MD ACOUSTICS
Sound Solutions for Planning and Design

AZ Office
4960 S. Gilbert Road, Ste 1-461
Chandler, AZ 85249
p. (602) 774-1950

CA Office
1197 Los Angeles Avenue, Ste C-256
Simi Valley, CA 93065
p. (805) 426-4477

www.mdacoustics.com

August 1, 2022

Ms. Kim Prijatel
City Ventures
3121 Michaelson Drive, Suite 150
Irvine, CA 92555

Subject: Arkansas Street Residential Development and Specific Plan – CEQA Energy Review, City of Artesia, CA

Dear Ms. Prijatel:

MD Acoustics, LLC (MD) has completed a CEQA energy review for the proposed Arkansas Street and Residential Development and Specific Plan project.

Site Location

The approximately 4.22-acre Specific Plan site area is bounded to the north by Arkansas Street, to the east by Pioneer Boulevard, to the south by a single-family residential neighborhood and to the west by Alburtis Avenue. The site area contains multiple landowners and uses, including an El Pollo Loco restaurant, Pioneer RV Storage, residential, light industrial, blighted property, and automobile uses. The site comprises of Tax Assessor parcel numbers – APNs 7014-003-015 through 7014-003-028 and the portion of Alburtis Avenue within the Specific Plan boundary proposed to be vacated.

Project Description

Proposal of Kim Prijatel on behalf of City Ventures and the City of Artesia, to prepare a specific plan (Arkansas Street Specific Plan) of approximately 4.22 acres bounded to the north by Arkansas Street, to the east by Pioneer Boulevard, to the south by a single-family residential neighborhood and to the west by Alburtis Avenue. The site area contains multiple landowners and uses, including an El Pollo Loco restaurant, Pioneer RV Storage, residential, light industrial, blighted property, and automobile uses. The site comprises of Tax Assessor parcel numbers – APNs 7014-003-015 through 7014-003-028 and the portion of Alburtis Avenue within the Specific Plan boundary proposed to be vacated. Included in the proposal are the following:

- General Plan Amendment to add the new Arkansas Street Specific Plan to the General Plan and change the land use designation from Light Manufacturing and Industrial and Pioneer Boulevard Commercial to Arkansas Mixed-Use
- Specific Plan – Arkansas Street Specific Plan (4.22 acres)
- Change of Zone from Light Manufacturing and Industrial (M-1) and Commercial General (C-G) to Specific Plan (SP) Zone – Arkansas Specific Plan
- Phase 1 Development (Project) – Arkansas Project (Case No. 2021-06) will include:
    - 59 units and 5,290-square-feet of commercial on 2.65 acres;

  - TTM-83442 – air space condominium map; and
  - Street Vacation for Alburtis Avenue.
- Future Phases – the remainder of the Specific Plan area will include:
  - 40 units and 34,190-square-feet of commercial on the remaining 1.57 acres.

This analysis assesses energy use from the entire Specific Plan area, including Phase 1 and the Future Phases.

1.0 Existing Energy Conditions

Overview

California's estimated annual energy use as of 2019 included:

- Approximately 277,704 gigawatt hours of electricity; [1]
- Approximately 2,154,030 million cubic feet of natural gas per year[2];and
- Approximately 23.2 billion gallons of transportation fuel (for the year 2015)[3].

As of 2019, the year of most recent data currently available by the United States Energy Information Administration (EIA), energy use in California by demand sector was:

- Approximately 39.4 percent transportation;
- Approximately 23.1 percent industrial;
- Approximately 18.7 percent residential; and
- Approximately 18.8 percent commercial.[4]

California's electricity in-state generation system generates approximately 200,475 gigawatt-hours each year. In 2019, California produced approximately 72 percent of the electricity it uses; the rest was imported from the Pacific Northwest (approximately 9 percent) and the U.S. Southwest (approximately 19 percent). Natural gas is the main source for electricity generation at approximately 42.97 percent of the total in-state electric generation system power as shown in Table 1.

<Table 1, next page>

[1]California Energy Commission. Energy Almanac. Total Electric Generation. [Online] 2020. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2019-total-system-electric-generation.

[2]Natural Gas Consumption by End Use. U.S. Energy Information Administration. [Online] August 31, 2020. https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm.

[3]California Energy Commission. Revised Transportation Energy Demand Forecast 2018-2030. [Online] April 19, 2018. https://www.energy.ca.gov/assessments/

[4]U.S. Energy Information Administration. California Energy Consumption by End-Use Sector. California State Profile and Energy Estimates.[Online] June 25, 2021 https://www.eia.gov/state/?sid=CA#tabs-2

Table 1: Total Electricity System Power (California 2019)

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	Total Imports (GWh)	Percent of Imports	California Power Mix (GWh)	Percent California Power Mix
Coal	248	0.12%	219	7,765	7,985	10.34%	8,233	2.96%
Natural Gas	86,136	42.97%	62	8,859	8,921	11.55%	95,057	34.23%
Nuclear	16,163	8.06%	39	8,743	8,782	11.37%	24,945	8.98%
Oil	36	0.02%	0	0	0	0.00%	36	0.01%
Other (Petroleum Coke/Waste Heat)	411	0.20%	0	11	11	0.01%	422	0.15%
Large Hydro	33,145	16.53%	6,387	1,071	7,458	9.66%	40,603	14.62%
Unspecified Sources of Power	0	0.00%	6,609	13,767	20,376	26.38%	20,376	7.34%
Renewables	64,336	32.09%	10,615	13,081	23,696	30.68%	88,032	31.70%
Biomass	5,851	2.92%	903	33	936	1.21%	6,787	2.44%
Geothermal	10,943	5.46%	99	2,218	2,318	3.00%	13,260	4.77%
Somall Hydro	5,349	2.67%	292	4	296	0.38%	5,646	2.03%
Solar	28,513	14.22%	282	5,295	5,577	7.22%	34,090	12.28%
Wind	13,680	6.82%	9,038	5,531	14,569	18.87%	28,249	10.17%
Total	200,475	100.00%	23,930	53,299	77,229	100.00%	277,704	100.00%

Notes:
[1] Source: California Energy Commission. 2019 Total System electric Generation. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2019-total-system-electric-generation

A summary of and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below:

- California was the seventh-largest producer of crude oil among the 50 states in 2019, and, as of January 2020, it ranked third in oil refining capacity. Foreign suppliers, led by Saudi Arabia, Iraq, Ecuador, and Colombia, provided more than half of the crude oil refined in California in 2019.
- California is the largest consumer of both jet fuel and motor gasoline among the 50 states and accounted for 17% of the nation's jet fuel consumption and 11% of motor gasoline consumption in 2019. The state is the second-largest consumer of all petroleum products combined, accounting for 10% of the U.S. total.
- In 2018, California's energy consumption was second-highest among the states, but its per capita energy consumption was the fourth-lowest due in part to its mild climate and its energy efficiency programs.
- In 2019, California was the nation's top producer of electricity from solar, geothermal, and biomass energy, and the state was second in the nation in conventional hydroelectric power generation.
- In 2019, California was the fourth-largest electricity producer in the nation, but the state was also the nation's largest importer of electricity and received about 28% of its electricity supply from generating facilities outside of California, including imports from Mexico.[5].

As indicated above, California is one of the nation's leading energy-producing states, and California per capita energy use is among the nation's most efficient. Given the nature of the proposed project, the

5 State Profile and Energy Estimates. Independent Statistics and Analysis. [Online] [Cited: January 16, 2020.] http://www.eia.gov/state/?sid=CA#tabs2.

remainder of this discussion will focus on the three sources of energy that are most relevant to the project—namely, electricity and natural gas for building uses, and transportation fuel for vehicle trips associated with the proposed project.

