DRAFT

ENVIRONMENTAL IMPACT REPORT

VESTING TENTATIVE TRACT MAP NO. 6360

FRESNO, CALIFORNIA

LSA

January 2024

This page intentionally left blank

DRAFT

ENVIRONMENTAL IMPACT REPORT

VESTING TENTATIVE TRACT MAP NO. 6360

FRESNO, CALIFORNIA

Submitted to:

City of Fresno
Development and Resource Management Department
2600 Fresno Street, Room 3065
Fresno, California 93721
(559) 621-2489

Prepared by:

LSA
2565 Alluvial Avenue, Suite 172
Clovis, California 93611
(559) 490-1210

Project No. HAA2103

LSA

January 2024

This page intentionally left blank

TABLE OF CONTENTS

APPENDICES

FIGURES AND TABLES

FIGURES

TABLES

LIST OF ABBREVIATIONS AND ACRONYMS

°C	degrees Celsius
°F	degrees Fahrenheit
AAQS	ambient air quality standards
AB	Assembly Bill
ABM	Activity-Based Model
ADA	Americans with Disabilities Act
APN	Assessor's Parcel Number
AQMP	Air Quality Management Plan
ATP	Active Transportation Plan
BPS	best performance standards
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAD	Computer-Aided Design
CAFE	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen Code	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CARB Handbook	*Air Quality and Land Use Handbook: A Community Health Perspective*
CAT	Climate Action Team
CBC	California Building Code
CCAA	California Clean Air Act
CCAP	Climate Change Action Plan
CCR	California Code of Regulations
CEC	California Energy Commission

CEQA	California Environmental Quality Act
CFBR	Community Funded Bus Run
CH_4	methane
City	City of Fresno
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CPUC	California Public Utilities Commission
CTC	California Transportation Commission
CUSD	Clovis Unified School District
DPM	diesel particulate matter
DPU	Department of Public Utilities
Draft EIR	Draft Environmental Impact Report
du/ac	dwelling units per acre
EER	energy efficiency ratio
EIR	Environmental Impact Report
EO	Executive Order
EPA	United States Environmental Protection Agency
EV	electric vehicles
FAX	Fresno Area Express
FFD	Fresno Fire Department
FHWA	Federal Highway Administration
FIP	Federal Implementation Plan
FMFCD	Fresno Metropolitan Flood Control District
Fresno COG	Fresno Council of Governments
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
GAMAQI	Guidance for Assessing and Mitigating Air Quality Impacts
GHG	greenhouse gas
GHGRx	Greenhouse Gas Reduction Exchange
GPA	General Plan Amendment

gpm	gallons per minute
GWP	Global Warming Potential
HCM 6	Highway Capacity Manual, 6th Edition
HDM	Highway Design Manual
HFCs	hydrofluorocarbons
HHD	heavy heavy-duty
HI	Hazard Index
HQTA	High-Quality Transit Area
HRA	Health Risk Assessment
HVAC	heating, ventilation, and air conditioning
IPCC	Intergovernmental Panel on Climate Change
ITE	Institute of Transportation Engineers
kW	kilowatts
LCFS	Low Carbon Fuel Standard
LEV	Low-Emission Vehicle
LOS	level of service
LPG	liquefied petroleum gas
LRA	Local Responsibility Area
LTS	less than significant impact
MEI	maximally exposed individual
MICR	maximum individual cancer risk
Mill Canal	Mill No. 36 Canal
MMT CO_2e	million metric tons of carbon dioxide equivalent
MOE	measure of effectiveness
mpg	miles per gallon
mph	miles per hour
MPO	Metropolitan Planning Organization
MT CO_2e	metric tons of carbon dioxide equivalent
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NHTSA	National Highway Traffic Safety Administration

NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
OPR	Office of Planning and Research
PAC	Policy Advisory Committee
Pb	lead
PEIR	Programmatic Environmental Impact Report
PFCs	perfluorocarbons
PG&E	Pacific Gas and Electric Company
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in size
$PM_{2.5}$	particulate matter less than 2.5 microns in size
ppb	parts per billion
ppm	parts per million
PRC	Public Resources Code
Project Applicant	Wilson Premier Homes, Inc.
proposed project	Vesting Tentative Tract Map No. 6360
ROGs	reactive organic gases
RPS	Renewables Portfolio Standard
RTP	Regional Transportation Plan
SB	Senate Bill
SCS	Sustainable Communities Strategy
SEER	seasonal energy efficiency ratio
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO_2	sulfur dioxide
SO_X	sulfur oxides

