitor air quality emissions of construction activities using applicable regulatory guidance such as from South Coast Air Quality Management District (SCAQMD) CEQA Guidelines. Additionally, construction is subject to and would comply with California regulations (e.g., California Code of Regulations, Title 13, Sections 2485 and 2449), which reduce diesel particulate matter and criteria pollutant emissions from in-use off-road diesel-fueled vehicles and limit the idling of heavy-duty construction equipment to no more than five minutes. This requirement indirectly relates to construction energy conservation because when air pollutant emissions are reduced from the monitoring and the efficient use of equipment and materials, energy use is reduced. There are no aspects of the Project that would foreseeably result in the inefficient, wasteful, or unnecessary use of energy during construction activities.

Due to increasing transportation costs and fuel prices, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary use of energy during construction. There is growing recognition among developers and retailers that sustainable construction is not prohibitively expensive and that there is a significant cost-savings potential in green building practices. Substantial reduction in energy inputs for construction materials can be achieved by selecting building materials composed of recycled materials that require substantially less energy to produce than non-recycled materials. The Project-related incremental increase in the use of energy bound in construction materials such as asphalt, steel, concrete, pipes, and manufactured or processed materials (e.g., lumber and gas) would not substantially increase demand for energy compared to overall local and regional demand for construction materials. It is reasonable to assume that production of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest in minimizing the costs of business.

[8] California Energy Commission, *CED 2021 Baseline Forecast – SCE High Demand Case*, January 2023.

As described above, the Project's fuel from the entire construction period would constitute less than one percent of Countywide consumption. It should be noted that the State CEQA Guidelines Appendix G and Appendix F criteria require the Project's effects on local and regional energy supplies and on the requirements for additional capacity to be addressed. A less than one percent increase in construction fuel demand is not anticipated to trigger the need for additional capacity. Additionally, use of construction fuel would be temporary and would cease once the Project is fully developed. As such, Project construction would have a nominal effect on the local and regional energy supplies.

As stated above, there are no unusual characteristics that necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region or State. Therefore, it is expected that construction fuel use associated with the Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature. Therefore, potential impacts are considered less than significant.

Operational Energy

The energy consumption associated with Project operations would occur from building energy (electricity and natural gas) use, water use, and transportation-related fuel use. The Project is anticipated to be operational in 2024. The Project's annual energy use during operations is shown in **Table 5: Annual Energy Use During Operations**. The methodology for each category is discussed below.

Table 5: Annual Energy Use During Operations

Project Source	Project Annual Energy Consumption	San Bernardino County Annual Energy Consumption	Percentage of Countywide Consumption
Electricity Use			
Area[1]	0.6180 GWh	16,181 GWh	0.0038%
Water[1]	0.3655 GWh		0.0023%
Total Electricity	0.9835 GWh		0.0061%
Natural Gas Use			
Area[1]	23,217 therms	561,360,617 therms	0.0041%
Diesel Use			
Mobile[2]	201,896 gallons	280,907,070 gallons	0.0719%
Gasoline Use			
Mobile[2]	30,853 gallons	846,846,002 gallons	0.0036%

Notes:
[1] The electricity, natural gas, and water usage are based on Project-specific estimates and CalEEMod defaults.
[2] Calculated based on the mobile source fuel use based on vehicle miles traveled (VMT) and fleet-average fuel consumption (in gallons per mile) from EMFAC2021 for operational year 2024.

Refer to **Appendix A: Energy Data** for assumptions used in this analysis.

Petroleum Fuel. The gasoline and diesel fuel associated with on-road vehicular trips is calculated based on total VMT calculated for the analyses within CalEEMod and average fuel efficiency from the EMFAC model. As summarized in **Table 5**, the Project's total gasoline and diesel fuel would be approximately 30,853 gallons per year and 201,896 gallons per year, respectively.

Electricity. The electricity use during Project operations is based on CalEEMod defaults. The Project would use approximately 0.9835 GWh of electricity onsite per year; refer to **Table 5**. The electricity associated with operational water use is estimated based on the annual water use and the energy intensity factor is the CalEEMod default energy intensity per gallon of water for San Bernardino County. Project area water use is based on the CalEEMod default rates. The Project would use approximately 0.3655 GWh per year for water conveyance and treatment.

Natural Gas. The methodology used to calculate the natural gas use associated with the Project is based on CalEEMod default rates. The Project would use 23,217 therms of natural gas per year; refer to **Table 5**.

