Exhibit L - 2

CARLSBAD
CLOVIS
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: December 24, 2024

TO: Emily Bowen, Crawford & Bowen Planning, Inc.

FROM: Jessica Coria, Associate

SUBJECT: Air Quality, Energy, and Greenhouse Gas Emissions Technical Memorandum for the Proposed Aster Place Residential Development Project in Fresno, California

INTRODUCTION

LSA has prepared this Air Quality, Energy, and Greenhouse Gas Emissions Technical Memorandum to evaluate the impacts associated with construction and operation of the proposed Aster Place Residential Development Project (project) in Fresno, Fresno County, California. This analysis was prepared using methods and assumptions recommended in the San Joaquin Valley Air Pollution Control District's (SJVAPCD) *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI).[1] This analysis includes a description of the existing regulatory framework, an assessment of project construction and operation period emissions, and an assessment of greenhouse gas (GHG) emissions and energy impacts resulting from the proposed project.

PROJECT DESCRIPTION

The proposed project is located at East California Avenue and Armstrong Avenue in Fresno, Fresno County, California. The proposed project includes the development of a single-family residential project consisting of 203 units on approximately 38.76 acres, to be developed in two phases. The proposed project would include the development of 203 single-family residential lots, as well as the extension of East California Avenue through the proposed project site and the development of internal project roadways. Figure 1 shows the Project Location and Figure 2 shows the Project Site Plan (all figures are provided in Attachment A).

The site is bounded to the north by the San Joaquin Valley Railroad, to the west by a vacant lot, to the south by an orchard, and to the east by South Armstrong Avenue. Sensitive receptors near the proposed project site include single-family homes to the east of the project site, across South Armstrong Avenue, and to the north within 115 feet of the proposed project site boundaries.

[1] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. *Guidance for Assessing and Mitigating Air Quality Impacts*. March 19. Website: www.valleyair.org/transportation/ceqa_idx.htm (accessed December 2024).

The proposed project is expected to include demolition, site preparation, grading, building construction, paving, and architectural coating during construction phases and would include 11,310 cubic yards of soil import. Construction is expected to begin at the beginning of 2025 and last approximately 4 years. Moreover, the proposed project would generate approximately 1,914 average daily trips. In addition, consistent with SJVAPCD Rule 4901,[2] this analysis assumes that the proposed project would not include any wood burning (or natural gas) fireplaces.

SENSITIVE RECEPTORS IN THE PROJECT AREA

For this analysis, sensitive receptors are considered areas of the population that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include residences, schools, daycare centers, hospitals, parks, and similar uses that are sensitive to air quality. Impacts on sensitive receptors are of particular concern because those receptors are the population most vulnerable to the effects of air pollution. The project site is surrounded primarily by residential, agricultural, and educational uses. The Sequoia Elementary School is approximately 3,100 feet from the proposed project site boundary, and the Sanger West High School is approximately 3,500 feet from the project boundary. The areas adjacent to the project site include the following:

- **North:** Residential, open space
- **East:** Residential, agricultural
- **South:** Agricultural, educational
- **West:** Residential, agricultural

The proposed project is bound by South Armstrong Avenue to the east, East Church Avenue to the south and South Fowler Avenue to the west. The closest sensitive receptors are single-family residential uses to the east, approximately 130 feet from the project boundary, and single-family residential uses to the west, approximately 925 feet from the project boundary. Table A shows the proposed project activity, the nearest sensitive receptor, and point of analysis in distance (feet).

Table A: Summary of Analysis Distances by Impact Category

Activity	Nearest Sensitive Receptor	Points of Analysis	Distance (feet)
Construction[1]	Single-family homes on South Armstrong Avenue	Perimeter of construction activities to centroid of nearest sensitive receptor	125
Operations	Single-family homes on South Armstrong Avenue	Emissions sources on-site generalized at the centroid of the project site to centroid of nearest sensitive receptor	770

Source: Compiled by LSA (2024).

[1] Distance for construction air quality impact potential includes the assumption that heavy construction equipment would operate adjacent to the proposed project boundary, which is 30 feet from the nearest off-site structures where a person would live.

[2] SJVAPCD. 2024. Current District Rules and Regulations. Website: ww2.valleyair.org/rules-and-planning/current-district-rules-and-regulations (accessed November 2024).

EXISTING LAND USES IN THE PROJECT AREA

The existing land use for the proposed project site is medium-density residential. Currently, the existing zoning is medium-density residential per the City of Fresno (City). Therefore, the proposed project would be consistent with current zoning and land uses.

Current transportation ingress and egress access points for the proposed project are from South Armstrong Avenue. Erin Avenue will be expanded along the northern project boundary, East Geary will be expanded to the west and south of the project boundaries, and East California Avenue will be expanded through the center of the proposed project. The expansion of these arterial ways will support circulation for the proposed project.

Air Quality Background

Air quality is primarily a function of local climate, local sources of air pollution, and regional pollution transport. The amount of a given pollutant in the atmosphere is determined by the amount of the pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain and, for photochemical pollutants, sunshine.

A region's topographic features have a direct correlation with air pollution flow and therefore are used to determine the boundary of air basins. The proposed project is in Fresno County and is within the jurisdiction of the SJVAPCD, which regulates air quality in the San Joaquin Valley Air Basin (SJVAB).

The SJVAB is comprised of approximately 25,000 square miles and covers all of seven counties (including Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare) and the western portion of an eighth, Kern. The SJVAB is defined by the Sierra Nevada mountains in the east (8,000 to 14,000 feet in elevation), the Coast Ranges in the west (averaging 3,000 feet in elevation), and the Tehachapi mountains in the south (6,000 to 8,000 feet in elevation). The valley is topographically flat with a slight downward gradient to the northwest. The valley opens to the sea at the Carquinez Straits where the San Joaquin-Sacramento Delta empties into San Francisco Bay. An aerial view of the SJVAB would simulate a "bowl" opening only to the north. These topographic features restrict air movement through and out of the basin.

Both the State and federal government have established health-based ambient air quality standards for six criteria air pollutants: carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and suspended particulate matter (particulate matter less than 2.5 microns in diameter [$PM_{2.5}$] and particulate matter less than 10 microns in diameter [PM_{10}]). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Two criteria pollutants, O_3 and NO_2, are considered regional pollutants because they (or their precursors) affect air quality on a regional scale. Pollutants such as CO, SO_2, and Pb are considered local pollutants that tend to accumulate in the air locally.

Air quality monitoring stations are located throughout the nation and are maintained by the local air districts and State air quality regulating agencies. Data collected at permanent monitoring stations

are used by the United States Environmental Protection Agency (USEPA) to identify regions as "attainment" or "nonattainment" depending on whether the regions meet the requirements stated in the applicable National Ambient Air Quality Standards (NAAQS). Nonattainment areas are imposed with additional restrictions as required by the USEPA. In addition, different classifications of attainment (e.g., marginal, moderate, serious, severe, and extreme) are used to classify each air basin in the State on a pollutant-by-pollutant basis. The classifications are used as a foundation to create air quality management strategies to improve air quality and to comply with the NAAQS. As shown in Table B, the SJVAB is designated as nonattainment by federal standards for O_3 and $PM_{2.5}$ and nonattainment by State standards for O_3, PM_{10}, and $PM_{2.5}$.

Table B: Attainment Status of Criteria Pollutants in the San Joaquin Valley Air Basin

Pollutant	State	Federal
Ozone (1-hour)	Revoked	Nonattainment/Severe
Ozone (8-hour)	Nonattainment/Extreme	Nonattainment
PM_{10}	Attainment	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Lead	No Designation/Classification	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Sulfates	No Federal Standard	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified

Source: San Joaquin Valley Air Pollution Control District (2024).
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter

Ozone levels, as measured by peak concentrations and the number of days over the State 1-hour standard, have declined substantially as a result of aggressive programs by the SJVAPCD and other regional, State, and federal agencies. The reduction of peak concentrations represents progress in improving public health; however, the SJVAPCD still exceeds the State standard for 1-hour and 8-hour O_3 levels. In addition, the SJVAB was designated as a serious nonattainment area for the federal 1997 8-hour ozone level in June 2004. The USEPA lowered the 1997 0.80 parts per million (ppm) federal 8-hour ozone standard to 0.75 ppm in 2008 and then to 0.70 ppm on October 1, 2015. The SJVAB is classified as nonattainment for the 1-hour and 8-hour ozone standards at the State and federal levels, although a request for redesignation as attainment of the 1-hour ozone standard was submitted to the USEPA in 2014.

Federal and State standards have also been established for $PM_{2.5}$ over 24-hour and yearly averaging periods. $PM_{2.5}$, because of the small size of individual particles, can be especially harmful to human health. $PM_{2.5}$ is emitted by common combustion sources such as cars, trucks, buses, and power plants, in addition to ground-disturbing activities. On February 7, 2024, the USEPA strengthened the NAAQS for $PM_{2.5}$ by revising the primary (health-based) annual standard from 12.0 micrograms per cubic meter ($\mu g/m^3$) to 9.0 $\mu g/m^3$; however, a new attainment designation has not been issued. The SJVAB is considered a nonattainment area for the $PM_{2.5}$ standard at the State and federal levels.

The SJVAPCD is classified as a PM_{10} nonattainment area at the State level and was redesignated from serious nonattainment to attainment of the federal PM_{10} standard in 2008. Because the SJVAPCD was redesignated from nonattainment to attainment, a PM_{10} maintenance plan was adopted in 2007 and is required to be updated every 10 years.

No exceedances of the State or federal CO standards have been recorded at any of the region's monitoring stations since 1991. The SJVAB is currently considered an attainment area for State and federal 8-hour and 1-hour CO standards.

Toxic Air Contaminant Background

The public's exposure to toxic air contaminants (TACs) is a significant environmental health issue in the State of California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. Health and Safety Code Section 39655 defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to Subsection (b) of United States Code [USC] Title 42, Section 7412, is a TAC. Under State law, the California Environmental Protection Agency (CalEPA), acting through the California Air Resources Board (CARB), is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bill (AB) 1807 (the Tanner Air Toxics Act), AB 2588 (the Air Toxics "Hot Spot" Information and Assessment Act of 1987), and Senate Bill (SB) 25 (the Children's Environmental Health Protection Act). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. Once TACs are identified, CARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology (T-BACT) to minimize emissions.

Air toxics from stationary sources are also regulated in California under AB 2588 (the Air Toxics "Hot Spot" Information and Assessment Act of 1987). Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the designated air quality management district or air pollution control district. High-priority facilities are required to perform a Health Risk Assessment (HRA) and, if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

To date, CARB has designated nearly 200 compounds as TACs. Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines (i.e., diesel particulate matter [DPM]).

Air Quality Monitoring Results

Air quality monitoring stations are located throughout the nation and are maintained by the local air pollution control district and State air quality regulating agencies. The SJVAPCD, together with the CARB, maintains ambient air quality monitoring stations in the SJVAB. The air quality monitoring stations closest to the project area are Fresno Drummond Street station located at 4706 East Drummond Street, Fresno, Fresno County, California, and the Fresno Garland station located at 3727 North First Street, Fresno, Fresno County, California.

Pollutant monitoring results for years 2021 to 2023 at the nearby ambient air quality monitoring stations, shown in Table C, indicate that air quality in the area has generally been moderate. As indicated in the monitoring results, the State PM_{10} standard was exceeded 20 times in 2021, 133 times in 2022, and 120 times in 2023. In addition, the federal PM_{10} standard was not exceeded in the 3-year period. The federal PM2.5 standard had 30 exceedances in 2021, 12 exceedances in 2022, and 4 exceedances in 2023. The State 1-hour ozone standard was exceeded 9 times in 2021 and 3 times in 2022 and 2023. The State 8-hour ozone standard was exceeded 41 times in 2021, 8 times in 2022, and 24 times in 2023. The federal 8-hour ozone standard was exceeded 39 times in 2021, 8 times in 2022, and 20 times in 2023. The federal CO maximum 1-hour and federal CO maximum 8-hour standards was not exceeded in the 3-year period with no available State data. The federal SO2 standard was not exceeded between 2021 and 2023. The State SO2 standard had an unknown number of exceedances for the 3-year period. The State NO2 maximum 1-hour standard had no exceedances for the 3-year period.