SR-180	State Route 180
STIP	State Transportation Improvement Program
SU	Significant and unavoidable impact
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
Technical Advisory	Technical Advisory on Evaluating Transportation Impacts in CEQA
TIS	Traffic Impact Study
TIZ	Traffic Impact Zone
TSMI	Traffic Signal Mitigation Impact
USC	United States Code
USDOT	United States Department of Transportation
UV	ultraviolet
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	vehicle miles traveled
VMT Guidelines	CEQA Guidelines for Vehicle Miles Traveled Thresholds
VOCs	volatile organic compounds
ZEV	zero emission vehicle
$\mu g/m^3$	micrograms per cubic meter

1.0 EXECUTIVE SUMMARY

This chapter provides an overview of the purpose of this Draft Environmental Impact Report (Draft EIR), proposed project and its environmental impacts based on the analysis included in this Draft EIR, including a discussion of alternatives and cumulative project impacts. As required under the California Environmental Quality Act (CEQA), this chapter also includes potential areas of public controversy known to the City of Fresno (City), the lead agency for the proposed project.

1.1 PURPOSE

This Draft EIR has been prepared in accordance with CEQA to evaluate the potential environmental impacts associated with the proposed Vesting Tentative Tract Map No. 6360. This Draft EIR has been prepared in conformance with CEQA, California Public Resources Code (PRC) Section 21000 et seq.; the *State CEQA Guidelines* (California Code of Regulations [CCR], Title 14, Section 15000 et seq.); and the rules, regulations, and procedures for implementing CEQA as adopted by the City of Fresno.

This Draft EIR is intended to serve as an informational document for the public agency decision-makers and the public regarding the potential environmental impacts associated with the construction of the proposed project. In addition to identifying potential environmental impacts, this Draft EIR also identifies potential mitigation measures and alternatives to reduce potential significant environmental impacts.

Environmental impacts cannot always be mitigated to a level that is considered less than significant. In accordance with Section 15093(b) of the *State CEQA Guidelines*, if a lead agency, such as the City of Fresno, approves a project that has significant impacts that are not substantially mitigated (i.e., significant unavoidable impacts), the lead agency shall state in writing the specific reasons for approving the project, based on the final CEQA documents and any other information in the public record for the project. This is identified in Section 15093 of the *State of CEQA Guidelines*, “a statement of overriding considerations.” These potential impacts are discussed in more detail throughout Chapter 4.0 of this Draft EIR.

1.2 PROJECT SUMMARY

The following provides a summary of the project location, project description, project objectives, potential significant and unavoidable impacts that could result from the proposed project, and a list of the agencies responsible for implementation of the proposed project and approvals required for the project.

1.2.1 Project Location

The City of Fresno is in the San Joaquin Valley, in the central portion of Fresno County. The project site is in Fresno, on the northeast corner of the future intersection between North Armstrong Avenue and East McKinley Avenue, and 0.35 mile south of the existing intersection of North Armstrong Avenue and East Clinton Avenue. The project site is bounded by North Armstrong Avenue to the west, by Mill No. 36 Canal and TM 6201 to the south, by rural residential uses to the east, and by residential development to the north.

1.2.2 Project Description

The proposed project would consist of the development of 326 residential lots ranging in sizes between 1,979 and 8,474 square feet, with the average lot size being 2,365 square feet. The proposed lots would be developed into single-family residences over time. The project would also include 39 outlot spaces for private landscaping, private pool, private road, private park, private parking, public pedestrian, and public utility uses. The proposed project would rezone the project site from Single Family Residential, Low Density (RS-3) to Single Family Residential, Medium Density (RS-5) and require a General Plan Amendment (GPA) to change land use designation of the project site from Low Density Residential to Medium Density Residential.

The proposed project would include 53,016 square feet of open space, including an 11,777-square-foot park, a 15,207-square-foot pool and recreation area, and a 26,032-square-foot area across East McKinley Avenue parallel to the project site that would be deeded to the City of Fresno for future trail and open space uses. The proposed project would also construct a two-lane, 64-foot-wide eastern extension of McKinley Avenue and result in the expansion of the North Armstrong Avenue right-of-way along the project frontage. In addition, development of the project site would include infrastructure improvements for stormwater, water and wastewater services along the project frontage with North Armstrong Avenue and the future extension of East McKinley Avenue.