Electricity

Electricity would be provided to the project by Southern California Edison (SCE). SCE provides electric power to more than 15 million persons, within a service area encompassing approximately 50,000 square miles.[6] SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers.[7] Table 2 identifies SCE's specific proportional shares of electricity sources in 2019.

Table 2: SCE 2019 Power Content Mix

Energy Resources	2019 SCE Power Mix
Eligible Renewable	35%
Biomass & Waste	1%
Geothermal	6%
Eligible Hydroelectric	1%
Solar	16%
Wind	12%
Coal	0%
Large Hydroelectric	8%
Natural Gas	16%
Nuclear	8%
Other	0%
Unspecified Sources of power*	33%
Total	100%

Notes:
[1]https://www.sce.com/sites/default/files/inline-files/SCE_2019PowerContentLabel.pdf
*Unspecified sources of power means electricity from transactions that are not traceable to specific generation sources.

Natural Gas

Natural gas would be provided to the project by Southern California Gas (SoCalGas). The following summary of natural gas resources and service providers, delivery systems, and associated regulation is excerpted from information provided by the California Public Utilities Commission (CPUC).

The CPUC regulates natural gas utility service for approximately 11 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller investor-owned natural gas utilities. The CPUC also regulates independent storage operators Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.

[6] https://www.sce.com/about-us/who-we-are/leadership/our-service-territory
[7] California Energy Commission. Utility Energy Supply plans from 2015. https://www.energy.ca.gov/almanac/electricity_data/supply_forms.html

The vast majority of California's natural gas customers are residential and small commercial customers, referred to as "core" customers. Larger volume gas customers, like electric generators and industrial customers, are called "noncore" customers. Although very small in number relative to core customers, noncore customers consume about 65% of the natural gas delivered by the state's natural gas utilities, while core customers consume about 35%.

The PUC regulates the California utilities' natural gas rates and natural gas services, including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing.

Most of the natural gas used in California comes from out-of-state natural gas basins. In 2017, for example, California utility customers received 38% of their natural gas supply from basins located in the U.S. Southwest, 27% from Canada, 27% from the U.S. Rocky Mountain area, and 8% from production located in California."[8]

Transportation Energy Resources

The project would attract additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. Gasoline (and other vehicle fuels) are commercially-provided commodities and would be available to the project patrons and employees via commercial outlets.

The most recent data available shows the transportation sector emits 40 percent of the total greenhouse gases in the state and about 84 percent of smog-forming oxides of nitrogen (NOx).[9,10] About 28 percent of total United States energy consumption in 2019 was for transporting people and goods from one place to another. In 2019, petroleum comprised about 91 percent of all transportation energy use, excluding fuel consumed for aviation and most marine vessels.[11] In 2020, about 123.49 billion gallons (or about 2.94 billion barrels) of finished motor gasoline were consumed in the United States, an average of about 337 million gallons (or about 8.03 million barrels) per day.[12]

2.0 Regulatory Background

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. On the state level, the PUC and the California Energy Commissions (CEC) are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below.

[8]California Public Utilities Commission. Natural Gas and California. http://www.cpuc.ca.gov/natural_gas/
[9]CARB. California Greenhouse Gas Emissions Inventory 2000-2018 -2020 Edition. https://www.arb.ca.gov/cc/inventory/data/data.htm
[10]CARB. 2016 SIP Emission Projection Data. https://www.arb.ca.gov/app/emsinv/2017/emseic1_query.php?F_DIV=-4&F_YR=2012&F_SEASON=A&SP=SIP105ADJ&F_AREA=CA
[11] US Energy Information Administration. Use of Energy in the United States Explained: Energy Use for Transportation. https://www.eia.gov/energyexplained/?page=us_energy_transportation
[12] https://www.eia.gov/tools/faqs/faq.php?id=23&t=10

Federal Regulations

Corporate Average Fuel Economy (CAFE) Standards

First established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA) jointly administer the CAFE standards. The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.[13]

Issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020), the Safer Affordable Fuel-Efficient Vehicles Rule would maintain the CAFE and CO2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO2 standards for model year 2020 are 43.7 mpg and 204 grams of CO2 per mile for passenger cars and 31.3 mpg and 284 grams of CO2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012.[14]

Intermodal Surface transportation Efficiency Act of 1991 (ISTEA)

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

The Transportation Equity Act of the 21st Century (TEA-21)

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

[13] https://www.nhtsa.gov/lawsregulations/corporate-average-fuel-economy.

[14] National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/safer-affordable-fuel-efficient-safe-vehicles-final-rule.

State Regulations

Integrated Energy Policy Report (IEPR)

Senate Bill 1389 requires the California Energy Commission (CEC) to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the State's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety. The Energy Commission prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The 2019 Integrated Energy Policy Report (2019 IEPR) was adopted February 20, 2020, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2019 IEPR focuses on a variety of topics such as decarbonizing buildings, integrating renewables, energy efficiency, energy equity, integrating renewable energy, updates on Southern California electricity reliability, climate adaptation activities for the energy sector, natural gas assessment, transportation energy demand forecast, and the California Energy Demand Forecast.[15]

The 2020 IEPR was adopted March 23, 2021 and identifies actions the state and others can take to ensure a clean. Affordable, and reliable energy system. In 2020, the IEPR focuses on California's transportation future and the transition to zero-emission vehicles, examines microgrids, lessons learned form a decade of state-supported research, and stakeholder feedback on the potential of microgrids to contribute to a lean and resilient energy system; and reports on California's energy demand outlook, updated to reflect the global pandemic and help plan for a growth in zero-emission plug in electric vehicles.[16]

State of California Energy Plan

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

California Building Standards Code (Title 24)

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

The California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) were adopted to ensure that building construction and system design and installation achieve energy efficiency and preserve outdoor and indoor environmental quality. The

[15] California Energy Commission. Final 2019 Integrated Energy Policy Report. February 20, 2020. https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2019-integrated-energy-policy-report

[16] California Energy Commission. Final 2020 Integrated Energy Policy Report. March 23, 2020. https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2020-integrated-energy-policy-report-update

current California Building Energy Efficiency Standards (Title 24 standards) are the 2019 Title 24 standards, which became effective on January 1, 2020. The 2019 Title 24 standards include efficiency improvements to the lighting and efficiency improvements to the non-residential standards include alignment with the American Society of Heating and Air-Conditioning Engineers.

All buildings for which an application for a building permit is submitted on or after January 1, 2020 must follow the 2019 standards. The 2016 residential standards were estimated to be approximately 28 percent more efficient than the 2013 standards, whereas the 2019 residential standards are estimated to be approximately 7 percent more efficient than the 2016 standards. Furthermore, once rooftop solar electricity generation is factored in, 2019 residential standards are estimated to be approximately 53 percent more efficient than the 2016 standards. Under the 2019 standards, nonresidential buildings are estimated to be approximately 30 percent more efficient than the 2016 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

California Building Energy Efficiency Standards (Title 24, Part 11)

The 2019 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, went into effect on January 1, 2020. The 2019 CALGreen Code includes mandatory measures for non-residential development related to site development; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality.

The Department of Housing and Community Development (HCD) updated CALGreen through the 2019 Triennial Code Adoption Cycle. HCD modified the best management practices for stormwater pollution prevention adding Section 5.106.2; added sections 5.106.4.1.3 and 5.106.4.1.5 in regard to bicycle parking; amended section 5.106.5.3.5 allowing future charging spaces to qualify as designated parking for clean air vehicles; updated section 5.303.3.3 in regard to showerhead flow rates; amended section 5.304.1 for outdoor potable water use in landscape areas and repealed sections 5.304.2 and 5.304.3; and updated Section 5.504.5.3 in regard to the use of MERV filters in mechanically ventilated buildings.

Senate Bill 350

Senate Bill 350 (SB 350) was signed into law October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and the greenhouse gas emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans (IRPs). These IRPs will detail how each entity will meet their customers resource needs, reduce greenhouse gas emissions and ramp up the deployment of clean energy resources.