Table C: Ambient Air Quality Monitored in the Project Vicinity

Pollutant	Standard	2021	2022	2023
Carbon Monoxide (CO) [1]				
Maximum 1-hr concentration (ppm)		1.9	2.1	2.2
Number of days exceeded:	State: > 20 ppm	ND	ND	ND
	Federal: > 35 ppm	0	0	0
Maximum 8-hr concentration (ppm)		1.7	1.8	1.7
Number of days exceeded:	State: ≥ 9.0 ppm	ND	ND	ND
	Federal: ≥ 9.0 ppm	0	0	0
Ozone (O_3) [2]				
Maximum 1-hr concentration (ppm)		0.125	0.111	0.102
Number of days exceeded:	State: > 0.09 ppm	9	3	3
Maximum 8-hr concentration (ppm)		0.099	0.089	0.088
Number of days exceeded:	State: > 0.070 ppm	41	8	24
	Federal: > 0.070 ppm	39	8	20
Coarse Particulates (PM_{10}) [2]				
Maximum 24-hr concentration (µg/m³)		151.8	73.4	131.1
Number of days exceeded:	State: > 50 µg/m³	20	133	120
	Federal: > 150 µg/m³	0	0	0
Annual arithmetic average concentration (µg/m³)		43.8	31.2	42.7
Exceeded for the year:	State: > 20 µg/m³	Yes	Yes	Yes
	Federal: > 50 µg/m³	No	No	No

Table C: Ambient Air Quality Monitored in the Project Vicinity

Pollutant	Standard	2021	2022	2023
Fine Particulates ($PM_{2.5}$) [1]				
Maximum 24-hr concentration (µg/m³)		99.9	53.3	39.1
Number of days exceeded:	Federal: > 35 µg/m³	30	12	4
Annual arithmetic average concentration (µg/m³)		15.6	12.9	10.4
Exceeded for the year:	State: > 12 µg/m³	Yes	Yes	No
	Federal: > 15 µg/m³	Yes	No	No
Nitrogen Dioxide (NO_2) [2]				
Maximum 1-hr concentration (ppm)		0.0645	0.0583	0.0581
Number of days exceeded:	State: > 0.18 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.011	0.012	0.010
Exceeded for the year:	State: > 0.030 ppm	No	No	No
	Federal: > 0.053 ppm	No	No	No
Sulfur Dioxide (SO_2) [1]				
Maximum 24-hr concentration (ppm)		0.0027	0.0012	0.0023
Number of days exceeded:	State: > 0.04 ppm	ND	ND	ND
	Federal: > 0.14 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.00043	0.00034	0.00043
Exceeded for the year:	Federal: > 0.030 ppm	No	No	No

Sources: 2021–2023 Air Quality Data, Website: www.epa.gov/outdoor-air-quality-data/monitor-values-report (United States Environmental Protection Agency 2024) and iADAM: Air Quality Data Statistics, Website: www.arb.ca.gov/adam/index.html (California Air Resources Board 2024).

[1] Data taken from the Fresno Garland station located at 3727 North First Street, Fresno, Fresno County, California.

[2] Data take from the Fresno Drummond Street station located at 4706 East Drummond Street, Fresno, Fresno County, California.

µg/m³ = micrograms per cubic meter
hr = hour
ND = no data available
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
ppm = parts per million

Energy

Electricity

Electricity is a manmade resource. The production of electricity requires the consumption or conversion of energy resources (including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources) into energy. Electricity is used for a variety of purposes (e.g., lighting, heating, cooling, and refrigeration, and for operating appliances, computers, electronics, machinery, and public transportation systems).

According to the most recent data available, in 2022, California's electricity was generated primarily by natural gas (47.5 percent), renewable sources (52.2 percent), large hydroelectric (7.2 percent), nuclear (8.7 percent), coal (<1.0 percent), and other unspecified sources. Total electric generation in California in 2022 was 287,220 gigawatt-hours (GWh), up 3.4 percent from the 2021 total generation of 287,220 GWh.[3]

[3] California Energy Commission (CEC). 2022. *2022 Total System Electric Generation*. Website: https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2022-total-system-electric-generation (accessed November 2024).

The project site receives its electricity from Pacific Gas and Electric (PG&E). According to the California Energy Commission (CEC), total electricity consumption in the PG&E service area in 2022 was 77,887.0 GWh (27,210.0 GWh for the residential sector and 50,677.0 GWh for the nonresidential sector).[4] Total electricity consumption in Fresno County in 2022 was 8,384.4 GWh (or 8,384,408,687 kilowatt-hours [kWh]).[5]

Natural Gas

Natural gas is a nonrenewable fossil fuel. Fossil fuels are formed when layers of decomposing plant and animal matter are exposed to intense heat and pressure under the surface of the Earth over millions of years. Natural gas is a combustible mixture of hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas is found in naturally occurring reservoirs in deep underground rock formations. Natural gas is used for a variety of uses (e.g., heating buildings, generating electricity, and powering appliances such as stoves, washing machines and dryers, gas fireplaces, and gas grills).

Natural gas consumed in California is used for electricity generation (45 percent), residential uses (21 percent), industrial uses (25 percent), and commercial uses (9 percent). California continues to depend on out-of-state imports for nearly 90 percent of its natural gas supply.[6]

PG&E is the natural gas service provider for the project site. According to the CEC, total natural gas consumption in the PG&E service area in 2022 was 4,421.06 million therms (1,856.1 million therms for the residential sector and 2,564.9 million therms for the nonresidential sector).[7] Total natural gas consumption in Fresno County in 2022 was 319.4 million therms (319,435,645 therms).[8]

Fuel

Petroleum is also a nonrenewable fossil fuel. Petroleum is a thick, flammable, yellow-to-black mixture of gaseous, liquid, and solid hydrocarbons that occurs naturally beneath the Earth's surface. Petroleum is primarily recovered by oil drilling. It is refined into a large number of consumer products, primarily fuel oil, gasoline, and diesel.

The average fuel economy for light-duty vehicles (autos, pickups, vans, and sport utility vehicles [SUVs]) in the United States has steadily increased from about 14.9 miles per gallon (mpg) in 1980 to

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4 CEC. 2021a. Electricity Consumption by Entity. Website: http://www.ecdms.energy.ca.gov/elecbyutil.aspx (accessed November 2024).

5 CEC. 2020a. Electricity Consumption by County. Websites: http://www.ecdms.energy.ca.gov/elecbycounty.aspx and http://www.ecdms.energy.ca.gov/elecbyutil.aspx (accessed November 2024).

6 CEC. 2021c. Supply and Demand of Natural Gas in California. Website: https://www.energy.ca.gov/data-reports/energy-almanac/californias-natural-gas-market/supply-and-demand-natural-gas-california (accessed November 2024).

7 CEC. 2021b. Gas Consumption by Entity. Website: http://www.ecdms.energy.ca.gov/gasbyutil.aspx (accessed November 2024).

8 CEC. 2020b. Gas Consumption by County and Entity. Website: http://www.ecdms.energy.ca.gov/gasbycounty.aspx and http://www.ecdms.energy.ca.gov/gasbyutil.aspx (accessed November 2024).

22.9 mpg in 2021.[9] Federal fuel economy standards have changed substantially since the Energy Independence and Security Act was passed in 2007. This act, which originally mandated a federal fuel economy standard of 35 mpg by year 2020,[10] applies to cars and light trucks of Model Years 2011 through 2020. In March 2020, the USEPA and National Highway Traffic Safety Administration (NHTSA) finalized the Corporate Average Fuel Economy standards for Model Years 2024–2026 Passenger Cars and Light Trucks, further detailed below.

Gasoline is the most-used transportation fuel in California, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and SUVs. According to the most recent data available, in 2022, total gasoline consumption in California was 316,425 thousand barrels or 1,597.6 trillion British Thermal Units (BTU).[11] Of the total gasoline consumption, 299,304 thousand barrels or 1,511.2 trillion BTU were consumed for transportation.[12] Based on fuel consumption obtained from CARB's California Emissions Factor Model, Version 2021 (EMFAC2021), approximately 366.2 million gallons of gasoline and approximately 157.8 million gallons of diesel will be consumed from vehicle trips in Fresno County in 2024.

Greenhouse Gas Background

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced global climate change are:

- Carbon dioxide (CO_2);
- Methane (CH_4);
- Nitrous oxide (N_2O);
- Hydrofluorocarbons (HFCs);
- Perfluorocarbons (PFCs); and
- Sulfur hexafluoride (SF_6).

Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, which is believed to be causing global warming. While manmade GHGs include naturally occurring GHGs (e.g., CO_2, CH_4, and N_2O), some gases (e.g., HFCs, PFCs, and SF_6) are completely new to the atmosphere.

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9 United States Department of Transportation (USDOT). n.d. *Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles*. Website: https://www.bts.dot.gov/bts/bts/content/average-fuel-efficiency-us-light-duty-vehicles (accessed November 2024).

10 United States Department of Energy. 2007. *Energy Independence & Security Act of 2007*. Website: https://www.afdc.energy.gov/laws/eisa (accessed November 2024).

11 United States Energy Information Administration (EIA). 2022. California State Profile and Energy Estimates, Data. Website: www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_mg.html&sid=CA (accessed November 2024).

12 Ibid.

Certain gases (e.g., water vapor) are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

These gases vary considerably in terms of global warming potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG; the definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of CO_2 equivalents (CO_2e).

REGULATORY FRAMEWORK

This section provides regulatory background information for air quality, GHGs, and energy.

Air Quality

Federal Regulations

The 1970 federal Clean Air Act (CAA) authorized the establishment of national health-based air quality standards and set deadlines for their attainment. The CAA Amendments of 1990 changed deadlines for attaining national standards as well as the remedial actions required for areas of the nation that exceed the standards. Under the CAA, State and local agencies in areas that exceed the national standards are required to develop State Implementation Plans to demonstrate how they will achieve the national standards by specified dates.

State Regulations

In 1988, the California Clean Air Act (CCAA) required that all air districts in the State endeavor to achieve and maintain California Ambient Air Quality Standards (CAAQS) for CO, O_3, SO_2, and NO_2 by the earliest practical date. The CCAA provides districts with authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce emissions to achieve air quality standards. Generally, the State standards for these pollutants are more stringent than the national standards.

The CARB is the State's "clean air agency." The CARB's goals are to attain and maintain healthy air quality, protect the public from exposure to toxic air contaminants, and oversee compliance with air pollution rules and regulations.

Regional Regulations

San Joaquin Valley Air Pollution Control District. The SJVAPCD has specific air quality-related planning documents, rules, and regulations.[13] This section summarizes the local planning documents and regulations that may be applicable to the proposed project as administered by the SJVAPCD with CARB oversight.

- **Rule 8011—General Requirements: Fugitive Dust Emission Sources.** Fugitive dust regulations are applicable to outdoor fugitive dust sources. Operations, including construction operations, must control fugitive dust emissions in accordance with SJVAPCD Regulation VIII. According to Rule 8011, the SJVAPCD requires the implementation of control measures for fugitive dust emission sources.