1.2.3 Project Objectives

The following is a list of objectives for the proposed project:

- Address the City of Fresno's current and projected housing needs by providing a range of single-family residences
- Provide residential housing opportunities that are visually attractive and accommodate the future housing demand in Fresno
- Establish a mixture of housing types, sizes and densities that collectively provide for local and regional housing demand
- Provide infrastructure that meets the city standards and is integrated with existing and planned facilities and connections
- Develop a project that meets City standards by implementing a logical phasing plan for development of public infrastructure improvements

1.2.4 Significant Unavoidable Adverse Impacts

The proposed project would result in the following significant unavoidable impacts:

- **Greenhouse Gas Emissions:** Potentially inconsistent with the City's Greenhouse Gas Reduction Plan Update due to the increase in project greenhouse gas (GHG) emissions compared to buildout of the existing land use designation and the increase in vehicle miles traveled (VMT).

- **Transportation:** Potentially increases project VMT per capita over the City of Fresno's VMT per capita threshold.

1.2.5 Lead Agency and Trustee Agencies

The lead agency for the proposed project is the City of Fresno. The City is the public agency that has the principal responsibility for certifying the EIR, approving or carrying out the project, or disapproving the project.

The responsible agencies are State and local public agencies other than the lead agency that have authority to carry out or approve a project or that are required to approve a portion of a project for which the lead agency is preparing or has prepared an EIR or Negative Declaration. There are no agencies other than the City of Fresno that have approval or permitting authority for the adoption of the proposed project.

In addition, implementation of the proposed project would involve many responsible agencies depending upon the specifics of the subsequent projects. Following are some of the agencies that could be required to act as responsible agencies for the project:

- Planning & Development Department, General Plan Amendment/Rezone
- Department of Public Works, Grading Permit
- Department of Public Utilities, water connection(s)/sanitary sewer connection(s)
- City of Fresno Fire Department
- Fresno Metropolitan Flood Control District
- San Joaquin Valley Air Pollution Control District (SJVAPCD)
- State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit
- Pacific Gas and Electric Company (PG&E), electrical connection

1.3 AREAS OF CONTROVERSY

A total of six written comment letters were submitted in response to the Notice of Preparation (NOP). Comment letters to the NOP are included in Appendix A. No verbal comments were received at the public scoping session held on August 17, 2022. Comments in response to the NOP generally identified the following areas of potential concern:

- Evaluation of project construction and operational emissions and reducing impacts by using the cleanest available off-road construction equipment and incorporation of design elements such as the use of cleaner heavy heavy-duty trucks and vehicles, measures that reduce VMT, and measures that increase energy efficiency.

- Evaluation of potential health risk impacts on surrounding receptors (e.g., residences, businesses, hospitals, day-care facilities, health care facilities) and mitigation of any potentially significant risk to help limit exposure of sensitive receptors to emissions.
- The project's potential to result in impacts to special-status species, including, but not limited to, the burrowing owl.
- The project's potential to result in impacts to nesting birds.
- The project's potential to result in impacts to historical and tribal cultural resources.
- The project's potential to result in the release of hazardous wastes/substances during construction activities.
- Project compliance with applicable hazardous materials and/or hazardous wastes handling, storage and disposal requirements.
- The project's potential to contribute to cumulatively considerable impacts related to hazardous wastes/substances.
- The project's potential to result in short-term localized noise impacts to noise sensitive receivers caused by the operation of construction equipment.
- The project's potential to expose nearby residents to elevated noise levels during operation.
- The inclusion of Floradora and Armstrong and Floradora and Fowler intersection in the Traffic Study for the project.
- The project's potential to interfere with PG&E) facilities.

The analyses included in the EIR are based on current regulatory requirements, including the current *State CEQA Guidelines*. An evaluation of the project's construction and operational emissions and health risk impacts were considered and addressed in Section 4.1, Air Quality and 4.2, Greenhouse Gas Emissions, of the EIR. An evaluation of Floradora and Armstrong and Floradora and Fowler intersections was included in Section 4.3, Transportation.