Operational Energy Use Conclusion

As shown in **Table 5**, the Project's electricity and automotive fuel consumption compared to existing conditions is minimal (less than one percent of existing consumption). For the reasons described above, the Project would not place a substantial demand on regional energy supply or require significant additional capacity, or significantly increase peak and base period electricity demand. Thus, the Project would not cause a wasteful, inefficient, and unnecessary consumption of energy during Project operations or preempt future energy development or future energy conservation. Therefore, impacts associated with operational energy use would be less than significant.

Threshold 7.2 Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Title 24 of the California Code of Regulations contains energy efficiency standards for residential and non-residential buildings based on a state mandate to reduce California's energy demand. Specifically, Title 24 addresses a number of energy efficiency measures that impact energy used for lighting, water heating, heating, and air conditioning, including the energy impact of the building envelope such as windows, doors, skylights, wall/floor/ceiling assemblies, attics, and roofs.

Part 6 of Title 24 specifically establishes energy efficiency standards for residential and nonresidential buildings constructed in the State of California in order to reduce energy demand and consumption. The Project would comply with Title 24, Part 6 per state regulations. In accordance with Title 24 Part 6, the Project would have: (a) sensor based lighting controls— for fixtures located near windows, the lighting would be adjusted by taking advantage of available natural light; and (b) efficient process

equipment—improved technology offers significant savings through more efficient processing equipment.

Title 24, Part 11, contains voluntary and mandatory energy measures that are applicable to the Project under the California Green Building Standards Code. As discussed above, the Project would result in an increased demand for electricity, natural gas, and petroleum. In accordance with Title 24 Part 11 mandatory compliance, the Applicant would have (a) 50 percent of its construction and demolition waste diverted from landfills; (b) mandatory inspections of energy systems to ensure optimal working efficiency; (c) low pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring and particle boards; and (d) a 20% reduction in indoor water use. Compliance with all of these mandatory measures would decrease the consumption of electricity, natural gas, and petroleum.

The Project would not conflict with any of the federal, state, or local plans for renewable energy and energy efficiency. Because the Project would comply with Parts 6 and 11 of Title 24, no conflict with existing energy standards and regulations would occur. Therefore, impacts associated with renewable energy or energy efficiency plans would be considered less than significant.

The Project's energy consumption would exceed less than one percent of the corresponding energy sources within the County. Project operations would not substantially affect existing energy or fuel supplies or resources. All Project buildings will comply with energy and fuel efficiency laws and regulations; thus, the Project would not be wasteful or inefficient. Therefore, the project would result in a less than significant impact in this regard.

Mitigation Measure: No mitigation is required.

Level of Significance: Less than significant impact.

Cumulative Impacts

Potential cumulative impacts to energy would result if the proposed Project, in combination with past, present, and future projects, would result in the wasteful or inefficient use of energy. This could result from development that would not incorporate sufficient building energy efficiency features, would not achieve building energy efficiency standards, or would result in the unnecessary use of energy during construction and/or operation.

The cumulative projects within the areas serviced by the energy service providers would be applicable to this analysis. Projects that include development of large buildings or other structures that would have the potential to consume energy in an inefficient manner would have the potential to contribute to a cumulative impact.

Construction and operations associated with implementation of the Project would result in the use of energy, but not in an inefficient or wasteful manner. The use of energy would not be substantial in comparison to statewide electricity, natural gas, gasoline, and diesel demand; refer to **Table 4** and **Table 5**. As discussed above, the electricity used for construction would be less than that required during operation of the Project, would be temporary, and would have a minimal contribution to the Project's overall energy consumption. Construction of the Project would not typically involve the consumption of natural gas. The Project's construction electricity consumption would be negligible relative to SCE's generated electricity and electricity supplies would be sufficient to serve the Project's temporary construction electricity demand.

SCE will review the Project's estimated electricity consumption in order to ensure that the estimated power requirement would be part of the total load growth forecast for their service area and accounted for in the planned growth of the power system if the electricity demand was to increase past what the PV panels can provide. It should be noted that SCE and SoCalGas consider planned development for their service areas and are in and of themselves providing for cumulative growth. Therefore, it is likely that cumulative growth associated with the related projects is already accounted for in the planning of future supplies to cover projected demand.

SCE and SoCalGas have policies, programs, and projects in place to provide continued, adequate energy to their users, including the proposed Project. Substantial reductions to the cumulative demand for energy can result from an increased reliance on renewable energy systems (as required by the State's Renewable Portfolio Standards) and the construction of energy-efficient buildings. Cumulative projects would be subject to applicable Title 24 and CALGreen requirements similar to the Project, which includes energy efficiency standards to minimize the wasteful and inefficient use of energy.