- **Regulation VIII—Fugitive PM_{10} Prohibitions.** Rules 8011–8081 are designed to reduce PM_{10} emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, and carryout and track out. All development projects that involve soil disturbance are subject to at least one provision of the Regulation VIII series of rules.

- **Rule 2201—New and Modified Stationary Source Review Rule.** This rule provides the review of new and modified stationary sources of air pollution to operate without interfering with the attainment or maintenance of ambient air quality standards and results in no net increase in emissions above specified thresholds.

- **Rule 4901—Wood Burning Fireplaces and Wood Burning Heaters.** The purpose of this rule is to limit emissions of carbon monoxide and particulate matter from wood burning fireplaces, wood burning heaters, and outdoor wood burning devices.

- **Rule 9510—Indirect Source Review.** This rule reduces the impact of nitrogen oxides (NO_x) and PM_{10} emissions from new development projects. The rule places application and emission reduction requirements on development projects meeting applicability criteria in order to reduce emissions through on-site mitigation, off-site SJVAPCD-administered projects, or a combination of the two. Compliance with SJVAPCD Rule 9510 reduces emissions impacts through incorporation of on-site measures as well as payment of an off-site fee that funds emission reduction projects in the SJVAB. The emissions analysis for Rule 9510 is detailed and is dependent on the exact project design that is expected to be constructed or installed. Compliance with Rule 9510 is separate from the California Environmental Quality Act (CEQA) process, though the control measures used to comply with Rule 9510 may be used to mitigate significant air quality impacts.

Guidance for Assessing and Mitigating Air Quality Impacts. The SJVAPCD prepared the GAMAQI to assist lead agencies and project applicants in evaluating the potential air quality impacts of projects in the SJVAB. The GAMAQI provides SJVAPCD-recommended procedures for evaluating potential air

[13] SJVAPCD. 2024. Current District Rules and Regulations. Website: ww2.valleyair.org/rules-and-planning/current-district-rules-and-regulations (accessed November 2024).

quality impacts during the CEQA environmental review process. The GAMAQI provides guidance on evaluating short-term (construction) and long-term (operational) air emissions. The most recent version of the GAMAQI, adopted on March 19, 2015, was used in this evaluation. It contains guidance on the following:

- Criteria and thresholds for determining whether a project may have a significant adverse air quality impact
- Specific procedures and modeling protocols for quantifying and analyzing air quality impacts
- Methods to mitigate air quality impacts
- Information for use in air quality assessments and environmental documents, including air quality, regulatory setting, climate, and topography data

Fresno Council of Governments. Fresno Council of Governments (Fresno COG) is responsible for regional transportation planning in Fresno County and participates in developing mobile source emission inventories used in air quality attainment plans.

Regional Transportation Plan/Sustainable Communities Strategy. Regional Transportation Plans (RTPs) are State-mandated plans that identify long-term transportation needs for a region's transportation network. Fresno COG's 2022 RTP charts the long-range vision of regional transportation in Fresno County through 2046.[14] The RTP identifies existing and future transportation-related needs, while considering all modes of travel, analyzing alternative solutions, and identifying priorities for the anticipated available funding for the 1,100 projects and multiple programs included within the RTP. SB 375, which went into effect in 2009, added statutes to the California Government Code to encourage planning practices that create sustainable communities. It calls for each metropolitan planning organization to prepare a Sustainable Communities Strategy (SCS) as an integrated element of the RTP that is to be updated every 4 years. The SCS is intended to show how integrated land use and transportation planning can lead to lower GHG emissions from automobiles and light trucks. Fresno COG has included the SCS in its 2022 RTP.

Local Regulations

City of Fresno General Plan. The City's General Plan Resources Conservation and Resilience Element includes objectives and policies that work to achieve and maintain compliance with State and

[14] Fresno Council of Governments (Fresno COG). 2022. Regional Transportation Plan and Sustainable Communities Strategy. Website: https://www.fresnocog.org/project/regional-transportation-plan/ (accessed November 2024).

federal air quality standards for criteria pollutants.[15] The following policies related to air quality are applicable to the proposed project:

- **Policy RC-4-a: Support Regional Efforts.** Support and lead, where appropriate, regional, State and federal programs and actions for the improvement of air quality, especially the SJVAPCD's efforts to monitor and control air pollutants from both stationary and mobile sources and implement Reasonably Available Control Measures in the Ozone Attainment Plan.

- **Policy RC-4-b-: Conditions of Approval.** Develop and incorporate air quality maintenance requirements, compatible with Air Quality Attainment and Maintenance Plans, as conditions of approval for General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals

- **Policy RC-4-c: Evaluate Impacts with Models.** Continue to require the use of computer models used by SJVAPCD to evaluate the air quality impacts of plans and projects that require such environmental review by the City.

- **Policy RC-4-d: Forward Information.** Forward information regarding proposed General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals that require air quality evaluation, and amendments to development regulations to the SJVAPCD for their review of potential air quality and health impacts.

- **Policy RC-4-e: Ensure Compliance.** Ensure ongoing compliance with GHG emissions reduction plans and programs by requiring that air quality measures are incorporated into projects' design, conditions of approval, and mitigation measures.

Energy

Federal and State agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation (USDOT), the United States Department of Energy, and the USEPA are three federal agencies with substantial influence over energy policies and programs. Generally, federal agencies influence and regulate transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, through funding of energy-related research and development projects, and through funding for transportation infrastructure improvements. On the State level, the California Public Utilities Commission (CPUC) and the CEC are two agencies with authority over different aspects of energy.

The CPUC regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies and serves the public interest by protecting consumers and ensuring the provision of safe, reliable utility service and infrastructure at

[15] City of Fresno. 2014. *Fresno General Plan.* December 18. Website: https://www.fresno.gov/wp-content/uploads/2023/03/upload_temp_Consolidated-GP-10-13-2022_compressed.pdf (accessed November 2024).

reasonable rates, with a commitment to environmental enhancement and a healthy California economy.

The CEC is the State's primary energy policy and planning agency. The CEC forecasts future energy needs, promotes energy efficiency, supports energy research, develops renewable energy resources, and plans for/directs State response to energy emergencies. The applicable federal, State, regional, and local regulatory framework is discussed below.

Federal Regulations

Energy Policy Act of 2005. The Energy Policy Act of 2005 seeks to reduce reliance on nonrenewable energy resources and provide incentives to reduce current demand on these resources. For example, under this Act, consumers and businesses can obtain federal tax credits for purchasing fuel-efficient appliances and products (including hybrid vehicles), building energy-efficient buildings, and improving the energy efficiency of commercial buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary microturbine power plants, and solar power equipment.

Corporate Average Fuel Economy Standards. On March 31, 2022, the NHTSA finalized the Corporate Average Fuel Economy (CAFE) standards for Model Years 2024–2026 Passenger Cars and Light Trucks. The amended CAFE standards would require an industry wide fleet average of approximately 49 mpg for passenger cars and light trucks in model year 2026, by increasing fuel efficiency by 8 percent annually for model years 2024 to 2025, and 10 percent annually for model year 2026. The final standards are estimated to save about 234 billion gallons of gasoline between model years 2030 to 2050.

State Regulations

Assembly Bill 1575, Warren-Alquist Act. In 1975, largely in response to the oil crisis of the 1970s, the State Legislature adopted AB 1575 (also known as the Warren-Alquist Act), which created the CEC. The statutory mission of the CEC is to forecast future energy needs; license power plants of 50 megawatts (MW) 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 (PRC) Section 21100(b)(3) and *State CEQA Guidelines* Section 15126.4 to require Environmental Impact Reports (EIRs) to include, where relevant, mitigation measures proposed to minimize the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F to the *State CEQA Guidelines*. Appendix F assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the *State CEQA Guidelines* also states that the goal of conserving energy implies the wise and efficient use of energy and the means of achieving this goal, including (1) decreasing overall per capita energy consumption; (2) decreasing reliance on fossil fuels such as coal, natural gas, and oil; and (3) increasing reliance on renewable energy sources.

Senate Bill 1389, Energy: Planning and Forecasting. In 2002, the State Legislature passed SB 1389, which required the CEC to develop an integrated energy plan every 2 years for electricity, natural

gas, and transportation fuels for the California Energy Policy Report. 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 in implementing incentive programs for zero emission vehicles (ZEVs) and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

In compliance with the requirements of SB 1389, the CEC adopts an Integrated Energy Policy Report every 2 years and an update every other year. The most recently adopted report includes the *2023 Integrated Energy Policy Report*.[16] The *Integrated Energy Policy Report* covers a broad range of topics, including 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. The *Integrated Energy Policy Report* provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs.

Renewable Portfolio Standard. SB 1078 established the California Renewable Portfolio Standards program in 2002. SB 1078 initially required that 20 percent of electricity retail sales be served by renewable resources by 2017; however, this standard has become more stringent over time. In 2006, SB 107 accelerated the standard by requiring that the 20 percent mandate be met by 2010. In April 2011, SB 2 required that 33 percent of electricity retail sales be served by renewable resources by 2020. In 2015, SB 350 established tiered increases to the Renewable Portfolio Standards of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. In 2018, SB 100 increased the requirement to 60 percent by 2030 and required that all the State's electricity come from carbon-free resources by 2045. SB 100 took effect on January 1, 2019.[17]

California Energy Code. Energy consumption by new buildings in California is regulated by the Building Energy Efficiency Standards in Part 6 of Title 24 of the California Code of Regulations (CCR), known as the Energy Code. The CEC first adopted the Building Energy Efficiency Standards for Residential and Non-residential Buildings in 1978 in response to a legislative mandate to reduce energy consumption in the State. The Energy Code is updated every 3 years, with the most recent update consisting of the 2022 Energy Code that became effective January 1, 2023. Mid-cycle supplements to the 2022 Code will become effective on July 1, 2024. The efficiency standards apply to both new construction and rehabilitation of both residential and nonresidential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government

[16] CEC. 2023. *2023 Integrated Energy Policy Report*. California Energy Commission. Docket Number: 23-IEPR-01.

[17] California Public Utilities Commission (CPUC). 2019. Renewables Portfolio Standard Program. Website: cpuc.ca.gov/rps (accessed December 2024).

agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in the Energy Code.

California Green Building Standards Code (CALGreen Code). In 2010, the California Building Standards Commission (CBSC) adopted Part 11 of the Title 24 Building Energy Efficiency Standards, referred to as the CALGreen Code. The CALGreen Code took effect on January 1, 2011. The CALGreen Code is updated on a regular basis, with the most recent update consisting of the 2022 CALGreen Code standards that became effective January 1, 2023. The CALGreen Code established mandatory measures for residential and nonresidential building construction and encouraged sustainable construction practices in the following five categories: (1) planning and design, (2) energy efficiency, (3) water efficiency and conservation, (4) material conservation and resource efficiency, and (5) indoor environmental quality. Although the CALGreen Code was adopted as part of the State's efforts to reduce GHG emissions, the CALGreen Code standards have co-benefits of reducing energy consumption from residential and nonresidential buildings subject to the standard.

California Energy Efficiency Strategic Plan. On September 18, 2008, the CPUC adopted California's first Long-Term Energy Efficiency Strategic Plan, presenting a roadmap for energy efficiency in California. The Strategic Plan was updated in 2011. The Plan articulates a long-term vision and goals for each economic sector and identifies specific near-term, mid-term, and long-term strategies to assist in achieving those goals. The Plan also reiterates the following four specific programmatic goals known as the "Big Bold Energy Efficiency Strategies" that were established by the CPUC in Decisions D.07-10-032 and D.07-12-051:

- All new residential construction will be zero net energy (ZNE) by 2020.
- All new commercial construction will be ZNE by 2030.
- 50 percent of commercial buildings will be retrofitted to ZNE by 2030.
- 50 percent of new major renovations of State buildings will be ZNE by 2025.