Assembly Bill 32

In 2006 the California State Legislature adopted Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006. AB 32 requires CARB, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap which will be phased in starting in 2012. Emission reductions shall include carbon sequestration projects that would remove carbon from the atmosphere and best management practices that are technologically feasible and cost effective.

Assembly Bill 1493/Pavley Regulations

California Assembly Bill 1493 enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2005, the CARB submitted a "waiver" request to the EPA from a portion of the federal Clean Air Act in order to allow the State to set more stringent tailpipe emission standards for CO_2 and other GHG emissions from passenger vehicles and light duty trucks. On December 19, 2007 the EPA announced that it denied the "waiver" request. On January 21, 2009, CARB submitted a letter to the EPA administrator regarding the State's request to reconsider the waiver denial. The EPA approved the waiver on June 30, 2009.

Executive Order S-1-07/Low Carbon Fuel Standard

Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard and began implementation on January 1, 2011. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. CARB approved some amendments to the LCFS in December 2011, which were implemented on January 1, 2013. In September 2015, the Board approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. In 2018, the Board approved amendments to the regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector.

The LCFS is designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than during the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that

compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

Executive Order N-79-20.

Executive Order N-79-20 was signed into law on September 23, 2020 and mandates 100 percent of in-state sales of new passenger cars and trucks be zero-emission by 2035; 100 percent of medium- and heavy-duty vehicles in the state be zero-emission vehicles by 2045 for all operations where feasible and by 2035 for drayage trucks; and to transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible.

California Air Resources Board

CARB's Advanced Clean Cars Program

Closely associated with the Pavley regulations, the Advanced Clean Cars emissions control program was approved by CARB in 2012. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of zero-emission vehicles for model years 2015–2025. The components of the Advanced Clean Cars program include the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.[17]

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

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

Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen, and other Criteria Pollutants, form In-Use Heavy-Duty Diesel-Fueled Vehicles

[17] California Air Resources Board, California's Advanced Clean Cars Program, January 18, 2017. www.arb.ca.gov/msprog/acc/acc.htm.

The Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles (Title 13, California Code of Regulations, Division 3, Chapter 1, Section 2025) was adopted to reduce emissions of diesel particulate matter, oxides of nitrogen (NO_X) and other criteria pollutants from in-use diesel-fueled vehicles. This regulation is phased, with full implementation by 2023. The regulation aims to reduce emissions by requiring the installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. The newer emission controlled models would use petroleum-based fuel in a more efficient manner.

Sustainable Communities Strategy

The Sustainable Communities and Climate Protection Act of 2008, or Senate Bill 375 (SB 375), coordinates land use planning, regional transportation plans, and funding priorities to help California meet the GHG reduction mandates established in AB 32.

Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

3.0 Evaluation Criteria and Methodology

Evaluation Criteria

CEQA Energy Questions

In compliance with Appendix G of the State CEQA Guidelines, this report analyzes the project's anticipated energy use to determine if the project would:

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

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

In addition, Appendix F of the State CEQA Guidelines states that the means of achieving the goal of energy conservation includes the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- Increasing reliance on renewable energy sources.

Appendix F of the State CEQA guidelines also states that the environmental impacts from a project can include:

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

Methodology

Information from the CalEEMod 2020.4.0 Daily and Annual Outputs contained in the Arkansas Street Residential Development and Specific Plan Air Quality and Greenhouse Gas Impact Study (air quality and greenhouse gas analysis) prepared for the proposed project by MD (July 14, 2022), was utilized for this analysis. The CalEEMod outputs detail project related construction equipment, transportation energy demands, and facility energy demands.

4.0 Energy Review

Construction Energy Demand

Per the applicant, construction of Phase 1 of the Specific Plan is anticipated to start first quarter 2023 and last approximately 24 months ending in late 2024. The air quality and greenhouse gas analysis (MD Acoustics 2022) modeled Phase 1 construction as starting no sooner than the beginning of October 2022 and being completed by the beginning of October 2024 as per previous timeline estimates. This ensures a conservative estimate as CalEEMod assumes vehicles and equipment to become more efficient over time and therefore calculates decreasing energy usage over time. It has been assumed that construction of the Future Phases of the Specific Plan would not begin until Phase 1 has been completed.[18] Staging of construction vehicles and equipment will occur on-site.

Construction Equipment Electricity Usage Estimates

As stated previously, electrical service will be provided by the SCE. The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity consumption during construction of the Specific Plan. Based on the 2017 National Construction

[18] In the air quality and greenhouse gas analysis (MD Acoustics 2022), the Future Phases were assumed to begin no sooner than early October 2024 and utilized CalEEMod default construction timing and equipment.

Estimator, Richard Pray (2017)[19], the typical power cost per 1,000 square feet of building construction per month is estimated to be $2.32. Phase 1 includes development of 59 single family townhome units and 5,290 square feet of commercial uses and development of the Future Phases is anticipated to be developed with up to 40 multi-family residential dwelling units and 34,190 square feet of commercial uses (the default CalEEMod outputs from the air quality and greenhouse gas analysis (MD Acoustics, 2022) show a total square footage of 59,000 square feet for Phase 1 residential uses and 74,190 square feet for the Future Phases residential uses) over the course of approximately twenty four months for Phase 1 and twelve months for the Future Phases of the Specific Plan.[20] Based on Table 3, the total power cost of the on-site electricity usage during the construction of Phase 1 is estimated to be approximately $3,579.67 and for construction of the Future Phases is estimated to be approximately $2,065.45. Therefore, the total power cost of the on-site electricity usage during the construction of the entire Specific Plan (Phases 1 and the Future Phases combined) would be $5,645.12. Furthermore, as of April 13, 2020, SCE's general service rate schedule (GS-1) is approximately $0.09 per kWh of electricity.[21] As shown in Table 3, the total electricity usage from Phase 1 construction related activities is estimated to be approximately 39,774 kWh and from construction related activities associated with the Future Phases of the Specific Plan is approximately 22,949 kWh. Therefore, total electricity usage during construction of the entire Specific Plan (Phases 1 and the Future Phases combined) would be approximately 62,724 kWh.

Table 3: Project Construction Power Cost and Electricity Usage

Power Cost (per 1,000 square foot of building per month of construction)	Total Building Size (1,000 Square Foot)[1]	Construction Duration (months)	Total Project Construction Power Cost
Phase 1			
$2.32	64.290	24	$3,579.67

Cost per kWh	Total Project Construction Electricity Usage (kWh)
$0.09	39,774

Future Phases			
$2.32	74.190	12	$2,065.45

Cost per kWh	Total Project Construction Electricity Usage (kWh)
$0.09	22,949

Total Specific Plan (Phase 1 & Future Phases combined)	
Total Construction Power Cost	$5,645.12
Total Project Construction Electricity Usage (kWh)	62,724

*Assumes the project will be under the GS-1 General Service rate under SCE.

[19] Pray, Richard. 2017 National Construction Estimator. Carlsbad : Craftsman Book Company, 2017.

[20] A stated in the air quality and greenhouse gas analysis (MD Acoustics 2022), as the construction timeline is currently unknown for the Future Phases, CalEEMod default timing was utilized for modeling purposes.

[21] Southern California Edison (SCE). Rates & Pricing Choices: General Service/Industrial Rates. https://library.sce.com/content/dam/sce-doclib/public/regulatory/historical/electric/2020/schedules/general-service-&-industrial-rates/ELECTRIC_SCHEDULES_GS-1_2020.pdf

[1] Square footage provided in the CalEEMod outputs for the Air Quality and Greenhouse Gas Impact Study (MD Acoustics, 2022).