Furthermore, transportation fuels (gasoline and diesel) are produced from crude oil, which can be domestic or imported from various regions around the world. Based on current proven reserves, current crude oil production would be sufficient to meet worldwide consumption demand until 2050. As such, it is expected that existing and planned transportation fuel supplies would be sufficient to serve the Project's construction and operational demand. New capacity or supplies of energy resources would not be required. Additionally, the Project would be subject to compliance with all federal, state, and local requirements for energy efficiency. State regulations, including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program, would serve to reduce the transportation fuel demand of cumulative projects.

In consideration of cumulative energy use, the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Additionally, as discussed above, the Project would increase overall electricity and natural gas demand but would not require additional facilities other than local connections to, or undergrounding of, existing facilities in the Project vicinity. Therefore, the proposed Project's incremental demand for electricity and natural gas facilities would

not be cumulatively considerable. Thus, the Project would not contribute to a cumulative impact to the wasteful or inefficient use of energy. A less than significant cumulative impact would occur.

The Project would also be required to comply with all the same applicable federal, state, and local measures aimed at reducing fossil fuel consumption and the conservation of energy. The anticipated Project impacts, in conjunction with cumulative development in the vicinity, would increase urbanization and result in increased energy use. Potential land use impacts are site-specific and require evaluation on a case-by-case basis. As noted above, the Project would not result in significant impacts to state or local plans for renewable energy or energy efficiency. Therefore, the Project and identified cumulative projects are not anticipated to result in a significant cumulative impact. Therefore, potential impacts are considered less than significant.

8.0 References

1. BP Global, *Statistical Review of World Energy*, 2021.
2. California Air Resources Board, EMFAC2021.
3. California Energy Commission, *2019 Building Energy Efficiency Standards*, https://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf, accessed June 2023.
4. California Energy Commission, *2022 Building Energy Efficiency Standards*, https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency, accessed June 2023.
5. California Energy Commission, *CED 2021 Baseline Forecast – SCE High Demand Case*, January 2023.
6. California Energy Commission, *Electricity Consumption by County*, http://www.ecdms.energy.ca.gov/, accessed June 2023.
7. California Energy Commission, *Natural Gas Consumption by County*, http://www.ecdms.energy.ca.gov/, accessed June 2023.
8. California Energy Commission, *2021 Total System Electric Generation*, https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2021-total-system-electric-generation#:~:text=Total%20generation%20for%20California%20was,from%2090%2C208%20GWh%20in%202020)., accessed June 2023.
9. California Department of Tax and Fee Administration, March *2022 – Motor Vehicle Fuel 10 Year Reports*, https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm, accessed June 2023.
10. California Public Utilities Commission, *Energy Efficiency Strategic Plan*, 2011.
11. City of Rialto, *Rialto Climate Adaption Plan*, https://www.yourrialto.com/DocumentCenter/View/1761/Rialto-Climate-Adaptation-Draft-Plan-July-2021, accessed June 2023.
12. U.S. Energy Information Administration, *Table F33: Total Energy Consumption, Price, and Expenditure Estimates, 2020,* https://www.eia.gov/state/seds/sep_fuel/html/fuel_te.html, accessed June 2023.
13. U.S. Energy Information Administration, *California State Profile and Energy Estimates*, *California Energy Consumption by End-Use Sector, 2020*, https://www.eia.gov/state/?sid=CA#tabs-2, accessed June 2023.

Appendix A

Energy Data

Construction Fuel Consumption

On-Site Diesel[1] (off-road construction Equipment)	$MTCO_2e$	Gallons of Fuel[4]	County Fuel in 2023 (Start of Construction)	Percent
Demolition	31	3,074		
Site Preparation/Grading	75	7,399		
Building Construction	100	9,829		
Paving	37	3,665		
Architectural Coating	3	323		
Total	247	24,290	279,150,963	0.0087%

Off-Site Diesel[1] (on-road construction trips)				
Demolition	18	1,793		
Site Preparation/Grading	205	20,197		
Building Construction	27	2,638		
Paving	0	0		
Architectural Coating	0	0		
Total	250	24,629	279,150,963	0.0088%

Off-Site Gasoline[2]				
Demolition	2	213		
Site Preparation/Grading	4	463		
Building Construction	28	3,186		
Paving	5	566		
Architectural Coating	3	376		
Total	42	4,805	859,496,394	0.0006%

Total Diesel Fuel		48,918	279,150,963	0.0175%
Total Gasoline Fuel		4,805	859,496,394	0.0006%
Total Construction Fuel	539	53,723		

Construction Phase[3]	Demolition			Site Preparation			Grading		
	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)
2023	31	18	2	48	0	2	27	205	2
Total	**31**	**18**	**2**	**48**	**0**	**2**	**27**	**205**	**2**

Construction Phase[3]	Infrastructure + Building Construction			Paving			Architectural Coating		
	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)
2023	5	1	2						
2024	94	25	27	37	0	5	3	0	3
Total	**100**	**27**	**28**	**37**	**0**	**5**	**3**	**0**	**3**

Notes:

[1] Fuel used for off-road, hauling, and vendor trips assumed to be diesel.