Local Regulations

City of Fresno General Plan. The City of Fresno's General Plan[18] Resource and Conservation Element includes objectives and policies that work to reduce the consumption of non-renewable energy resources by requiring and encouraging conservation measures and the use of alternative energy sources. The following policies related to energy are applicable to the proposed project:**Policy RC8-a: Existing Standards and Programs.** Continue existing beneficial energy conservation programs, including adhering to the California Energy Code in new construction and major renovations.

- **Policy RC8-b: Energy Reduction Targets.** Strive to reduce per capita residential electricity use to 1,800 KWh per year and non-residential electricity use to 2,700 KWh per year per capita by developing and implementing incentives, design and operation standards, promoting alternative energy sources, and cost-effective savings.

[18] City of Fresno. 2014. *Fresno General Plan.* December 18. Website: https://www.fresno.gov/wp-content/uploads/2023/03/upload_temp_Consolidated-GP-10-13-2022_compressed.pdf (accessed November 2024).

- **Policy RC-8-c: Energy Conservation in New Development.** Consider providing an incentive program for new buildings that exceed California Energy Code requirements by 15 percent.

- **Policy RC-8-d: Incentives.** Establish an incentive program for residential developers who commit to building all of their homes to ENERGY STAR performance guidelines.

- **Policy RC8-i: Renewable Target.** Adopt and implement a program to increase the use of renewable energy to meet a given percentage of the city's peak electrical load within a given time frame.

- **Policy RC8-j: Alternative Fuel Network.** Support the development of a network of integrated charging and alternate fuel station for both public and private vehicles, and if feasible, open up municipal stations to the public as part of network development.

Greenhouse Gas Emissions

This section describes regulations related to global climate change at the federal, State, and local level.

Federal Regulations

The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the USEPA has the authority to regulate CO_2 emissions under the CAA.

While there currently are no adopted federal regulations for the control or reduction of GHG emissions, the USEPA commenced several actions in 2009 to implement a regulatory approach to global climate change, including the 2009 USEPA final rule for mandatory reporting of GHGs from large GHG emission sources in the United States. Additionally, the USEPA Administrator signed an endangerment finding action in 2009 under the CAA, finding that seven GHGs (CO_2, CH_4, N_2O, HFCs, NF_3, PFCs, and SF_6) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to global climate change, leading to federal GHG emission standards.

State Regulations

The CARB is the lead agency for implementing climate change regulations in the State. Since its formation, the CARB has worked with the public, the business sector, and local governments to find solutions to California's air pollution problems. Key efforts by the State are described below.

Assembly Bill 32 (2006), California Global Warming Solutions Act. California's major initiative for reducing GHG emissions is AB 32, passed by the State legislature on August 31, 2006. This effort set a GHG emission reduction target to reduce GHG emissions to 1990 levels by 2020. The CARB has established the level of GHG emissions in 1990 at 427 million metric tons (MMT) CO_2e. The emissions target of 427 MMT CO_2e requires the reduction of 169 MMT from the State's projected business-as-usual 2020 emissions of 596 MMT. AB 32 requires the CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that

contribute to global climate change. The CARB approved the Scoping Plan on December 11, 2008. It contains the main strategies California will implement to achieve the reduction of approximately 169 MMT CO_2e, or approximately 30 percent, from the State's projected 2020 emission level of 596 MMT CO_2e under a business-as-usual scenario (this is a reduction of 42 MMT CO_2e, or almost 10 percent from 2002–2004 average emissions). The Scoping Plan also includes CARB-recommended GHG reductions for each emissions sector of the State's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- Improved emissions standards for light-duty vehicles (estimated reduction of 31.7 MMT CO_2e);
- The Low-Carbon Fuel Standard (15.0 MMT CO_2e);
- Energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO_2e); and
- A renewable portfolio standard for electricity production (21.3 MMT CO_2e).

The CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The First Update defines CARB climate change priorities until 2020 and sets the groundwork to reach long-term goals set forth in Executive Orders (EOs) S-3-05 and B-16-2012. The Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals as defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. The CARB released a second update to the Scoping Plan, the 2017 Scoping Plan,[19] to reflect the 2030 target set by EO B-30-15 and codified by SB 32.

The 2022 Scoping Plan[20] was approved in December 2022 and assesses progress towards achieving the SB 32 2030 target and lay out a path to achieve carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

Senate Bill 375 (2008). Signed into law on October 1, 2008, SB 375 supplements GHG reductions from new vehicle technology and fuel standards with reductions from more efficient land use patterns and improved transportation. Under the law, the CARB approved GHG reduction targets in February 2011 for California's 18 federally designated regional planning bodies, known as Metropolitan Planning Organizations (MPOs). The CARB may update the targets every 4 years and

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19 CARB. 2017. *California's 2017 Climate Change Scoping Plan*. November. Website: ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf (accessed December 2024).

20 CARB. 2022. *2022 Scoping Plan Update*. Website: https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf (accessed December 2024).

must update them every 8 years. MPOs, in turn, must demonstrate how their plans, policies, and transportation investments meet the targets set by the CARB through SCSs. The SCSs are included with the Regional Transportation Plan, a report required by State law. However, if an MPO finds that its SCS will not meet the GHG reduction target, it may prepare an Alternative Planning Strategy (APS). The APS identifies the impediments to achieving the targets.

Executive Order B-30-15 (2015). Governor Jerry Brown signed EO B-30-15 on April 29, 2015, which added the immediate target of:

- GHG emissions should be reduced to 40 percent below 1990 levels by 2030.

All State agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. The CARB was directed to update the AB 32 Scoping Plan to reflect the 2030 target, and, therefore, is moving forward with the update process. The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue reducing emissions.

Senate Bill 350 (2015) Clean Energy and Pollution Reduction Act. SB 350, signed by Governor Jerry Brown on October 7, 2015, updates and enhances AB 32 by introducing the following set of objectives in clean energy, clean air, and pollution reduction for 2030:

- Raise California's renewable portfolio standard from 33 percent to 50 percent; and
- Increase energy efficiency in buildings by 50 percent by the year 2030.

The 50 percent renewable energy standard will be implemented by the CPUC for the private utilities and by the CEC for municipal utilities. Each utility must submit a procurement plan showing it will purchase clean energy to displace other nonrenewable resources. The 50 percent increase in energy efficiency in buildings must be achieved through the use of existing energy efficiency retrofit funding and regulatory tools already available to State energy agencies under existing law. The addition made by this legislation requires State energy agencies to plan for and implement those programs in a manner that achieves the energy efficiency target.

Senate Bill 32, California Global Warming Solutions Act of 2016, and Assembly Bill 197. In summer 2016, the Legislature passed and the Governor signed SB 32 and AB 197. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in Governor Brown's April 2015 EO B-30-15. SB 32 builds on AB 32 and keeps California on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels, consistent with an Intergovernmental Panel on Climate Change analysis of the emission trajectory that would stabilize atmospheric GHG concentrations at 450 ppm CO_2e and reduce the likelihood of catastrophic impacts from climate change.

The companion bill to SB 32, AB 197, provides additional direction to the CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 meant to provide

easier public access to air pollutant emissions data that are collected by the CARB was posted in December 2016.

Senate Bill 100. On September 10, 2018, Governor Brown signed SB 100, which raises California's renewable portfolio standard requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 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.

Executive Order B-55-18. EO B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." EO B-55-18 directs the CARB to work with relevant State agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

Assembly Bill 1279. AB 1279 was signed in September of 2022 and codifies the State goals of achieving net carbon neutrality by 2045 and maintaining net negative GHG emissions thereafter. This bill also requires California to reduce statewide GHG emissions by 85 percent compared to 1990 levels by 2045 and directs CARB to work with relevant state agencies to achieve these goals.

Regional Regulations

San Joaquin Valley Air Pollution Control District. Fresno County is located within the SJVAB, which is under the jurisdiction of the SJVAPCD. The SJVAPCD has regulatory authority over certain stationary and industrial GHG emission sources and provides voluntary technical guidance on addressing GHGs for other emission sources in a CEQA context. SJVAPCD initiatives related to GHGs are described below:

> ***Climate Change Action Plan.*** The San Joaquin Valley Air Pollution Control District Climate Change Action Plan (CCAP) was adopted on August 21, 2008. The CCAP includes suggested best performance standards (BPS) for proposed development projects. However, the SJVAPCD's CCAP was adopted in 2009 and was prepared based on the State's 2020 GHG targets, which are now superseded by State policies (i.e., the 2022 California Green Building Code) and the 2030 GHG targets, established in SB 32.
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> ***San Joaquin Valley Carbon Exchange and Rule 2301.*** The SJVAPCD initiated work on the San Joaquin Valley Carbon Exchange in November 2008. The Exchange was implemented with the adoption of Amendments to Rule 2301 Emission Reduction Credit Banking on January 19,

2012.[21] The purpose of the carbon exchange is to quantify, verify, and track voluntary GHG emissions reductions generated within the San Joaquin Valley.

The SJVAPCD incorporated a method to register voluntary GHG emission reductions with amendments to Rule 2301. The purposes of the amendments to the rule include the following:

- Provide an administrative mechanism for sources to bank voluntary GHG emission reductions for later use
- Provide an administrative mechanism for sources to transfer banked GHG emission reductions to others for any use
- Define eligibility standards, quantitative procedures, and administrative practices to ensure that banked GHG emission reductions are real, permanent, quantifiable, surplus, and enforceable

The SJVAPCD is participating in a new program developed by the California Air Pollution Control Officers Association (CAPCOA) to encourage banking and use of GHG reduction credits referred to as the CAPCOA Greenhouse Gas Reduction Exchange (GHGRx). The GHGRx provides information on GHG credit projects within participating air districts. The SJVAPCD is one of the first districts to have offsets available for trading on the Exchange.

Local Regulations

City of Fresno General Plan. The City of Fresno's General Plan[22] Resources Conservation and Resilience Element includes objectives and policies that work to achieve and maintain reductions in GHG emissions and strategies that reduce the causes of climate change. The following policies related to GHG emissions from the General Plan would be applicable to the proposed project:

- **Policy RC-5-a: Support State Goal to Reduce Statewide GHG Emissions.** As is consistent with State law, strive to meet AB 32 goal to reduce greenhouse gas emissions to 1990 levels by 2020 and strive to meet a reduction of 80 percent below 1990 levels by 2050 as stated in Executive Order S-03-05. As new statewide GHG reduction targets and dates are set by the State update the City's Greenhouse Gas Reduction Plan to include a comprehensive strategy to achieve consistency with those targets by the dates established.
- **Policy RC-5-b: Greenhouse Gas Reduction Plan.** n. As is consistent with State law, prepare and adopt a Greenhouse Gas Reduction Plan as part of the Master Environmental Impact Report to be concurrently approved with the Fresno General Plan in order to achieve compliance with State mandates, assist development by streamlining the approval process, and focus on feasible

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21 SJVPCD. 2024. Current District Rules and Regulations. Website: ww2.valleyair.org/rules-and-planning/current-district-rules-and-regulations (accessed November 2024).

22 City of Fresno. 2014. *Fresno General Plan.* December 18. Website: https://www.fresno.gov/wp-content/uploads/2023/03/upload_temp_Consolidated-GP-10-13-2022_compressed.pdf (accessed November 2024).

actions the City can take to minimize the adverse impacts of growth and development on global climate change

- **Policy RC-5-c: GHG Reduction through Design and Operations.** Increase efforts to incorporate requirements for GHG emission reductions in land use entitlement decisions, facility design, and operational measures subject to City regulation through the following measures and strategies:

    - Promote appropriate energy and water conservation standards and facilitate mixed-use projects, new incentives for infill development, and the incorporation of mass transit, bicycle and pedestrian amenities into public and private projects.