Construction Equipment Fuel Estimates

Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction. Fuel consumed by construction equipment was evaluated with the following assumptions:

- Construction schedule of approximately 24 months for Phase 1 and 12 months for the Future Phases of the Specific Plan.
- All construction equipment was assumed to run on diesel fuel
- Typical daily use of 8 hours, with some equipment operating from ~6-7 hours
- Aggregate fuel consumption rate for all equipment was estimated at 18.5 hp-hr/gallon (from CARB's 2017 Emissions Factors Tables and fuel consumption rate factors as shown in Table D-21 of the Moyer Guidelines: (https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf).
- Diesel fuel would be the responsibility of the equipment operators/contractors and would be sources within the region.
- Construction represents a "single-event" for diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources during long term operation.

Using the CalEEMod data input from the air quality and greenhouse gas analysis (MD Acoustics 2022), 2Phase 1 and the Future Phase's construction phases would consume electricity and fossil fuels as a single energy demand, that is, once construction is completed their use would cease. CARB's 2017 Emissions Factors Tables show that on average aggregate fuel consumption (gasoline and diesel fuel) would be approximately 18.5 hp-hr-gal. Table 4 shows the results of the analysis of construction equipment for Phase 1 and Table 5 for the Future Phases of the Specific Plan.

<Table 4, next page>

Table 4: Construction Equipment Fuel Consumption Estimates – Phase 1

Phase	Number of Days	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	HP hrs/day	Total Fuel Consumption (gal diesel fuel)[1]
Demolition	37	Concrete/Industrial Saws	1	8	81	0.73	473	946
	37	Rubber Tired Dozers	1	8	247	0.4	790	1581
	37	Tractors/Loaders/Backhoes	3	8	97	0.37	861	1723
Site Preparation	5	Graders	1	8	187	0.41	613	166
	5	Scrapers	1	8	367	0.48	1409	381
	5	Tractors/Loaders/Backhoes	1	7	97	0.37	251	68
Grading	10	Graders	1	8	187	0.41	613	332
	10	Rubber Tired Dozers	1	8	247	0.4	790	427
	10	Tractors/Loaders/Backhoes	2	7	97	0.37	502	272
Building Construction	428	Cranes	1	8	231	0.29	536	12,399
	428	Forklifts	2	7	89	0.2	249	5,765
	428	Generator Sets	1	8	84	0.74	497	11,505
	428	Tractors/Loaders/Backhoes	1	6	97	0.37	215	4,982
	428	Welders	3	8	46	0.45	497	11,494
Paving	21	Cement and Mortar Mixers	1	8	9	0.56	40	46
	21	Pavers	1	8	130	0.42	437	496
	21	Paving Equipment	1	8	132	0.36	380	432
	21	Rollers	2	8	80	0.38	486	552
	21	Tractors/Loaders/Backhoes	1	8	97	0.37	287	326
Architectural Coating	21	Air Compressors	1	6	78	0.48	225	255
CONSTRUCTION FUEL DEMAND (gallons of diesel fuel)								**54,145**

Notes:
[1]Using Carl Moyer Guidelines Table D-21 Fuel consumption rate factors (bhp-hr/gal) for engines less than 750 hp.
(Source: https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf)

<Table 5, next page>

Table 5: Construction Equipment Fuel Consumption Estimates – Future Phases

Phase	Number of Days	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	HP hrs/day	Total Fuel Consumption (gal diesel fuel)[1]
Demolition	20	Concrete/Industrial Saws	1	8	81	0.73	473	511
	20	Rubber Tired Dozers	1	8	247	0.4	790	854
	20	Tractors/Loaders/Backhoes	3	8	97	0.37	861	931
Site Preparation	2	Graders	1	8	187	0.41	613	66
	2	Rubber Tired Dozers	1	7	367	0.48	1233	133
	2	Tractors/Loaders/Backhoes	1	8	97	0.37	287	31
Grading	4	Graders	1	8	187	0.41	613	133
	4	Rubber Tired Dozers	1	8	247	0.4	790	171
	4	Tractors/Loaders/Backhoes	2	7	97	0.37	502	109
Building Construction	200	Cranes	1	6	231	0.29	402	4,345
	200	Forklifts	1	6	89	0.2	107	1,155
	200	Generator Sets	1	8	84	0.74	497	5,376
	200	Tractors/Loaders/Backhoes	1	6	97	0.37	215	2,328
	200	Welders	3	8	46	0.45	497	5,371
Paving	10	Cement and Mortar Mixers	1	6	9	0.56	30	16
	10	Pavers	1	6	130	0.42	328	177
	10	Paving Equipment	1	8	132	0.36	380	205
	10	Rollers	1	7	80	0.38	213	115
	10	Tractors/Loaders/Backhoes	1	8	97	0.37	287	155
Architectural Coating	10	Air Compressors	1	6	78	0.48	225	121
CONSTRUCTION FUEL DEMAND (gallons of diesel fuel)								**22,305**

Notes:
[1]Using Carl Moyer Guidelines Table D-21 Fuel consumption rate factors (bhp-hr/gal) for engines less than 750 hp.
(Source: https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf)

As presented in Tables 4 and 5 above, Phase 1 construction activities would consume an estimated 54,145 gallons of diesel fuel and construction of the Future Phases is estimated to consume 22,305 gallons of diesel fuel. Therefore, construction activities associated with the total Specific Plan (Phase 1 and the Future Phases combined) would consume an estimated 76,450 gallons of diesel fuel. As stated previously, construction would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

Construction Worker Fuel Estimates

It is assumed that construction worker trips are from light duty autos (LDA), light duty truck 1 (LDT1), and light duty truck 2 9LDT2) at a mix of 50 percent/25 percent/25 percent, respectively, along area roadways.[22] With respect to estimated VMT, the construction worker trips for Phase 1 would generate an estimated 407,543 VMT and the Future Phases would generate an estimated 125,332 VMT from

[22] CalEEMod User's Guide (May 2021) states that the CalEEMod default fleet mix for worker trips includes light duty autos and light duty trucks, LDA, LDT1, LDT2, at a mix of 50%/25%/25%, respectively.

construction worker trips, for a total of 532,875 VMT for the construction of the entire Specific Plan Data regarding construction worker trips were based on CalEEMod 2020.4.0 model defaults.

Vehicle fuel efficiencies for construction workers were estimated in the air quality and greenhouse gas analysis (MD Acoustics 2022) using information generated using CARB's 2021 EMFAC model (see Appendix A for details). An aggregate fuel efficiency of 26.38 miles per gallon (mpg) was used to calculate vehicle miles traveled for construction worker trips associated with Phase 1 and 27.75 mpg for vehicle miles traveled for construction worker trips associated with the Future Phases of the Specific Plan. Table 6 shows that an estimated 15,449 gallons of fuel would be consumed for construction worker trips associated with Phase 1 and 4,516 gallons of fuel for construction worker trips associated with the Future Phases. Therefore, a total of 19,965 gallons of fuel would be consumed by construction worker trips associated with construction of the entire Specific Plan (Phase 1 and the Future Phases combined).

Table 6: Construction Workers Fuel Consumption Estimates

Phase	Number of Days	Worker Trips/Day	Trip Length (miles)[1]	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)[2]	Estimated Fuel Consumption (gallons)
Phase 1						
Demolition	37	13	14.7	7,071	26.38	268
Site Preparation	5	8	14.7	588	26.38	22
Grading	10	10	14.7	1,470	26.38	56
Building Construction	428	62	14.7	390,079	26.38	14,787
Paving	21	15	14.7	4,631	26.38	176
Architectural Coating	21	12	14.7	3,704	26.38	140
Total Construction Worker Fuel Consumption						**15,449**
Future Phases						
Demolition	20	13	14.7	3,822	27.75	138
Site Preparation	2	8	14.7	235	27.75	8
Grading	4	10	14.7	588	27.75	21
Building Construction	200	40	14.7	117,600	27.75	4,238
Paving	10	13	14.7	1,911	27.75	69
Architectural Coating	10	8	14.7	1,176	27.75	42
Total Construction Worker Fuel Consumption						**4,516**
Total Specific Plan (Phase 1 & Future Phases combined)						
					Total Construction Worker Fuel Consumption	**19,965**

[1]Assumptions for the worker trip length and vehicle miles traveled are consistent with CalEEMod 2020.4.0 defaults.
[2] CalEEMod worker vehicle class is based on an LD Mix, which, per CalEEMod User's Guide (May 2021), includes LDA, LDT1, and LDT2 at a mix of 50%/25%/25%, respectively.