Comments pertaining to potential impacts to special-status species and nesting birds were addressed in Section IV, Biological Resources, of the Initial Study. Comments pertaining to tribal cultural resources were considered and addressed in Section V, Cultural and Tribal Cultural Resources. Comments pertaining to potential impacts related to the release and handling, storage and disposal of hazardous materials/substances were considered and addressed in Section IX, Hazards and Hazardous Materials. Comments related to potential noise impact were addressed in Section XII, Noise. Comments related to PG&E facilities were addressed in Section XIX Utilities and Service Systems. Finally, evaluation of cumulative impacts and existing environmental conditions were considered and addressed throughout the EIR.

1.4 SUMMARY OF IMPACTS AND MITIGATION MEASURES

This summary provides an overview of the analysis contained Chapter 4.0, Evaluation of Environmental Impacts, and Chapter 6.0, Other CEQA Considerations, of this Draft EIR. In determining that an EIR was the appropriate environmental document, the City also determined that the following environmental resource topics would be analyzed in detail for the proposed project: Air Quality, Greenhouse Gas Emissions, and Transportation. Other environmental resource topics not included in Chapter 4.0 of the EIR were analyzed in the Initial Study. The environmental resource topics discussed in the Initial Study include Aesthetics, Agriculture and Forestry Resources, Biological Resources, Cultural Resources, Energy, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Recreation, Noise, Tribal Cultural Resources, Utilities and Service Systems and Wildfire.

1.4.1 Significant Impacts

CEQA defines a significant impact on the environment as "…a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." As discussed in more detail in Chapter 4.0, Evaluation of Environmental Impacts, impacts in the following areas would be potentially significant without the implementation of mitigation measures but would be reduced to a less than significant level if the mitigation measures recommended in this report are implemented: Section 4.1, Air Quality; Section 4.2, Greenhouse Gas Emissions; and Section 4.3, Transportation.

1.4.2 Significant Unavoidable Impacts

The proposed project would result in significant and unavoidable impacts to the following environmental resource topic areas:

- **Greenhouse Gas Emissions:** Potentially inconsistent with the City's Greenhouse Gas Reduction Plan Update due to the increase in project GHG emissions compared to buildout of the existing land use designation and the increase in VMT.

- **Transportation:** Potentially increases project VMT per capita over the City of Fresno's VMT per capita threshold.

1.4.3 Cumulative Impacts

CEQA defines cumulative impacts as "two or more individual effects which, when considered together, are considerable, or which can compound or increase other environmental impacts." Section 15130 of the *State CEQA Guidelines* requires that an EIR evaluate potential environmental impacts that are individually limited, but cumulatively significant. These impacts can result from the proposed project when combined with other past, present, or reasonably foreseeable future projects. As described in Chapter 4.0 of this Draft EIR, the cumulative impacts analysis in this Draft EIR are based on information provided by the City on currently planned, approved, or proposed projects and regional projections for the project area.

1.4.4 Alternatives to the Project

In accordance with CEQA and the *State CEQA Guidelines* (Section 15126.6), an EIR must describe a reasonable range of alternatives to the project, or to the project's location, that could attain most of the project's basic objectives while avoiding or substantially lessening any of the significant adverse environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives that are feasible and necessary to permit a reasoned choice. *State CEQA Guidelines* state that an EIR should not consider alternatives "whose effect cannot be ascertained and whose implementation is remote and speculative."

The alternatives to the proposed project that are discussed and analyzed in Chapter 5.0, Alternatives, of this Draft EIR are:

- **No Project Alternative:** Under the No Project Alternative, the project site would not be developed, and existing land uses would remain. No modifications to existing site access or infrastructure would take place.

- **Reduced Project Alternative:** Under the Reduced Project Alternative, the proposed project would reduce the proposed density of 10.4 dwelling units per acre for (du/ac) for the proposed project to 5.2 du/ac, for a total of 163 residential units. Proposed site access and infrastructure improvements would remain the same as those identified for the proposed project.

- **Increased Phase Density Alternative:** Under the Increased Phase Density Alternative, 326 residential units would be constructed within the 31.29-acre project site, but the residential units would be constructed on approximately 11 acres on the western portion of the project site and 11 acres on the northeastern portion of the project site to reduce the overall construction period. The remaining approximately 9 acres of the project would be developed as public open space. Overall density of the project site would remain the same as the proposed project (10.4 du/ac), but each 11-acre development area would have density of 14.8 du/ac. Proposed site access and infrastructure improvements would remain the same as those identified for the proposed project.