    - Require energy and water audits and upgrades for water conservation, energy efficiency, and mass transit, pedestrian, and bicycle amenities at the time of renovation, change in use, change in occupancy, and change in ownership for major projects meeting review thresholds specified in an implementing ordinance.

- **Policy RC-5-d: SCS and CAP Conformity Analysis.** Ensure that the City includes analysis of a project's conformity to an adopted regional Sustainable Community Strategy or Alternative Planning Strategy (APS), an adopted Climate Action Plan (CAP), and any other applicable City and regional greenhouse gas reduction strategies in affect at the time of project review.

- **Policy RC-5-e: Ensure Compliance.** Ensure ongoing compliance with GHG emissions reduction plans and programs by requiring that air quality measures are incorporated into projects' design, conditions of approval, and mitigation measures.

- **Policy RC-5-g: Evaluate Impacts with Models.** Continue to use computer models such as those used by SJVAPCD to evaluate greenhouse gas impacts of plans and projects that require such review.

- **Policy RC 7-a: Water Conservation Program Target.** Maintain a comprehensive conservation program to help reduce per capita water usage in the city's water service area to 243 gallons per capita per day (gpcd) by 2020 and 190 gpcd by 2035, by adopting conservation standards and implementing a program of incentives, design and operation standards, and user fees.

- **Policy RC 7-h: Landscape Water Conservation Standards.** Refine landscape water conservation standards that will apply to new development installed landscapes, building on the State Model Water Efficient Landscape Ordinance and other State regulations.

- **Policy RC 11-a: Waste Reduction Strategies.** Maintain current targets for recycling and re-use of all types of waste material in the city and enhance waste and wastewater management practices to reduce natural resource consumption, including the following measures:

    - Continue to require recyclable material collection and storage areas in all residential development.

    - Expand yard waste collection to divert compostable waste from landfills.

METHODOLOGY

Construction Emissions

Construction activities can generate a substantial amount of air pollution. Construction activities are considered temporary; however, short-term impacts can contribute to exceedances of air quality standards. Construction activities include site preparation, earthmoving, and general construction. The emissions generated from these common construction activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips.

The California Emissions Estimator Model (CalEEMod) Version 2022.1 computer program was used to calculate emissions from on-site construction equipment and emissions from worker and vehicle trips to the site. Construction of the proposed project is anticipated to begin in 2025 and would occur for approximately three years, which was included in CalEEMod. The proposed project would require the import of 11,310 cubic yards of soil, which was also included in CalEEMod. This analysis also assumes use of Tier 2 construction equipment. The proposed project would also comply with the SJVAPCD Regulations VIII measures for fugitive dust.[23] Other detailed construction information is currently unavailable; therefore, this analysis utilizes CalEEMod default assumptions.

Construction Health Risk Assessment

A construction HRA, which evaluates construction-period health risk to off-site receptors, was performed for the proposed project, and the analysis is presented below. To estimate the potential cancer risk associated with construction of the proposed project from equipment exhaust (including DPM), a dispersion model was used to translate an emission rate from the source location to a concentration at the receptor location of interest (i.e., a nearby residence and worksites). Dispersion modeling varies from a simpler, more conservative screening-level analysis to a more complex and refined detailed analysis. This refined assessment was conducted using the CARB exposure methodology with the air dispersion modeling performed using the USEPA's American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD). The model provides a detailed estimate of exhaust concentrations based on site and source geometry, source emissions strength, distance from the source to the receptor, and meteorological data.

Operational Emissions

The air quality analysis includes estimating emissions associated with long-term operation of the proposed project. Consistent with the SJVAPCD guidance for estimating emissions associated with land use development projects, the CalEEMod computer program was used to calculate the long-term operational emissions associated with the project.

As discussed previously in the Project Description section, the proposed project would include the construction of 203 single-family residential units and associated site improvements. The proposed project analysis was conducted using land use codes *Single Family Housing* and *Recreational City*

[23] SJVPCD. 2024. Current District Rules and Regulations. Website: ww2.valleyair.org/rules-and-planning/current-district-rules-and-regulations (accessed November 2024).

Park. Trip generation rates used in CalEEMod for the project were based on the traffic study conducted for the proposed project, which identifies that the proposed project would generate approximately 1,914 average daily trips.[24] In addition, consistent with SJVAPCD Rule 4901,[25] this analysis assumes that the proposed project would not include any wood burning (or natural gas) fireplaces. Where project-specific data were not available, default assumptions (e.g., energy usage, water usage, and solid waste generation) from CalEEMod were used to estimate project emissions. CalEEMod output sheets are included in Attachment B.

Energy Use

The analysis focuses on the four sources of energy that are relevant to the proposed project: natural gas, electricity, the equipment fuel necessary for project construction, and vehicle fuel necessary for project operations. For the purposes of this analysis, the amounts of electricity, natural gas, construction fuel, and fuel use from operations are quantified and compared to that consumed in Fresno County. The electricity and natural gas uses of the proposed project are analyzed on an annual basis. Electricity and natural gas uses were estimated for the project using default energy intensities by land use type in CalEEMod.

Greenhouse Gas Emissions

GHG emissions associated with the project would occur over the short term from construction activities, consisting primarily of emissions from equipment exhaust. There would also be long-term GHG emissions associated with project-related area sources, energy consumption, water conveyance and treatment, and waste generation.

THRESHOLDS OF SIGNIFICANCE

Air Quality

The *State CEQA Guidelines* indicate that a project would normally have a significant adverse air quality impact if project-generated pollutant emissions would do any of the following:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under applicable federal or State ambient air quality standards;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) affecting a substantial number of people.

[24] Crawford & Bowen Planning, Inc. 2024. *Fresno Residential Trip Generation.* May.

[25] SJVPCD. 2024. Current District Rules and Regulations. Website: ww2.valleyair.org/rules-and-planning/current-district-rules-and-regulations (accessed November 2024).

Regional Emissions Thresholds

The SJVAPCD defines emissions thresholds in the GAMAQI, established based on the attainment status of the air basin in regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety, these emission thresholds are regarded as conservative and would overstate an individual project's contribution to health risks. The related impacts are discussed further in the Project Impacts section. The SJVAPCD regional emission thresholds for construction and operation are shown in Table D.

Table D: Regional Thresholds for Construction and Operational Emissions

Emissions Source	Pollutant Emissions Threshold (Tons per Year)					
	CO	NO_X	ROG	SO_X	PM_{10}	$PM_{2.5}$
Construction	100	10	10	27	15	15
Operations	100	10	10	27	15	15

Source: *Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD 2015).
CO = carbon monoxide
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROG = reactive organic gas
SJVAPCD = San Joaquin Valley Air Pollution Control District
SO_X = sulfur oxides

Local Microscale Concentration Standards

The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. Because ambient CO levels are below the standards throughout the SJVAB, a project would be considered to have a significant CO impact if project emissions result in an exceedance of one or more of the 1-hour or 8-hour standards. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20 ppm
- California State 8-hour CO standard of 9 ppm

Health Risk Thresholds

Both the State and federal governments have established health-based ambient air quality standards (AAQS) for seven air pollutants. For other air pollutants without defined significance standards, the definition of substantial pollutant concentrations varies. For TACs, "substantial" is taken to mean that the individual health risk exceeds a threshold considered to be a prudent risk management level.

The following limits for maximum individual cancer risk (MICR) and noncancer acute and chronic Hazard Index (HI) from project emissions of TACs are considered appropriate for use in determining the health risk for projects in the SJVAB:

- **MICR:** MICR is the estimated probability of a maximum exposed individual (MEI) contracting cancer as a result of exposure to TACs over a period of 70 years for adults and 9 years for children in residential locations, 350 days per year. The SJVAPCD's *Update to the District's Risk*

Management Policy to Address the OEHHA Revised Risk Assessment Guidance Document states that emissions of TACs are considered significant if an HRA shows an increased risk of greater than 20 in 1 million.[26]

- **Chronic HI:** Chronic HI is the ratio of the estimated long-term level of exposure to a TAC for a potential MEI to its chronic reference exposure level. The chronic HI calculations include multi-pathway consideration when applicable. The project would be considered significant if the cumulative increase in total chronic HI for any target organ system would exceed 1.0 at any receptor location.

- **Acute HI:** Acute HI is the ratio of the estimated maximum 1-hour concentration of a TAC for a potential MEI to its acute reference exposure level. The project would be considered significant if the cumulative increase in total acute HI for any target organ system would exceed 1.0 at any receptor location.

Energy

The *State CEQA Guidelines* indicate that a project would normally have a significant adverse impact related to energy if the project would:

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

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

Greenhouse Gas Thresholds

The *State CEQA Guidelines* indicate that a project would normally have a significant adverse greenhouse gas emission impact if the project would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Section 15064.4 of the *State CEQA Guidelines* states that: "A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." In performing that analysis, the lead agency has discretion to determine whether to use a model or methodology to quantify GHG emissions or to rely on a qualitative analysis or performance-based standards. In making a determination as to the significance of potential impacts, the lead agency then considers the extent to which the project may increase or reduce GHG emissions as compared to the existing

[26] SJVAPCD. 2020. *Update to the District's Risk Management Policy to Address the OEHHA Revised Risk Assessment Guidance Document.* Website: https://ww2.valleyair.org/media/0shm0mlk/apr-1906.pdf#RiskManagement (accessed December 2024).

environmental setting, whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project, and the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

In the absence of any City or SJVAPCD specific guidelines or thresholds, this analysis evaluates the proposed project for consistency with the Bay Area Air Quality Management District (BAAQMD) *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans* (Justification Report).[27]

In April 2022, the BAAQMD adopted the Justification Report[28] document, which identifies applicable GHG significance thresholds. These thresholds establish whether a project would be consistent with California's efforts to meet long-term climate goals, including achieving carbon neutrality by 2045. If a project is designed and built to incorporate design elements related to natural gas, energy, VMT, and EVs, then it would contribute its portion of what is necessary to achieve California's long-term climate goals—its "fair share"—and an agency reviewing the project under CEQA can conclude that the project would not make a cumulatively considerable contribution to global climate change.

The Justification Report provides substantial evidence supporting the use of their thresholds for projects throughout California because the thresholds are applicable to meeting the State's established GHG reduction goals. In the absence of any City or SJVAPCD specific guidelines or thresholds, this analysis evaluates the proposed project for consistency with the identified project design elements as the applicable thresholds of significance to establish if the proposed project is achieving its "fair share" of emission reductions to support long-term State goals for GHG emissions and carbon neutrality.

According to the Justification Report, a project would have a less than significant impact related to GHG emissions if it would include the following project design elements:[29]

1. Buildings

    a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).

    b. The project will not result in any wasteful, inefficient, or unnecessary electrical usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.

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27 Bay Area Air Quality Management District (BAAQMD). 2022. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans*. April.

28 Ibid.

29 Ibid.

2. Transportation

    a. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:

        1. Residential projects: 15 percent below the existing VMT per capita
        2. Office projects: 15 percent below the existing VMT per employee
        3. Retail projects: no net increase in existing VMT

    b. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

The City of Fresno adopted *CEQA Guidelines for Vehicle Miles Traveled Thresholds* (VMT Guidelines)[30] that identify specific screening criteria for projects, as well as establishing City thresholds as 14.1 VMT per capita threshold for residential land uses and a 22.3 VMT per employee threshold for employee-based land uses. The screening criteria included in the VMT Guidelines are utilized in this analysis.

These project design elements are utilized in the following analysis as the thresholds of significance to evaluate the project's potential GHG emissions impact, given the absence of City or SJVAPCD specified thresholds. The proposed project is also evaluated for consistency with the CARB 2022 Scoping Plan and the Fresno COG RTP/SCS.[31]

PROJECT IMPACTS

This section identifies the air quality, GHG, and energy impacts associated with implementation of the proposed project.