Construction Vendor/Hauling Fuel Estimates

Tables 7 and 8 show the estimated fuel consumption for vendor and hauling during demolition, site preparation, grading, building construction and architectural coating. With respect to estimated VMT, the vendor and hauling trips would generate an estimated 82,545 VMT during construction of Phase 1 and 15,340 VMT during construction of the Future Phases of the Specific Plan, for a total of 97,885 VMT

for the construction of the entire Specific Plan. Data regarding construction vendor and hauling trips were based on CalEEMod 2020.4.0 model defaults.

For the architectural coatings it is assumed that the contractors would be responsible for bringing coatings and equipment with them in their light duty vehicles. Therefore, vendors delivering construction material or hauling debris from the site would use medium to heavy duty vehicles with an average fuel consumption of 7.59 mpg for medium heavy-duty trucks and 5.87 mpg for heavy heavy duty trucks for Phase 1 construction and 7.75 mpg for medium heavy-duty trucks and 6.05 mpg for heavy heavy duty trucks for construction of the Future Phases (see Appendix A for details).[23] Tables 7 and 8 show that an estimated 13,162 gallons of fuel would be consumed for vendor and hauling trips for Phase 1 and 2,255 gallons of fuel would be consumed for vendor and hauling trips for the Future Phases of the Specific Plan. Therefore, a total of 15,417 gallons of fuel would be consumed by vendor and hauling trips associated with construction of the entire Specific Plan (Phase 1 and the Future Phases combined).

Table 7: Construction Vendor Fuel Consumption Estimates (MHD & HHD Trucks)[1]

Phase	Number of Days	Vendor Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Phase 1						
Demolition	37	0	6.9	0	6.73	0
Site Preparation	5	0	6.9	0	6.73	0
Grading	10	0	6.9	0	6.73	0
Building Construction	428	14	6.9	41,345	6.73	6,143
Paving	21	0	6.9	0	6.73	0
Architectural Coating	21	0	6.9	0	6.73	0
Total Vendor Fuel Consumption						**6,143**
Future Phases						
Demolition	20	0	6.9	0	6.90	0
Site Preparation	2	0	6.9	0	6.90	0
Grading	4	0	6.9	0	6.90	0
Building Construction	200	10	6.9	13,800	6.90	2,000
Paving	10	0	6.9	0	6.90	0
Architectural Coating	10	0	6.9	0	6.90	0
Total Vendor Fuel Consumption						**2,000**
Total Specific Plan (Phase 1 & Future Phases combined)						
					Total Construction Vendor Fuel Consumption	**8,143**

Notes:
[1] Assumptions for the vendor trip length and vehicle miles traveled are consistent with CalEEMod 2020.4.0 defaults.
[2] CalEEMod vendor vehicle class is based on an HDT_Mix, which, per CalEEMod User's Guide (May 2021), includes HHDT and MHDT at a mix of 50%/50%.

[23] CalEEMod User's Guide (May 2021) states that the CalEEMod default fleet mix for vendor trips includes medium-heavy duty and heavy-heavy duty trucks, MHDT and HHDT, at a mix of 50%/50%.

Table 8: Construction Vendor Fuel Consumption Estimates (HHD Trucks)[1]

Phase	Number of Days	Hauling Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Phase 1						
Demolition	37	40	20	29,600	5.87	5,043
Site Preparation	5	30	20	3,000	5.87	511
Grading	10	43	20	8,600	5.87	1,465
Building Construction	428	0	20	0	5.87	0
Paving	21	0	20	0	5.87	0
Architectural Coating	21	0	20	0	5.87	0
Total Construction Hauling Fuel Consumption						**7,019**
Future Phases						
Demolition	20	3.2	20	1,260	6.05	208
Site Preparation	2	7	20	280	6.05	46
Grading	4	0	20	0	6.05	0
Building Construction	200	0	20	0	6.05	0
Paving	10	0	20	0	6.05	0
Architectural Coating	10	0	20	0	6.05	0
Total Construction Hauling Fuel Consumption						**255**
Total Specific Plan (Phase 1 & Future Phases combined)						
					Total Construction Hauling Fuel Consumption	**7,273**

Notes:
[1]Assumptions for the hauling trip length and vehicle miles traveled are consistent with CalEEMod 2020.4.0 defaults.

Construction Energy Efficiency/Conservation Measures

Construction equipment used over the approximately 24-month construction phase for Phase 1 and 12-month construction phase for the Future Phases of the Specific plan would conform to CARB regulations and California emissions standards and is evidence of related fuel efficiencies. Construction of the proposed Specific Plan would require the typical use of energy resources. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the Specific Plan would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Additionally, as required by California Code of Regulations Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby minimizing or eliminating unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints. Compliance with these measures would

result in a more efficient use of construction-related energy and would minimize or eliminate wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Furthermore, the Specific Plan has been designed in compliance with California's Energy Efficiency Standards and 2019 CALGreen Standards. These measures include but are not limited to the use of water conserving plumbing, the use of LED lighting, and water-efficient irrigation systems.

Operation Energy Demand

Energy consumption in support of or related to Specific Plan operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

Transportation Fuel Consumption

The largest source of operational energy use would be vehicle operation of customers and residences. The Specific Plan is located in an urbanized area just south of Arkansas Street and west of Pioneer Boulevard. Furthermore, Metro Route 62 with a stop at Pioneer and 168th is located as close as approximately 0.05 miles northwest of the Specific Plan site.

Using the CalEEMod output from the air quality and greenhouse gas analysis (MD Acoustics 2022), it is assumed that an average trip for autos were assumed to be 8.7 miles and 3- 4-axle trucks were assumed to travel an average of 16.6 miles[24]. As the proposed Specific Plan includes residential and commercial uses, it was assumed that vehicles would operate 365 days per year. Table 8 shows the worst-case estimated annual fuel consumption for all classes of vehicles from autos to heavy-heavy trucks.[25]

The Specific Plan is to generate 2,030 total vehicle trips including approximately 521 trips per day for Phase 1 and approximately 1,509 trips per day for the Future Phases. The vehicle fleet mix was used from the CalEEMod output from the air quality and greenhouse gas analysis (MD Acoustics 2022). Table 9 shows that an estimated 68,668 gallons of fuel would be consumed per year for the operation of Phase 1, 199,956 gallons of fuel would be consumed per year for operation of the Future Phases, and 268,623 gallons of fuel would be consumed per year for the total Specific Plan (Phase 1 and the Future Phases combined).

<Table 9, next page>

[24] CalEEMod maximum default distance for H-W (home-work) or C-W (commercial-work) is 16.6 miles and 8.7 miles for H-O (home-other) or C-O (commercial-other).

[25] Average fuel economy based on aggregate mileage calculated in EMFAC 2021 for opening year (2024 for Phase 1 and 2025 for m Future Phases). See Appendix A for EMFAC output.