Each alternative is compared to the proposed project and discussed in terms of its various mitigating or adverse effects on the environment. Analysis of the alternatives focuses on those topics for which significant adverse impacts would result from the proposed project.

1.5 EXECUTIVE SUMMARY MATRIX

Table 1.A, below, summarizes the impacts, mitigation measures, and resulting level of significance after mitigation for the relevant environmental issue areas evaluated in the Initial Study document (Appendix B) prepared for this Draft EIR, and in this Draft EIR. Table 1.A is intended to provide an overview; narrative discussions for the issue areas included in the corresponding sections of this Draft EIR. Table 1.A is included in the Draft EIR pursuant to *State CEQA Guidelines* Section 15123(b)(1).

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Environmental Impact Report			
4.1: AIR QUALITY			
Impact AIR-1: *The project would conflict with or obstruct implementation of the applicable air quality plan*	Potentially Significant Impact.	Refer to Mitigation Measures AIR-2 below.	Less than Significant Impact.
Impact AIR-2: *Implementation of the proposed project would result in a cumulatively considerable net increase of criteria pollutants for which the project region is non-attainment under an applicable federal or State ambient air quality standards.*	Potentially Significant Impact.	**Mitigation Measure AIR-2:** Consistent with 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, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/ suppressant, 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. • 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.)	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• Following the addition of materials to, or the removal of materials from, the surface of out-door storage piles, said piles shall be effectively stabilized of fugitive dust emission utilizing sufficient water or chemical stabilizer/suppressant.	
Impact AIR-3: *Implementation of the proposed project would expose sensitive receptors to substantial pollutant concentrations.*	Potentially Significant Impact.	**Mitigation Measure AIR-3:** During construction of the proposed project, the project contractor shall ensure all off-road diesel-powered construction equipment of 50 horsepower or more used for the project construction at a minimum meets the California Air Resources Board Tier 3 emissions standards equipped with Level 3 diesel particulate filters or equivalent.	Less than Significant Impact.
Impact AIR-4: *The project would not result in significant odors that could adversely affect a substantial number of people.*	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Impact AIR-5: *The proposed project, in combination with past, present, and reasonably foreseeable projects, would contribute to a significant cumulative impact with respect to air quality.*	Potentially Significant Impact.	Refer to Mitigation Measures AIR-2 and AIR-3 above.	Less than Significant Impact.
4.2: GREENHOUSE GAS EMISSIONS			
Impact GHG-1: *The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.*	Potentially Significant Impact.	Refer to Mitigation Measure TRA-2.	Significant and Unavoidable
Impact GHG-2*: The project would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*	Potentially Significant Impact.	Refer to Mitigation Measure TRA-2.	Significant and Unavoidable
Impact GHG-3: *The proposed project, in combination with past, present, and reasonably foreseeable projects, would not contribute to a significant cumulative impact with respect to greenhouse gas emissions.*	Potentially Significant Impact.	Refer to Mitigation Measure TRA-2.	Significant and Unavoidable

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.3: TRANSPORTATION			
Impact TRA-1: *The project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.*	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Impact TRA-2: *The proposed project would conflict or be inconsistent with State CEQA Guidelines section 15064.3, subdivision (b).*	Potentially Significant Impact.	**Mitigation Measure TRA-2:** Pursuant to the California Air Pollution Control Officers Association's "Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity", the following design element shall be implemented: • The project would provide an internal circulation network in the project site to increase street connectivity. • The project would provide pedestrian improvements like sidewalks both internally in the project site and along the project frontage to improve pedestrian access to the site. • The project would provide a 25-foot-wide easement for bicycle and pedestrian infrastructure for the construction of a Class I Bike Path on East McKinley Avenue, pursuant to the City's ATP. • In coordination with the CUSD, the Project Applicant would aid the establishment of a Community Funded Bus Run program in the project site per Clovis Unified Board Policy and Administrative Regulation #8301.	Significant and Unavoidable
Impact TRA-3: *The project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).*	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Impact TRA-4: *The project would not result in inadequate emergency access.*	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Impact TRA-5: *The proposed project, in combination with past, present, and reasonably foreseeable projects, would contribute to a significant cumulative impact with respect to transportation.*	Potentially Significant Impact.	Refer to Mitigation Measure TRA-2, above.	Significant and Unavoidable