Air Quality

Air pollutant emissions associated with the project would occur over the short term from construction activities and over the long term from operational activities associated with the proposed land uses.

Consistency with Applicable Air Quality Plans

The proposed project is in a region classified as a nonattainment area. The main purpose of the air quality plan is to bring the area into compliance with the requirements of the federal and State air

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30 City of Fresno. 2020. *CEQA Guidelines for Vehicle Miles Traveled Thresholds*. Website: https://www.fresno.gov/wp-content/uploads/2023/03/CEQA-Guidelines-for-Vehicle-Miles-Traveled-Final-Adopted-Version.pdf (accessed November 2024).

31 Fresno COG. 2022. Regional Transportation Plan and Sustainable Communities Strategy. Website: https://www.fresnocog.org/project/regional-transportation-plan/ (accessed November 2024).

quality standards. To bring the San Joaquin Valley into attainment, the SJVAPCD adopted the *2022 Plan for the 2015 8-Hour Ozone Standard* in December 2022 to satisfy Clean Air Act requirements and ensure attainment of the 75 parts per billion (ppb) 8-hour ozone standard.[32]

To ensure the SJVAB's continued attainment of the USEPA PM_{10} standard, the SJVAPCD adopted the 2007 PM_{10} Maintenance Plan in September 2007.[33] The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards in November 2018 to address the USEPA 1997 annual $PM_{2.5}$ standard of 15 µg/m^3 and 24-hour $PM_{2.5}$ standard of 65 µg/m^3, the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m^3, and the 2012 annual $PM_{2.5}$ standard of 12 µg/m^3.[34]

CEQA requires that certain proposed projects be analyzed for consistency with the applicable air quality plan. For a project to be consistent with SJVAPCD air quality plans, the pollutants emitted from a project should not exceed the SJVAPCD emission thresholds or cause a significant impact on air quality. In addition, emission reductions achieved through implementation of offset requirements are a major component of the SJVAPCD air quality plans. As discussed below, the proposed project would not result in the generation of criteria air pollutants that would exceed SJVAPCD thresholds of significance. Therefore, the proposed project would not conflict with or obstruct implementation of SJVAPCD air quality plans.

Criteria Pollutant Analysis

The SJVAB is currently designated nonattainment for the federal and State standards for O_3 and $PM_{2.5}$. In addition, the SJVAB is in nonattainment for the PM_{10} standard. The SJVAB's nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of an ambient air quality standard. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, the SJVAPCD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. The following analysis assesses the potential construction- and operation-related air quality impacts.

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32 SJVAPCD. 2016. *2016 Plan for the 2008 8-Hour Ozone Standard*. June 16. Website: www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016.htm (accessed November 2024).

33 SJVAPCD. 2007. *2007 PM_{10} Maintenance Plan and Request for Redesignation*. Website: www.valleyair.org/Air_Quality_Plans/docs/Maintenance%20Plan10-25-07.pdf (accessed November 2024).

34 SJVAPCD. 2018. *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards*. November 15. Website: http://valleyair.org/pmplans/documents/2018/pm-plan-adopted/2018-Plan-for-the-1997-2006-and-2012-PM2.5-Standards.pdf (accessed November 2024).

Construction Emissions. During construction, short-term degradation of air quality may occur due to the release of particulate matter emissions (i.e., fugitive dust) generated by excavation activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, reactive organic gases (ROGs), directly emitted $PM_{2.5}$ or PM_{10}, and TACs (e.g., DPMs).

Project construction would include site preparation, grading, building construction, paving, and architectural coating activities. Construction-related effects on air quality from the proposed project would be greatest during the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and amount of operating equipment. Larger dust particles would settle near the source, whereas fine particles would be dispersed over greater distances from the construction site.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. The SJVAPCD has established Regulation VIII measures for reducing fugitive dust emissions (PM_{10}).[35] With the implementation of Regulation VIII measures, fugitive dust emissions from construction activities would not result in adverse air quality impacts.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, sulfur oxides (SO_x), NO_x, ROGs, and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles idle in traffic. These emissions would be temporary in nature and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the project using CalEEMod and are summarized in Table E.

[35] SJVAPCD. 2024. Current District Rules and Regulations. Website: ww2.valleyair.org/rules-and-planning/current-district-rules-and-regulations (accessed November 2024).

Table E: Short-Term Regional Construction Emissions

Construction Year	Annual Pollutant Emissions (Tons per Year)					
	ROG	NO_x	CO	SO_X	Total PM_{10}	Total $PM_{2.5}$
2025	0.1	4.5	3.4	<0.1	0.6	0.3
2026	0.1	2.5	2.2	<0.1	0.2	0.1
2027	0.1	2.5	2.1	<0.1	0.2	0.1
2028	1.3	1.6	1.3	<0.1	0.1	0.1
Maximum Emissions	1.3	4.5	3.4	<0.1	0.6	0.3
SJVAPCD Threshold	**10.0**	**10.0**	**100.0**	**27.0**	**15.0**	**15.0**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (2024).
CO = carbon monoxide
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROG = reactive organic gas
SJVAPCD = San Joaquin Valley Air Pollution Control District
SO_x = sulfur oxides

As shown in Table E, construction emissions associated with the proposed project would not exceed the SJVAPCD's thresholds for ROG, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions. In addition to the construction period thresholds of significance, the SJVAPCD has implemented Regulation VIII measures for dust control during construction.[36] Implementation of Regulatory Compliance Measure (RCM) AIR-1 would ensure that the proposed project complies with Regulation VIII.

RCM AIR-1 Consistent with San Joaquin Valley Air Pollution Control District (SJVAPCD) Regulation VIII (Fugitive PM_{10} Prohibitions), the following controls are required to be included as specifications for the proposed project and implemented at the construction site:

- All disturbed areas, including storage piles, that are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant or covered with a tarp or other suitable cover or vegetative ground cover.
- All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
- When materials are transported off site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container shall be maintained.

[36] SJVAPCD. 2024. Current District Rules and Regulations. Website: ww2.valleyair.org/rules-and-planning/current-district-rules-and-regulations (accessed November 2024).

- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.)

- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/ suppressant.

Construction emissions associated with the proposed project would be less than significant with implementation of RCM AIR-1. Therefore, construction of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard.

Operational Air Quality Impacts. Long-term air pollutant emission impacts associated with the proposed project are those related to mobile sources (e.g., vehicle trips), energy sources (e.g., natural gas), and area sources (e.g., architectural coatings and the use of landscape maintenance equipment).

Mobile source emissions include ROG and NO_X emissions that contribute to the formation of ozone. Additionally, PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways.

Energy source emissions result from activities in buildings for which natural gas is used. The quantity of emissions is the product of usage intensity (i.e., the amount of natural gas) and the emission factor of the fuel source.

Typically, area source emissions consist of direct sources of air emissions located at the project site, including architectural coatings and the use of landscape maintenance equipment. Area source emissions associated with the project would include emissions from the use of landscaping equipment and the use of consumer products.

Long-term operational emissions associated with the proposed project were calculated using CalEEMod. Table F provides the proposed project's estimated operational emissions.

The results shown in Table F indicate the proposed project would not exceed the significance criteria for annual ROG, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$ emissions. Therefore, operation of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or State AAQS.

Table F: Project Operational Emissions

Emission Type	Pollutant Emissions (Tons per Year)					
	ROG	NO_X	CO	SO_X	Total PM_{10}	Total $PM_{2.5}$
Mobile Sources	1.1	1.0	6.7	<0.1	1.6	0.4
Area Sources	1.8	<0.1	1.0	<0.1	<0.1	<0.1
Energy Sources	0.0	0.0	0.0	0.0	0.0	0.0
Total Project Emissions	**2.9**	**1.1**	**8.3**	**<0.1**	**1.6**	**0.4**
SJVAPCD Threshold	10.0	10.0	100.0	27.0	15.0	15.0
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (2024).
Note: Some values may not appear to add correctly due to rounding.
CO = carbon monoxide
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROG = reactive organic gas
SJVAPCD = San Joaquin Valley Air Pollution Control District
SO_X = sulfur oxides

Long-Term Microscale (CO Hot Spot) Analysis. Vehicular trips associated with the proposed project would contribute to congestion at intersections and along roadway segments in the vicinity of the proposed project site. Localized air quality impacts would occur when emissions from vehicular traffic increase as a result of the proposed project. The primary mobile-source pollutant of local concern is CO, a direct function of vehicle idling time and, thus, of traffic flow conditions. CO transport is extremely limited; under normal meteorological conditions, it disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels, affecting local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients).

Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended to determine a project's effect on local CO levels.

An assessment of project-related impacts on localized ambient air quality requires that future ambient air quality levels be projected. Existing CO concentrations in the immediate project vicinity are not available. Ambient CO levels monitored at Fresno-Garland station, the closest station to the project site, showed a highest recorded 1-hour concentration of 2.2 ppm (the State standard is 20 ppm) and a highest 8-hour concentration of 1.8 ppm (the State standard is 9 ppm) during the past 3 years. The highest CO concentrations would normally occur during peak traffic hours; hence, CO impacts calculated under peak traffic conditions represent a worst-case analysis. Reduced speeds and vehicular congestion at intersections result in increased CO emissions.

As described in the Project Description section, the proposed project is estimated to generate 1,914 average daily trips, including 142 trips during the peak a.m. hour and 191 trips during the peak p.m. hour.[37] Therefore, given the extremely low level of CO concentrations in the project area and the lack of traffic impacts at any intersections after the implementation of mitigation, project-related

[37] Crawford & Bowen Planning, Inc. 2024. *Fresno Residential Trip Generation.* May.

vehicles are not expected to result in CO concentrations exceeding the State or federal CO standards. No CO hot spots would occur, and the project would not result in any project-related impacts on CO concentrations.

Health Risk on Nearby Sensitive Receptors

Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to diesel particulate matter are children, whose lung tissue is still developing, and the elderly, who may have serious health problems that can be aggravated by exposure to diesel particulate matter. The project site is surrounded primarily by residential and agricultural uses. The closest sensitive receptors to the project site include a single-family home located east of the project site within 135 feet. The nearest worker receptor to the project site is located approximately 2,000 feet southeast of the project site. The nearest school receptor to the project site is located approximately 1,700 feet south of the project site, across North South Armstrong Avenue.

A construction HRA, which evaluates construction-period health risk to off-site receptors, was performed for the proposed project. Table G, below, identifies the results of the analysis assuming the use of Tier 2 construction equipment as proposed by the project. Model snapshots of the sources are shown in Attachment C.

Table G: Health Risks from Project Construction to Off-Site Receptors

Location	Carcinogenic Inhalation Health Risk in One Million	Chronic Inhalation Hazard Index	Acute Inhalation Hazard Index
Residential Receptor Risk	11.57	<0.01	0.000
Worker Receptor Risk	<0.01	<0.01	0.000
School Receptor	0.04	<0.01	0.000
SJVAPCD Significance Threshold	**20.0 in one million**	**1.0**	**1.0**
Significant?	**No**	**No**	**No**

Source: Compiled by LSA (December 2024).
SJVAPCD = San Joaquin Valley Air Pollution Control District

As shown in Table G, the maximum cancer risk for the residential receptor MEI would be 11.57 in one million, which would not exceed the SJVAPCD cancer risk threshold of 20 in one million. The worker receptor risk would be less than 0.01 in 1 million and the school receptor MEI would be 0.04 in 1 million, which would not exceed the SJVAPCD cancer risk thresholds. The total chronic HI would be less than 0.01 all receptors, which is below the threshold of 1.0. In addition, the total acute HI would be nominal (0.000), which would also not exceed the threshold of 1.0. Therefore, construction of the proposed project would not exceed SJVAPCD thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations.