Table 9: Estimated Vehicle Operations Fuel Consumption

Vehicle Type	Vehicle Mix	Number of Vehicles	Average Trip (miles)[1]	Daily VMT	Average Fuel Economy (mpg)	Total Gallons per Day	Total Annual Fuel Consumption (gallons)
Phase 1							
Light Auto	Automobile	283	8.7	2,462	31.35	78.54	28,666
Light Truck	Automobile	33	8.7	287	24.4	11.77	4,295
Light Truck	Automobile	98	8.7	853	23.91	35.66	13,015
Medium Truck	Automobile	66	8.7	574	19.6	29.30	10,693
Light Heavy Truck	2-Axle Truck	12	8.7	104	15.57	6.71	2,447
Light Heavy Truck 10,000 lbs. +	2-Axle Truck	4	8.7	35	14.86	2.34	855
Medium Heavy Truck	3-Axle Truck	6	16.6	100	7.75	12.85	4,691
Heavy Heavy Truck	4-Axle Truck	4	16.6	66	6.05	10.98	4,006
Total		521	--	4,481	17.94	188.13	--
Total Annual Fuel Consumption							**68,668**
Future Phases							
Light Auto	Automobile	841	8.7	7,316	32.23	227.00	82,856
Light Truck	Automobile	100	8.7	874	24.83	35.21	12,851
Light Truck	Automobile	294	8.7	2,561	24.45	104.74	38,230
Medium Truck	Automobile	197	8.7	1,716	20.06	85.53	31,218
Light Heavy Truck	2-Axle Truck	36	8.7	317	16.02	19.79	7,225
Light Heavy Truck 10,000 lbs. +	2-Axle Truck	10	8.7	86	15.23	5.68	2,072
Medium Heavy Truck	3-Axle Truck	17	16.6	282	7.87	35.88	13,096
Heavy Heavy Truck	4-Axle Truck	13	16.6	209	6.15	33.99	12,407
Total		1,509	--	13,362	18.36	547.82	--
Total Annual Fuel Consumption							**199,956**
Total Annual Fuel Consumption for Specific Plan (Phase 1 & Future Phases combined)							**268,623**

Notes:
[1]Based on the size of the site and relative location, trips were assumed to be local rather than regional.

Trip generation and VMT generated by the proposed Specific Plan are consistent with other similar mixed-use projects with residential and commercial uses of similar scale and configuration as reflected respectively in the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition, 2017). That is, the proposed Specific Plan does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT, nor associated excess and wasteful vehicle energy consumption. Furthermore, the state of California consumed approximately 4.2 billion gallons of diesel and 15.1 billion gallons of gasoline in 2015.[26,27] Therefore, the increase in fuel consumption from the proposed Specific Plan

[26] https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-gasoline-data-facts-and-statistics

[27] https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/diesel-fuel-data-facts-and-statistics

is insignificant in comparison to the State's demand. Therefore, proposed Specific Plan transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Facility Energy Demands (Electricity and Natural Gas)

Building operation and site maintenance (including landscape maintenance) would result in the consumption of electricity (provided by SCE). No natural gas will be used by Phase 1; however, a gas line will be pulled to the project for possible gas usage for future live/work units. Operation of the proposed Specific Plan would involve the use of energy for heating, cooling and equipment operation. These facilities would comply with all applicable California Energy Efficiency Standards and 2019 CALGreen Standards.

The annual natural gas and electricity demands were provided per the mitigated CalEEMod output from the air quality and greenhouse gas analysis (MD Acoustics 2022) and are provided in Table 10.

Table 10: Project Mitigated Annual Operational Energy Demand Summary[1]

Natural Gas Demand	kBTU/year
Phase 1	
Apartments Mid-Rise	0
Regional Shopping Center	0
Total	0
Future Phases	
Apartments Mid-Rise	522,664
Regional Shopping Center	55,730
Total	578,394
Total Specific Plan (Phase 1 & Future Phases combined)	
Total	578,394

Electricity Demand	kWh/year
Phase 1	
Apartments Mid-Rise	446,785
Regional Shopping Center	70,572
Total	517,357
Future Phases	
Apartments Mid-Rise	153,974
Regional Shopping Center	446,863
Total	600,837
Total Specific Plan (Phase 1 & Future Phases combined)	
Total	1,118,194

Notes:
[1]Taken from the CalEEMod 2020.4.0 mitigated annual output in the Arkansas Street Residential Development and Specific Plan Air Quality and Greenhouse Gas Impact Study prepared for the proposed project by MD Acoustics (October 7, 2022).

As shown in Table 10, the estimated electricity demand for Phase 1 is approximately 517,357 kWh per year, for the Future Phases is 600,837 kWh per year, and for the total Specific Plan (Phase 1 and Future Phases combined) is 1,18,194 kWh per year. In 2020, the residential sector of the County of Los Angeles

consumed approximately 22,913 million kWh of electricity and the non-residential sector consumed approximately 42,737 million kWh of electricity.[28] In addition, the estimated natural gas consumption for the Future Phases is 578,394 kBTU per year, with no gas consumed for Phase 1. In 2020, the residential sector of the County of Los Angeles consumed approximately 1,238 million therms of gas and the non-residential sector consumed approximately 1,699 million therms of gas.[29] Therefore, the increase in both electricity and natural gas demand from the proposed Specific Plan is insignificant compared to the County's 2020 residential and non-residential sector demands.

Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as in plug-in appliances. In California, the California Building Standards Code Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. Non-building energy use, or "plug-in" energy use can be further subdivided by specific end-use (refrigeration, cooking, appliances, etc.).

Furthermore, the proposed Specific Plan energy demands in total would be comparable to other mixed-use residential and commercial projects of similar scale and configuration. Therefore, the proposed Specific Plan facilities' energy demands and energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Renewable Energy and Energy Efficiency Plan Consistency

Regarding federal transportation regulations, the Specific Plan site is located in an already developed area. Access to/from the Specific Plan site is from existing roads. These roads are already in place so the Specific Plan would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be proposed pursuant to the ISTEA because SCAG is not planning for intermodal facilities in the project area.

Regarding the State's Energy Plan and compliance with Title 24 CCR energy efficiency standards, the applicant is required to comply with the California Green Building Standard Code requirements for energy efficient buildings and appliances as well as utility energy efficiency programs implemented by the SCE and Southern California Gas Company.

Regarding the State's Renewable Energy Portfolio Standards, the Specific Plan would be required to meet or exceed the energy standards established in the California Green Building Standards Code, Title 24, Part 11 (CALGreen). CalGreen Standards require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials.

5.0 Conclusions

As supported by the preceding analyses, neither construction nor operation of the Specific Plan would result in wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources. The Specific Plan does not include any unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities and is a mixed-use residential and commercial project that is not proposing any

[28] California Energy Commission, Electricity Consumption by County. https://ecdms.energy.ca.gov/elecbycounty.aspx

[29] California Energy Commission, Gas Consumption by County. http://ecdms.energy.ca.gov/gasbycounty.aspx

additional features that would require a larger energy demand than other mixed-use residential and commercial projects of similar scale and configuration. The energy demands of the Specific Plan are anticipated to be accommodated within the context of available resources and energy delivery systems. The Specific Plan would therefore not cause or result in the need for additional energy producing or transmission facilities. The Specific Plan would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California.

The Specific Plan is to be designed in compliance with California's Energy Efficiency Standards and 2019 CALGreen Standards. These measures include, but are not limited to the use of water conserving plumbing, the use of LED lighting, and water-efficient irrigation systems. The Specific Plan would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency; therefore, impacts would be less than significant.

MD is pleased to provide this CEQA Energy review. If you have any questions regarding this analysis, please don't hesitate to call us at (805) 426-4477.