[2] Fuel used for worker trips assumed to be gasoline.

[3] $MTCO_2e$ rates from CalEEMod (3.0 Construction Details).

[4] For CO2e emissions, see Chapter 13 (page 94); Conversion Ratios: Climate Registry, General Reporting Protocol, 2016.

Construction Water Energy

Daily Soil Disturbance[1]	4	acres
Days of Soil Disturbance[2]	40	days
Water Concentration[3]	3,020	gallons/acre
Water Energy Intensity[4]	11,110	kWh/MG
Total Construction Water	0.42	million gallons
Construction Water Energy	4,697	kWh
	0.0047	GWh
San Bernardino County annual Electricity	16,181	GWh
Percentage Increase	0.00003%	

Notes:

[1] Total daily acres disturbed from offroad equipment per CalEEMod (3.0 Construction Detail) and maximum SCAQMD LST values for soil-disturbing equipment.

[2] Number of days of construction with soil-disturbing equipment per CalEEMod (3.0 Construction Detail).

[3] Water application rate per Air and Waste Management Association's Air Pollution Engineering Manual.

[4] Water energy intensity factor for county subarea per CalEEMod User Guide, Appendix D, page D-343.

Operational Fuel

Vehicle Type	Percent	Annual VMT[1]	MPG[2]	Annual Fuel (Gallons)	Fuel Type	SB County Fuel Consumption in 2024 (Operational Year) Gallons[3]	RS Percent
Passenger Cars (Gasoline)	0.10	666,431	21.6	30,853	Gas	846,846,002	0.0036%
Light/Medium Trucks	0.40	664,043	17.2	38,607	Diesel	280,907,070	0.0137%
Heavy Trucks/Other	0.60	996,064	6.1	163,289	Diesel	280,907,070	0.0581%
Trucks Total		993,676		201,896		280,907,070	0.0719%
Total Annual VMT		1,660,107					
		Total					

Notes:

[1] Total annual operational VMT based on mitigated annual VMT from CalEEMod (5.9 Operational Mobile Sources).

[2] Average fuel economy derived from Department of Transportation.

[3] Total annual county fuel per EMFAC 2017 model of projected operational fuel usage.

Operational Water Energy

Mitigated Indoor	27.5	million gallons
Indoor Energy Intensity Factor[1]	13,021	kWh/MG
Mitigated Outdoor	1	million gallons
Outdoor Energy Intensity Factor[2]	11,110	kWh/MG
Operational Water Energy	365,480	kWh
Operational Water Energy	0.3655	GWh
San Bernardino County Annual Electricity	16,181	GWh
Percentage Increase	0.0023%	

Land Use[3]	Unmitigated (MG)		Mitigated (MG)	
	Indoor	Outdoor	Indoor	Outdoor
Unrefrigerated Warehouse	27	1	27	1
General Office Building	1	0	1	0
Total Operational Water	**27**	**1**	**27**	**1**

Notes:

[1] Indoor water energy intensity factor for county subarea per CalEEMod User Guide, Appendix D, page D-343. Factor includes supply, treatment, distribution, and wastewater.

[2] Outdoor water energy intensity factor for county subarea per CalEEMod User Guide, Appendix D, page D-343. Factor includes supply, treatment, and distribution.

[3] Operational water use values per CalEEMod (5.12 Operational Water and Wastewater Consumption).

Elecricity/Natural Gas Energy

	Mitigated Project Annual Energy	San Bernardino County Annual Energy[3]	Percentage Increase
Electricity (kWh/yr)	617,985	16,180,811,158	0.0038%
Electricity (GWh/yr)	0.6180	16,181	0.0038%
Natural Gas (kBTU/yr)	2,321,679	56,136,061,700	0.0041%
Natural Gas (therms/yr)	23,217	561,360,617	0.0041%

Land Use	Electricity[1] (kWh/yr)		Natural Gas[2] (kBTU/yr)	
	Unmitigated	Mitigated	Unmitigated	Mitigated
Unrefrigerated Warehouse	530,726	530,726	2,184,479	2,184,479
General Office Building	87,259	87,259	137,200	137,200
Total Energy	**617,985**	**617,985**	**2,321,679**	**2,321,679**

Notes:

[1] Electricity use per CalEEMod (5.11 Operational energy Consumption).

[2] Natural Gas use per CalEEMod (5.11 Operational energy Consumption).

[3] County total energy values from California Energy Commission energy reports available through ecdms.energy.ca.gov. (Year 2021)