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Initial Study			
AESTHETICS			
The proposed project would not have a substantial adverse effect on a scenic vista.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	No Impact.	No mitigation is required.	No Impact.
The proposed project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage point), and due to the location of the project in an urbanized area, the project would conflict with applicable zoning and other regulations governing scenic quality.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	Potentially Significant Impact.	**Mitigation Measure AES-1:** Lighting systems for street and parking areas shall include shields to direct light to the roadway surfaces and parking areas. Vertical shields on the light fixtures shall also be used to direct light away from adjacent light sensitive land uses such as residences. **Mitigation Measure AES-2:** Lighting systems for public facilities such as active play areas shall provide adequate illumination for the activity; however, low intensity light fixtures and shields shall be used to minimize spillover light onto adjacent properties. **Mitigation Measure AES-3:** Lighting systems for freestanding signs shall not exceed 100 foot Lamberts (FT-L) when adjacent to streets which have an average light intensity of less than 2.0 horizontal footcandles and shall not exceed 500 FT-L when adjacent to streets which have an average light intensity of 2.0 horizontal footcandles or greater. **Mitigation Measure AES-4:** Materials used on building facades shall be non-reflective.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
AGRICULTURAL AND FORESTRY RESOURCES			
Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Conflict with existing zoning for agricultural use or a Williamson Act contract.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).	No Impact.	No mitigation is required.	No Impact.
Result in the loss of forest land or conversion of forest land to non-forest use.	No Impact.	No mitigation is required.	No Impact.
Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
BIOLOGICAL RESOURCES			
The project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
The project would not have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	No Impact.	No mitigation is required.	No Impact.
The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan	No Impact.	No mitigation is required.	No Impact.
CULTURAL RESOURCES			
The project would cause substantial adverse change in the significance of a historical resource pursuant to §15064.5	Potentially Significant Impact.	**Mitigation Measure CUL-1:** If previously unknown resources are encountered before or during grading activities, construction shall stop in the immediate vicinity of the find and a qualified historical resources specialist shall be consulted to determine whether the resource requires further study. The qualified historical resources specialist shall make recommendations to the City on the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with Section 15064.5 of the *State CEQA Guidelines* and the City's Historic Preservation Ordinance. If the resources are determined to be unique historical resources as defined under Section 15064.5 of the *State CEQA Guidelines*, measures shall be identified by the monitor and recommended to the Lead Agency. Appropriate measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		No further grading shall occur in the area of the discovery until the Lead Agency approves the measures to protect these. Any historical artifacts recovered as a result of mitigation shall be provided to a City-approved institution or person who is capable of providing long-term preservation to allow future scientific study.	
The project would cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5	Potentially Significant Impact.	**Mitigation Measure CUL-2:** Subsequent to a preliminary City review of the project grading plans, if there is evidence that a project will include excavation or construction activities within previously undisturbed soils, a field survey and literature search for prehistoric archaeological resources shall be conducted. The following procedures shall be followed: • If prehistoric resources are not found during either the field survey or literature search, excavation and/or construction activities can commence. In the event that buried prehistoric archaeological resources are discovered during excavation and/or construction activities, construction shall stop in the immediate vicinity of the find and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The qualified archaeologist shall make recommendations to the City on the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with *State CEQA Guidelines* Section 15064.5. If the resources are determined to be unique prehistoric archaeological resources as defined under Section 15064.5 of the *State CEQA Guidelines*, mitigation measures shall be identified by the monitor and recommended to the Lead Agency. Appropriate measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. No further grading shall occur in the area of the discovery until the Lead Agency approves the measures to protect these resources. Any prehistoric archaeological artifacts recovered as a result of mitigation shall	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		be provided to a City-approved institution or person who is capable of providing long-term preservation to allow future scientific study. • If prehistoric resources are found during the field survey or literature review, the resources shall be inventoried using appropriate State record forms and submit the forms to the Southern San Joaquin Valley Information Center. The resources shall be evaluated for significance. If the resources are found to be significant, measures shall be identified by the qualified archaeologist. Similar to above, appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. In addition, appropriate mitigation for excavation and construction activities in the vicinity of the resources found during the field survey or literature review shall include an archaeological monitor. The monitoring period shall be determined by the qualified archaeologist. If additional prehistoric archaeological resources are found during excavation and/or construction activities, the procedure identified above for the discovery of unknown resources shall be followed.	
The project would disturb any human remains, including those interred outside of formal cemeteries	Potentially Significant Impact.	**Mitigation Measure CUL-3:** In the event that human remains are unearthed during excavation and grading activities of any future development project, all activity shall cease immediately. Pursuant to Health and Safety Code Section 7050.5, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98(a). If the remains are determined to be of Native American descent, the coroner shall within 24 hours notify the Native American Heritage Commission (NAHC). The NAHC shall then contact the most likely descendent of the deceased Native American, who shall then serve as the consultant on how to proceed with the remains. Pursuant to PRC Section 5097.98(b), upon the discovery of Native American remains, the landowner	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment.	