Furthermore, the proposed project would include the construction of a 203-unit, single-family residential development. As identified in Table F, project operational emissions of criteria pollutants would be below SJVAPCD significance thresholds; thus, they are not likely to have a significant impact on sensitive receptors. In addition, the proposed project would be required to implement

District Rule 9510, Indirect Source Review (ISR).[38] Implementation of Rule 9510 would reduce operational emissions of NO_X and PM_{10} by 33.3 percent and 50 percent, respectively. Compliance with SJVAPCD rules would further limit doses and exposures, reducing potential health risk related to gasoline vapors to a level that is not significant. Once the proposed project is constructed, the proposed project would not be a source of substantial emissions and would not result in new sources of TACs. Therefore, the project would not expose sensitive receptors to substantial levels of TACs.

Odors

The SJVAPCD addresses odor criteria within the GAMAQI. The district has not established a rule or standard regarding odor emissions, rather, the district has a nuisance rule: "Any project with the potential to frequently expose members of the public to objectionable odors should be deemed to have a significant impact."[39]

During project construction, some odors may be present due to diesel exhaust. However, these odors would be temporary and limited to the construction period. The proposed uses are not anticipated to emit any objectionable odors. Any odors in general would be confined mainly to the project site and would readily dissipate. Therefore, the proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Naturally Occurring Asbestos

The project is in Fresno County, which is among the counties found to have serpentine and ultramafic rock in their soils.[40] However, according to the California Geological Survey, no such rock has been identified in the project vicinity. When demolition is proposed during construction, the demolition of existing buildings may expose asbestos used in building materials. However, the proposed project would not involve any demolition or renovation as no current development exists on the project site. Therefore, the potential risk for naturally occurring asbestos during project construction is small and would not be significant.

Valley Fever

The project site is surrounded primarily by residential uses. The closest sensitive receptors to the project site include a single-family home located east of the project site within 125 feet. Except under high wind conditions, this distance is sufficient that particulate matter would settle prior to reaching the nearest sensitive receptor. In addition, crosswinds influenced by the adjacent roadways would help dissipate any particulate matter associated with the construction phase of the project. Therefore, any Valley fever spores suspended with the dust would not be anticipated to reach the sensitive receptors. However, during project construction, it is possible that workers could be exposed to Valley fever through fugitive dust. Dust control measures, consistent with SJVAPCD

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38 SJVAPCD. 2024. Current District Rules and Regulations. Website: ww2.valleyair.org/rules-and-planning/current-district-rules-and-regulations (accessed November 2024).

39 Ibid.

40 California Department of Conservation (DOC). n.d. California Geological Survey. Asbestos. Website: https://www.conservation.ca.gov/cgs/minerals/mineral-hazards (accessed November 2024).

Regulation VIII,[41] would reduce the exposure to the workers and sensitive receptors. Therefore, dust from the construction of the project is not anticipated to significantly add to the existing exposure of people to Valley fever.

Energy Use

This section discusses energy use resulting from implementation of the proposed project and evaluates whether the proposed project would result in the wasteful, inefficient, or unnecessary consumption of energy resources or conflict with any applicable plans for renewable energy and energy efficiency.

Construction

The anticipated construction schedule assumes that the proposed project would be built in approximately three years. Construction-specific phases were assessed for their energy consumption under each construction sub-phase: grading, site preparation, building construction, paving, and architectural coating activities.

Construction would require energy for the manufacture and transportation of construction materials, preparation of the site for grading and building activities, and construction of the building. All or most of this energy would be derived from nonrenewable resources. Petroleum fuels (e.g., diesel and gasoline) would be the primary sources of energy for these activities. However, construction activities are not anticipated to result in an inefficient use of energy as gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the project. Energy (i.e., fuel) usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources.

Operation

Energy use associated with the proposed project would consist of natural gas, electricity, and vehicle fuel use associated with project operations.

Table H shows the estimated potential increased electricity, gasoline, and diesel demand associated with the proposed project. The electricity and natural gas rates are from the CalEEMod analysis, and the gasoline and diesel rates are based on the traffic analysis in conjunction with USDOT fuel efficiency data and use the USEPA's fuel economy estimates for 2020 and the California diesel fuel economy estimates for 2021. Energy and Fuel Calculations output sheets are included in Attachment D.

[41] SJVAPCD. 2024. Current District Rules and Regulations. Website: ww2.valleyair.org/rules-and-planning/current-district-rules-and-regulations (accessed November 2024).

Table H: Estimated Annual Energy Use of Proposed Project

	Electricity Use (kWh per year)	Natural Gas Use (kBTU per year)	Gasoline (gallons per year)	Diesel (gallons per year)
Proposed Project	1,897,356	0	159,991	122,720

Source: Compiled by LSA (2024).
kBTU = thousand British thermal units
kWh = kilowatt hours

As shown in Table H, the estimated increase in electricity demand associated with the operation of the proposed project would be 1,897,356 kWh per year. Total electricity consumption in Fresno County in 2022 was 8,384,408,687 kWh;[42] therefore, operation of the proposed project would negligibly increase the annual electricity consumption in Fresno County by approximately less than 0.1 percent.

As shown in Table H, there would not be an increase in natural gas use as the project is all electric. Therefore, operation of the proposed project would not increase the annual natural gas consumption in Fresno County.

In addition, the project would result in energy usage associated with motor vehicle gasoline to fuel project-related trips. As shown above in Table H, the proposed project would result in the consumption of 159,991 gallons of gasoline and 122,720 gallons of diesel per year. Based on fuel consumption obtained from EMFAC2021, approximately 337.0 million gallons of gasoline and approximately 154.4 million gallons of diesel will be consumed from vehicle trips in Fresno County in 2028. Therefore, vehicle trips associated with the proposed project would increase the annual fuel use in Fresno County by approximately less than 0.1 percent for gasoline fuel usage and approximately less than 0.1 percent for diesel fuel usage. The proposed project would result in fuel usage that is a small fraction of current annual fuel use in Fresno County, and fuel consumption associated with vehicle trips generated by project operations would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. Therefore, gasoline demand generated by vehicle trips associated with the proposed project would be a minimal fraction of gasoline and diesel fuel consumption in California.

Furthermore, the proposed project would be constructed using energy efficient modern building materials and construction practices, and the proposed project also would use new modern appliances and equipment, in accordance with the Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608). The expected energy consumption during construction and operation of the proposed project would be consistent with typical usage rates for residential uses; however, energy consumption is largely a function of personal choice and the physical structure and layout of buildings.

[42] CEC. 2022. Electricity Consumption by County. Website: www.ecdms.energy.ca.gov/elecbycounty.aspx (accessed December 2024).

PG&E is the private utility that would supply the proposed project's electricity. In 2021, a total of 50 percent of PG&E's delivered electricity came from renewable sources, including solar, wind, geothermal, small hydroelectric, and various forms of bioenergy.[43] PG&E reached California's 2020 renewable energy goal in 2017 and is positioned to meet the State's 60 percent by 2030 renewable energy mandate set forth in SB 100. In addition, PG&E plans to continue to provide reliable service to its customers and upgrade its distribution systems as necessary to meet future demand. As such, the proposed project would not result in a potential significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.

Conflict with or Obstruction of a State or Local Plan for Renewable Energy or Energy Efficiency

The CEC recently adopted the 2023 Integrated Energy Policy Report.[44] The 2023 Integrated Energy Policy Report provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs. The 2023 Integrated Energy Policy Report covers a broad range of topics, including 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 forecasts, and the California Energy Demand Forecast.

As indicated above, energy usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources. In addition, energy usage associated with operation of the proposed project would be relatively small in comparison to the region's available energy sources, and energy impacts would be negligible at the regional level. Because California's energy conservation planning actions are conducted at a regional level, and because the project's total impact on regional energy supplies would be minor, the proposed project would not conflict with or obstruct California's energy conservation plans as described in the CEC's 2023 Integrated Energy Policy Report. Therefore, the proposed project would not lead to new or substantially more severe energy impacts.

Greenhouse Gas Emission Impacts

Generation of Greenhouse Gas Emissions

The following sections describe the proposed project's construction- and operation-related GHG impacts and consistency with applicable GHG reduction plans.

Construction Greenhouse Gas Emissions. Construction activities associated with the proposed project would produce combustion emissions from various sources. During construction, GHGs would be emitted through the operation of construction equipment and from worker and builder

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43 PG&E. 2021. *Exploring Clean Energy Solutions*. Website: https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page?WT.mc_id=Vanity_cleanenergy (accessed December 2024).

44 CEC. 2023. *2023 Integrated Energy Policy Report*. California Energy Commission. Docket Number: 23-IEPR-01.

supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

The SJVAPCD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are encouraged to quantify and disclose GHG emissions that would occur during construction. Using CalEEMod, it is estimated that the total emissions associated with construction of the proposed project would be approximately 1,562.8 metric tons (MT) of CO_2e. Construction GHG emissions were amortized over the life of the project (assumed to be 30 years) and added to the operational emissions. When annualized over the life of the project, amortized construction emissions would be approximately 52.1 MT CO_2e per year.

Operational Greenhouse Gas Emissions. Long-term GHG emissions are typically generated from mobile sources (e.g., vehicle and truck trips), area sources (e.g., maintenance activities and landscaping), indirect emissions from sources associated with energy consumption, waste sources (land filling and waste disposal), and water sources (water supply and conveyance, treatment, and distribution). Mobile-source GHG emissions would include project-generated vehicle trips to and from the project. Area-source emissions would be associated with activities such as landscaping and maintenance on the project site. Energy source emissions would be generated at off-site utility providers as a result of increased electricity demand generated by the project. Waste source emissions generated by the proposed project include energy generated by land filling and other methods of disposal related to transporting and managing project generated waste. In addition, water source emissions associated with the proposed project are generated by water supply and conveyance, water treatment, water distribution, and wastewater treatment.

GHG emissions for operation of the project were calculated using CalEEMod. Based on the analysis results, summarized in Table I, the proposed project would result in emissions of approximately 2,018.7 MT CO2e per year. These estimated emissions are provided for informational purposes, and the significance of the proposed project is further analyzed below.

Table I: Greenhouse Gas Emissions

Emission Type	Operational Emissions (metric tons per year)			
	Total CO_2	CH_4	N_2O	CO_2e
Mobile Sources	1,684.7	0.1	0.1	1,716
Area Sources	2.5	<0.1	<0.1	2.5
Energy Sources	175.6	<0.1	<0.1	177
Water Sources	6.1	0.3	<0.1	14.7
Waste Sources	16.1	1.6	0.0	56.4
Amortized Construction Emissions				52.1
Total Operational Emissions				**2,018.7**

Source: Compiled by LSA (2024).
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
N_2O = nitrous oxide

As discussed above, the SJVAPCD has not established a numeric threshold for GHG emissions, and the City does not have a current GHG Reduction Plan. In the absence of any City or SJVAPCD specific guidelines or thresholds, this analysis evaluates the proposed project for consistency with the BAAQMD Justification Report,[45] which identifies project design elements as the applicable thresholds of significance. If a project is designed and built to incorporate design elements related to natural gas, energy, VMT, and EVs, then it would contribute its portion of what is necessary to achieve California's long-term climate goals—its "fair share"—and an agency reviewing the project under CEQA can conclude that the project would not make a cumulatively considerable contribution to global climate change.

Per the significance thresholds described above, a less than significant GHG impact would occur if the project were consistent with the identified design standards, as evaluated below.

Natural Gas Usage. A less than significant GHG impact would occur if the project does not include natural gas appliances or natural gas plumbing. The proposed project would not include natural gas. Therefore, the proposed project would be consistent with this design element.