Sincerely,
MD Acoustics, LLC

Mike Dickerson

Mike Dickerson, INCE
Principal

Appendix A
CARB EMFAC 2021

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: Air Basin
Region: South Coast
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Trips	Energy Consumption	Fuel Consumption	Fuel Consumption	Total Fuel Consumption	Total VMT	Total VMT	Miles Per Gallon	Vehicle Class
South Coast	2024	HHDT	Aggregate	Aggregate	Gasoline	64.44258918	1289.367324	0	1.014953313	1014.953313	2024777.341	4089.563798	12241163.02	**6.05**	**HHDT**
South Coast	2024	HHDT	Aggregate	Aggregate	Diesel	92441.35478	1412165.896	0	1913.394963	1913394.963		11547992.76			
South Coast	2024	HHDT	Aggregate	Aggregate	Electricity	291.6455699	3957.931048	53675.68637	0	0		29968.60823			
South Coast	2024	HHDT	Aggregate	Aggregate	Natural Gas	10239.41118	65591.6649	0	110.3674239	110367.4239		659112.0885			
South Coast	2024	LDA	Aggregate	Aggregate	Gasoline	5306414.643	24694249.92	0	7344.088111	7344088.111	7477826.02	213709568	234427100.1	**31.35**	**LDA**
South Coast	2024	LDA	Aggregate	Aggregate	Diesel	14576.24539	60769.87324	0	10.8801639	10880.1639		447477.6987			
South Coast	2024	LDA	Aggregate	Aggregate	Electricity	278128.8376	1389682.584	5111363.117	0	0		13239042.59			
South Coast	2024	LDA	Aggregate	Aggregate	Plug-in Hybrid	148523.7719	614145.7966	1077276.451	122.8577446	122857.7446		7031011.891			
South Coast	2024	LDT1	Aggregate	Aggregate	Gasoline	490973.66	2160511.155	0	732.0519082	732051.9082	732790.8073	17788975.08	17880208.77	**24.40**	**LDT1**
South Coast	2024	LDT1	Aggregate	Aggregate	Diesel	178.9755587	511.7069897	0	0.143610092	143.6100917		3350.970633			
South Coast	2024	LDT1	Aggregate	Aggregate	Electricity	1222.38175	5792.038269	19502.00434	0	0		50512.52673			
South Coast	2024	LDT1	Aggregate	Aggregate	Plug-in Hybrid	719.1459798	2973.668627	6252.19918	0.595288961	595.288961		37370.18633			
South Coast	2024	LDT2	Aggregate	Aggregate	Gasoline	2478766.891	11657788.42	0	4349.789244	4349789.244	4378677.328	102696789.3	104694804	**23.91**	**LDT2**
South Coast	2024	LDT2	Aggregate	Aggregate	Diesel	8144.015434	39238.54602	0	11.30594953	11305.94953		354089.2658			
South Coast	2024	LDT2	Aggregate	Aggregate	Electricity	16093.72479	82313.84321	227422.9885	0	0		589052.7755			
South Coast	2024	LDT2	Aggregate	Aggregate	Plug-in Hybrid	21096.29549	87233.18184	170348.4264	17.58213479	17582.13479		1054872.659			
South Coast	2024	LHDT1	Aggregate	Aggregate	Gasoline	200171.2476	2982253.334	0	578.7247685	578724.7685	792458.1109	7891021.12	12336952.39	**15.57**	**LHDT1**
South Coast	2024	LHDT1	Aggregate	Aggregate	Diesel	103884.7559	1306739.542	0	213.7333424	213733.3424		4387648.579			
South Coast	2024	LHDT1	Aggregate	Aggregate	Electricity	772.5188678	10791.59936	32624.15974	0	0		58282.68619			
South Coast	2024	LHDT2	Aggregate	Aggregate	Gasoline	31062.46526	462784.4493	0	96.72139231	96721.39231	208303.4828	1155378.828	3095264.249	**14.86**	**LHDT2**
South Coast	2024	LHDT2	Aggregate	Aggregate	Diesel	45926.82058	577701.627	0	111.5820905	111582.0905		1925592.444			
South Coast	2024	LHDT2	Aggregate	Aggregate	Electricity	199.9520404	2646.759351	8006.869611	0	0		14292.97674			
South Coast	2024	MCY	Aggregate	Aggregate	Gasoline	242059.9929	484119.9858	0	37.44895514	37448.95514	37448.95514	1554780.429	1554780.429	**41.52**	**MCY**
South Coast	2024	MDV	Aggregate	Aggregate	Gasoline	1571312.1	7270009.961	0	3162.700535	3162700.535	3206338.183	60817091.34	62832018.9	**19.60**	**MDV**
South Coast	2024	MDV	Aggregate	Aggregate	Diesel	19826.89781	93051.64962	0	33.54860069	33548.60069		786624.2122			
South Coast	2024	MDV	Aggregate	Aggregate	Electricity	17569.44798	89870.84023	248334.7848	0	0		643216.8322			
South Coast	2024	MDV	Aggregate	Aggregate	Plug-in Hybrid	12690.57185	52475.51459	92596.30611	10.08904803	10089.04803		585086.5214			
South Coast	2024	MH	Aggregate	Aggregate	Gasoline	29244.94397	2925.664195	0	57.51222476	57512.22476	68984.14797	279544.6577	395398.9997	**5.73**	**MH**
South Coast	2024	MH	Aggregate	Aggregate	Diesel	11703.55798	1170.355798	0	11.47192321	11471.92321		115854.342			
South Coast	2024	MHDT	Aggregate	Aggregate	Gasoline	24845.17438	497102.249	0	256.9342026	256934.2026	812250.5213	1326417.556	6295601.951	**7.75**	**MHDT**
South Coast	2024	MHDT	Aggregate	Aggregate	Diesel	114693.757	1409921.86	0	546.7152883	546715.2883		4878223.739			
South Coast	2024	MHDT	Aggregate	Aggregate	Electricity	355.3876422	4781.870526	20310.12518	0	0		19393.49808			
South Coast	2024	MHDT	Aggregate	Aggregate	Natural Gas	1491.278079	13281.28453	0	8.601030453	8601.030453		71567.15805			
South Coast	2024	OBUS	Aggregate	Aggregate	Gasoline	5296.379398	105969.959	0	41.44060197	41440.60197	78066.51924	209991.62	473651.4166	**6.07**	**OBUS**
South Coast	2024	OBUS	Aggregate	Aggregate	Diesel	2997.3176	37996.11149	0	33.30106375	33301.06375		233646.4445			
South Coast	2024	OBUS	Aggregate	Aggregate	Electricity	11.86106715	237.3162316	941.3362619	0	0		895.192351			
South Coast	2024	OBUS	Aggregate	Aggregate	Natural Gas	480.7769521	4278.914873	0	3.324853528	3324.853528		29118.15975			
South Coast	2024	SBUS	Aggregate	Aggregate	Gasoline	2763.091965	11052.36786	0	13.6568139	13656.8139	40972.05843	121721.653	266076.6289	**6.49**	**SBUS**
South Coast	2024	SBUS	Aggregate	Aggregate	Diesel	3283.370627	47543.20668	0	9.104107226	9104.107226		66807.29386			
South Coast	2024	SBUS	Aggregate	Aggregate	Electricity	21.89425828	248.8609268	740.8107178	0	0		640.6727128			
South Coast	2024	SBUS	Aggregate	Aggregate	Natural Gas	3093.465789	44793.38463	0	18.21113731	18211.13731		76907.00926			
South Coast	2024	UBUS	Aggregate	Aggregate	Gasoline	894.3284655	3577.313862	0	13.89822542	13898.22542	201736.9577	96953.45183	218542.299	**1.08**	**UBUS**
South Coast	2024	UBUS	Aggregate	Aggregate	Diesel	14.32857314	57.31429256	0	0.259550733	259.5507326		1721.679298			
South Coast	2024	UBUS	Aggregate	Aggregate	Electricity	109.3235246	437.2940985	19519.17282	0	0		9364.629999			
South Coast	2024	UBUS	Aggregate	Aggregate	Natural Gas	4918.59249	19674.36996	0	187.5791815	187579.1815		588192.4297			

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: Air Basin
Region: South Coast
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Trips	Energy Consumption	Fuel Consumption	Fuel Consumption	Total Fuel Consumptior	Total VMT	Total VMT	Miles Per Gallon	Vehicle Class
South Coast	2025	HHDT	Aggregate	Aggregate	Gasoline	54.83401411	1097.118954	0	0.915660885	915.6608849	2033428.223	3783.739566	12499201.56	**6.15**	**HHDT**
South Coast	2025	HHDT	Aggregate	Aggregate	Diesel	95337.36817	1459640.636	0	1919.938673	1919938.673		11745346.31			
South Coast	2025	HHDT	Aggregate	Aggregate	Electricity	647.565363	8586.113967	125035.0292	0	0		69780.1703			
South Coast	2025	HHDT	Aggregate	Aggregate	Natural Gas	10701.05249	68656.35135	0	112.5738892	112573.8892		680291.3416			
South Coast	2025	LDA	Aggregate	Aggregate	Gasoline	5244723.652	24385315.28	0	7108.358927	7108358.927	7245907.135	210339700.5	233546247.7	**32.23**	**LDA**
South Coast	2025	LDA	Aggregate	Aggregate	Diesel	13504.15254	56096.65324	0	9.832104986	9832.104986		408222.3366			
South Coast	2025	LDA	Aggregate	Aggregate	Electricity	314906.6469	1568075.372	5911352.826	0	0		15311111.74			
South Coast	2025	LDA	Aggregate	Aggregate	Plug-in Hybrid	159860.278	661022.2496	1174382.35	127.7161032	127716.1032		7487213.196			
South Coast	2025	LDT1	Aggregate	Aggregate	Gasoline	483367.514	2127610.282	0	708.9359688	708935.9688	709884.4736	17503198.77	17626287.18	**24.83**	**LDT1**
South Coast	2025	LDT1	Aggregate	Aggregate	Diesel	161.5260868	453.3891137	0	0.127085477	127.0854768		2967.035899			
South Coast	2025	LDT1	Aggregate	Aggregate	Electricity	1505.26458	7236.189381	25889.93818	0	0		67058.04036			
South Coast	2025	LDT1	Aggregate	Aggregate	Plug-in Hybrid	1033.948372	4275.376518	9086.363765	0.821419376	821.4193759		53063.32883			
South Coast	2025	LDT2	Aggregate	Aggregate	Gasoline	2528171.942	11891190.15	0	4341.426391	4341426.391	4373117.135	104543301.5	106927231	**24.45**	**LDT2**
South Coast	2025	LDT2	Aggregate	Aggregate	Diesel	8518.978579	40955.39339	0	11.53683826	11536.83826		366939.3838			
South Coast	2025	LDT2	Aggregate	Aggregate	Electricity	21565.05505	109850.7805	300027.449	0	0		777107.023			
South Coast	2025	LDT2	Aggregate	Aggregate	Plug-in Hybrid	25221.81395	104292.2007	204751.9727	20.15390552	20153.90552		1239883.058			
South Coast	2025	LHDT1	Aggregate	Aggregate	Gasoline	199655.4178	2974568.238	0	565.7929114	565792.9114	785253.6339	7899242.311	12579982.86	**16.02**	**LHDT1**
South Coast	2025	LHDT1	Aggregate	Aggregate	Diesel	107539.0383	1352705.817	0	219.4607225	219460.7225		4531936.528			
South Coast	2025	LHDT1	Aggregate	Aggregate	Electricity	2131.529069	29802.51665	83294.25907	0	0		148804.02			
South Coast	2025	LHDT2	Aggregate	Aggregate	Gasoline	30849.1838	459606.8733	0	93.96299335	93962.99335	208962.5987	1145449.689	3183322.084	**15.23**	**LHDT2**
South Coast	2025	LHDT2	Aggregate	Aggregate	Diesel	48016.98656	603993.2855	0	114.9996053	114999.6053		2001431.485			
South Coast	2025	LHDT2	Aggregate	Aggregate	Electricity	549.452873	7286.296511	20413.74678	0	0		36440.90994			
South Coast	2025	MCY	Aggregate	Aggregate	Gasoline	246317.3152	492634.6304	0	37.82728892	37827.28892	37827.28892	1575969.655	1575969.655	**41.66**	**MCY**
South Coast	2025	MDV	Aggregate	Aggregate	Gasoline	1582911.671	7327873.919	0	3124.528435	3124528.435	3169334.086	61244218.19	63579746.09	**20.06**	**MDV**
South Coast	2025	MDV	Aggregate	Aggregate	Diesel	19966.30161	93386.67778	0	32.96063764	32960.63764		783550.3632			
South Coast	2025	MDV	Aggregate	Aggregate	Electricity	23405.95686	119202.2123	325389.6809	0	0		842798.2408			
South Coast	2025	MDV	Aggregate	Aggregate	Plug-in Hybrid	15515.87163	64158.1292	115605.1765	11.8450132	11845.0132		709179.3041			
South Coast	2025	MH	Aggregate	Aggregate	Gasoline	28222.75742	2823.404652	0	55.89330175	55893.30175	67478.95091	271714.048	388622.5468	**5.76**	**MH**
South Coast	2025	MH	Aggregate	Aggregate	Diesel	11853.97154	1185.397154	0	11.58564916	11585.64916		116908.4988			
South Coast	2025	MHDT	Aggregate	Aggregate	Gasoline	24266.37368	485521.6046	0	246.6220886	246622.0886	803911.5702	1285729.87	6330495.207	**7.87**	**MHDT**
South Coast	2025	MHDT	Aggregate	Aggregate	Diesel	117076.634	1440705.231	0	548.3413637	548341.3637		4914316.485			
South Coast	2025	MHDT	Aggregate	Aggregate	Electricity	1030.710845	13697.48889	58527.95377	0	0		55891.50984			
South Coast	2025	MHDT	Aggregate	Aggregate	Natural Gas	1586.964447	14102.34275	0	8.94811801	8948.11801		74557.34189			
South Coast	2025	OBUS	Aggregate	Aggregate	Gasoline	5130.782804	102656.7023	0	38.98709136	38987.09136	75404.10956	199581.2481	465625.8692	**6.18**	**OBUS**
South Coast	2025	OBUS	Aggregate	Aggregate	Diesel	3078.572652	39272.27543	0	33.03961652	33039.61652		233905.0145			
South Coast	2025	OBUS	Aggregate	Aggregate	Electricity	29.09533983	582.1395594	2258.641236	0	0		2147.933443			
South Coast	2025	OBUS	Aggregate	Aggregate	Natural Gas	505.1478218	4495.815614	0	3.377401677	3377.401677		29991.67319			
South Coast	2025	SBUS	Aggregate	Aggregate	Gasoline	2812.998756	11251.99503	0	13.81627409	13816.27409	41147.02398	123623.802	268314.9981	**6.52**	**SBUS**
South Coast	2025	SBUS	Aggregate	Aggregate	Diesel	3181.542446	46068.73461	0	8.734797087	8734.797087		64276.54474			
South Coast	2025	SBUS	Aggregate	Aggregate	Electricity	47.38132065	537.5923668	1681.228052	0	0		1453.97051			
South Coast	2025	SBUS	Aggregate	Aggregate	Natural Gas	3209.535885	46474.07961	0	18.59595281	18595.95281		78960.68088			
South Coast	2025	UBUS	Aggregate	Aggregate	Gasoline	892.063682	3568.254728	0	13.80114714	13801.14714	198998.2045	96751.77026	220039.9533	**1.11**	**UBUS**
South Coast	2025	UBUS	Aggregate	Aggregate	Diesel	11.19759793	44.79039173	0	0.207460052	207.4600516		1417.05095			
South Coast	2025	UBUS	Aggregate	Aggregate	Electricity	163.9010308	655.6041234	34521.6162	0	0		16501.94536			
South Coast	2025	UBUS	Aggregate	Aggregate	Natural Gas	4881.393278	19525.57311	0	184.9895973	184989.5973		582956.4922			