Energy Usage. Under this design criterion, the project must not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the *State CEQA Guidelines*. Energy use consumed by the proposed project would be associated with electricity consumption associated with the project. Energy consumption was estimated for the project using default energy intensities by land use type in the CalEEMod output, which is included in Attachment B.

As shown in Table H above, the estimated potential increase in electricity demand associated with the operation of the proposed project is 1,897,356878,579 kWh per year. Total electricity consumption in Fresno County in 2022 was 8,384,408,687 kWh. Therefore, operation of the proposed project would increase the annual electricity consumption in Fresno County by approximately 0.1 percent.

In addition, the proposed project would be constructed to current Title 24 standards, which would require energy-saving building features. As such, based on this analysis, as required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the *State CEQA Guidelines*, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of fuel or energy and would incorporate renewable energy and energy efficiency measures into the building design, equipment use, and transportation. As such, the proposed project would be consistent with this design element.

Vehicle Miles Traveled. As discussed above, development that meets a locally adopted SB 743 VMT target would be considered to have a less than significant GHG emissions impact from transportation sources. A project specific VMT analysis was conducted for the project utilizing the VMT Calculator tool developed by the City of Fresno and the project was found to be less than the

[45] BAAQMD. 2022. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans*. April.

screening thresholds established by the City to evaluate project consistency with the City's SB 743 VMT significance thresholds.[46] Therefore, the proposed project would be consistent with this project design element.

Electric Vehicle Requirements. The final project design element that the proposed project should include to ensure that it is achieving its "fair share" of GHG emission reductions is compliance with off-street EV requirements in the most recently adopted version of the CALGreen Code Tier 2 measures. The proposed project would include an EV charging station for each home, consistent with CALGreen Tier 2 standards. Therefore, the proposed project would be consistent with this design element.

The proposed project would be consistent with the project design elements related to natural gas, energy, VMT, and EVs. Therefore, the proposed project would be consistent with the GHG emission thresholds identified for this project. As such, the proposed project would not result in the generation of GHG emissions that would have a significant impact on the environment.

Consistency with Greenhouse Gas Reduction Plans

The proposed project is further analyzed for consistency with the City of Fresno General Plan policies, the 2022 Scoping Plan, and Fresno COG's RTP/SCS.

City of Fresno General Plan. The City's General Plan, including the Resources Conservation and Resilience Element as well as land use policies, includes objectives and policies that work to achieve and maintain reductions in GHG emissions and all strategies that reduce the causes of climate change.[47] A consistency analysis with the applicable policies from the Resources Conservation and Resilience Element and other relevant General Plan policies and objectives is presented below.

The proposed project would be consistent with policies RC-5-a, RC-5-b, RC-5-c, RC-5-d, RC-5-e, RC-5-g, RC 7-a, RC 7-h, and RC 11-a. The proposed project would construct a 203-unit single-family development in a vacant lot and would provide infill development to an already established neighborhood in the City. Thus, the project would be consistent with land use policies and strategies established in the General Plan including UF 12, UF 12-a, and RC 2-a. In addition, the proposed project would comply with the 2022 CALGreen Code building measures and Title 24 standards for solar and EVs. Thus, the proposed project would incorporate the appropriate energy and water conservation standards, facilitate incentives for the incorporation of bicycle and pedestrian amenities, and would encourage the use of alternative modes of transportation.

The proposed project would also provide complete streets for all internal roadway improvements, which would increase connectivity with the surrounding land uses and neighborhoods. Therefore, the proposed project would also be consistent with the applicable strategies under policy RC-5-c and

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46 DKB. 2024. City of Fresno- Uban Form VMT Calculator. Received via email correspondence from Emily Bowen, dated December 4, 2024.

47 City of Fresno. 2014. *Fresno General Plan.* December 18. Website: https://www.fresno.gov/wp-content/uploads/2023/03/upload_temp_Consolidated-GP-10-13-2022_compressed.pdf (accessed November 2024).

policies related to energy conservation, land use planning, and transportation demand outlined in the General Plan such as MT 4, MT 4-c, MT 5, MT 6, MT 8, and MT 8-b. Moreover, the proposed project would provide recycling canisters and would implement techniques for solid waste segregation, disposal, and reduction, consistent with the CalRecycle Waste Diversion and Recycling Mandate. Therefore, the proposed project would be consistent with waste diversion and recycling strategies under RC 11-a.

As further discussed in the following section, the proposed project would also be consistent with the goals outlined in the Fresno COG 2022 RTP/SCS[48] and would not interfere with the Fresno COG's ability to achieve the region's GHG reductions. Therefore, the project would also be consistent with policy RC-5-d. Furthermore, PG&E is the private utility that would supply the proposed project's electricity. Future residents would have the option to join an energy savings program, which would help educate homeowners on green energy. Therefore, the proposed project would be consistent with policy RC-5-f. The analysis presented is conducted with the latest CalEEMod version, consistent with policy RC-5-g.

Through consistency with supporting and implementing the General Plan objectives and policies, the proposed project is consistent with and would not conflict with or obstruct the implementation of the City's General Plan.

2022 Scoping Plan. The following discussion evaluates the proposed project according to the goals of the 2022 Scoping Plan,[49] EO B-30-15, SB 32, and AB 197.

EO B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan,[50] to reflect the 2030 target set by EO B-30-15 and codified by SB 32. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in EO B-30-15. SB 32 builds on AB 32 and keeps California on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels. The companion bill to SB 32, AB 197, provides additional direction to the CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 intended to provide easier public access to air emissions data that are collected by CARB was posted in December 2016.

In addition, the 2022 Scoping Plan assesses progress toward the statutory 2030 target, while laying out a path to achieving carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others and is designed to meet the State's long-term

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48 Fresno COG. 2022. Regional Transportation Plan and Sustainable Communities Strategy. Website: https://www.fresnocog.org/project/regional-transportation-plan/ (accessed November 2024).

49 CARB. 2022. *2022 Scoping Plan Update*. Website: https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf (accessed December 2024).

50 CARB. 2017. *California's 2017 Climate Change Scoping Plan*. November.

climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

The 2022 Scoping Plan focuses on building clean energy production and distribution infrastructure for a carbon-neutral future, including transitioning existing energy production and transmission infrastructure to produce zero-carbon electricity and hydrogen, and utilizing biogas resulting from wildfire management or landfill and dairy operations, among other substitutes. The 2022 Scoping Plan states that in almost all sectors, electrification will play an important role. The 2022 Scoping Plan evaluates clean energy and technology options and the transition away from fossil fuels, including adding four times the solar and wind capacity by 2045 and about 1,700 times the amount of current hydrogen supply. As discussed in the 2022 Scoping Plan, EO N-79-20 requires that all new passenger vehicles sold in California will be zero-emission by 2035, and all other fleets will have transitioned to zero-emission as fully possible by 2045, which will reduce the percentage of fossil fuel combustion vehicles.

Energy efficient measures are intended to maximize energy efficiency building and appliance standards, pursue additional efficiency efforts including new technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. As discussed in the Energy section of this document, the proposed project would not result in the wasteful or inefficient use of energy. The proposed project would be required to comply with the latest Title 24 standards of the CCR, established by the CEC, regarding energy conservation and green building standards. Therefore, the proposed project would comply with applicable energy measures.

Water conservation and efficiency measures are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. The project would comply with the CALGreen Code, which includes a variety of different measures, including the reduction of wastewater and water use. In addition, the proposed project would be required to comply with the California Model Water Efficient Landscape Ordinance. Therefore, the proposed project would not conflict with any of the water conservation and efficiency measures.

The goal of transportation and motor vehicle measures is to develop regional GHG emissions reduction targets for passenger vehicles. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. The second phase of Pavley II (LEV III) Advanced Clean Cars Program will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025, resulting in a 3 percent decrease in average vehicle emissions for all vehicles by 2020. Vehicles traveling to and from the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. Therefore, the proposed project would not conflict with the identified transportation and motor vehicle measures.

Fresno COG's 2022 RTP/SCS. The Fresno COG RTP/SCS reflects transportation planning for Fresno County through 2046.[51] The vision, goals, and policies in the 2022 RTP are intended to serve as the foundation for both short and long-term planning and guide implementation activities. The core vision in the 2022 RTP is to create a region of diverse, safe, resilient, and accessible transportation options that improve the quality of life for all residents by fostering sustainability, equity, a vibrant economy, clean air, and healthy communities. The 2022 RTP contains transportation projects to help more efficiently distribute population, housing, and employment growth, as well as forecast development that is generally consistent with regional-level general plan data. The actions in the 2022 RTP address all transportation modes (e.g., highways, local streets and roads, mass transportation, rail, bicycle, and aviation facilities and services) and consists of short and long-term activities that address regional transportation needs. While the actions are organized by the five key policy areas, many of them support multiple goals and policies. Some actions are intended to support the SCS and reduce GHG emissions directly, while others are focused on the RTP's broader goals. The 2022 RTP does not require that local General Plans, Specific Plans, or zoning be consistent with the 2022 RTP, but provides incentives for consistency for governments and developers.

The proposed project would not interfere with the Fresno COG's ability to achieve the region's GHG reductions. Furthermore, the proposed project is not regionally significant per *State CEQA Guidelines* Section 15206, and it would not conflict with the 2022 RTP targets because those targets were established and are applicable on a regional level. While the proposed project site would require rezoning for the proposed land use, the proposed project would result in a baseline VMT well above the per-capita threshold established by the City to support the region achieving the State's GHG reductions included under SB 743. Based on the average number of residents per household in Fresno of 2.96,[52] the proposed project would result in an estimated population increase of approximately 601 residents, well within the estimated population growth of 647,980 residents in 2030 as included in the 2022 RTP. Therefore, it is anticipated that implementation of the proposed project would not interfere with Fresno COG's ability to implement the regional strategies outlined in the 2022 RTP. The proposed project would comply with existing State regulations adopted to achieve the overall GHG emissions reduction goals identified in the 2022 RTP and would be consistent with applicable State plans and programs designed to reduce GHG emissions. Therefore, the proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

CONCLUSION

Based on the analysis presented above, with implementation of RCM AIR-1, construction and operational activities associated with the proposed project would not result in the generation of criteria air pollutants that would exceed SJVAPCD thresholds of significance. In addition, the proposed project is not expected to produce significant emissions that would affect nearby sensitive

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51 Fresno COG. 2022. Regional Transportation Plan and Sustainable Communities Strategy. Website: https://www.fresnocog.org/project/regional-transportation-plan/ (accessed November 2024).

52 United States Census Bureau. 2020. Census Data. Fresno City. Residential Population. Household and Family. Website: https://data.census.gov/table/ACSST1Y2023.S1101?q=residents%20per%20household&g=160XX00US0627000 (accessed December 2024).

receptors. The proposed project would also not result in objectionable odors affecting a substantial number of people.

The proposed project would also not result in the wasteful, inefficient, or unnecessary consumption of energy resources or conflict with any applicable plans for renewable energy and energy efficiency. The project would not result in the emission of substantial GHG emissions. Additionally, the project would not conflict with local or regional plans and policies for GHG emission reductions, nor with the State's GHG emissions reductions objectives embodied in the 2022 Scoping Plan. Therefore, the proposed project's incremental contribution to cumulative GHG emissions would not be cumulatively considerable.

Attachments: A: Figures
B: CalEEMod Outputs
C: HRA Model Snapshots and Output
D: Energy and Fuel Calculations and Output

ATTACHMENTS

For additional documentation, click or copy the link below to access Figures and Attachments:

https://cityoffresno.sharefile.com/public/share/web-sf8deb80d8abe4530a6d625adf08b7cd3