ENERGY			
The project would result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
GEOLOGY AND SOILS			
Directly or Indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:			
Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Strong seismic ground shaking.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Seismic-related ground failure, including liquefaction.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Landslides.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Result in substantial soil erosion or the loss of topsoil.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water	No Impact.	No mitigation is required.	No Impact.
Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Potentially Significant Impact.	**Mitigation Measure GEO-1:** Subsequent to a preliminary City review of the project grading plans, if there is evidence that a project will include excavation or construction activities within previously undisturbed soils, a field survey and literature search for unique paleontological/geological resources shall be conducted. The following procedures shall be followed: • If unique paleontological/geological resources are not found during either the field survey or literature search, excavation and/or construction activities can commence. In the event that unique paleontological/geological resources are discovered during excavation and/or construction activities, construction shall stop in the immediate vicinity of the find and a qualified paleontologist shall be consulted to determine whether the resource requires further study. The qualified paleontologist shall make recommendations to the City on the measures that shall be implemented to protect the discovered resources, including but not limited to, excavation of the finds and evaluation of the finds. If the resources are determined to be significant, mitigation measures shall be identified by the monitor and recommended to the Lead Agency. Appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		No further grading shall occur in the area of the discovery until the Lead Agency approves the measures to protect these resources. Any paleontological/geological resources recovered as a result of mitigation shall be provided to a City-approved institution or person who is capable of providing long-term preservation to allow future scientific study. • If unique paleontological/geological resources are found during the field survey or literature review, the resources shall be inventoried and evaluated for significance. If the resources are found to be significant, mitigation measures shall be identified by the qualified paleontologist. Similar to above, appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. In addition, appropriate mitigation for excavation and construction activities in the vicinity of the resources found during the field survey or literature review shall include a paleontological monitor. The monitoring period shall be determined by the qualified paleontologist. If additional paleontological/geological resources are found during excavation and/or construction activities, the procedure identified above for the discovery of unknown resources shall be followed.	
HAZARDS AND HAZARDOUS MATERIALS			
The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous material	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
The project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment	No Impact.	No mitigation is required.	No Impact.
For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the proposed project would not expose people residing or working in the project area to excessive noise levels.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
HYDROLOGY AND WATER QUALITY			
The project would violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
The project would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:			
Result in substantial erosion or siltation on or off site	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Impede or redirect flood flows	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
LAND USE AND PLANNING			
The project would physically divide an established community	No Impact.	No mitigation is required.	No Impact.
The project would cause significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
MINERAL RESOURCES			
The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
The project would result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
NOISE			
The project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	Potentially Significant Impact.	**Mitigation Measure NOI-1:** The project contractor shall implement the following measures during construction of the project: • Equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards. • Place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the active project site. • Locate equipment staging in areas that would create the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the active project site during all construction activities. • Ensure that all general construction-related activities are restricted to between the hours of 7:00 a.m. and 10:00 p.m. Monday through Saturday. No construction shall occur on Sunday. • Designate a "disturbance coordinator" at the City who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler) and would determine and implement reasonable measures warranted to correct the problem.	Less than Significant Impact.
The project would generate excessive groundborne vibration or groundborne noise levels.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
public airport or public use airport, the proposed project would not expose people residing or working in the project area to excessive noise levels.			
POPULATION AND HOUSING			
The project would induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses or indirectly (for example, through extension of roads or other infrastructure)	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
PUBLIC SERVICES			
The project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for the following public services:			
Fire protection	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Police protection	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Schools	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Parks	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Other Public Facilities	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
RECREATION			
The project would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
TRIBAL CULTURAL RESOURCES			
The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:			
Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)	Potentially Significant Impact.	Refer to Mitigation Measures CUL-1, CUL-2 and CUL-3.-2 above.	Less than Significant Impact.
A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe	Potentially Significant Impact.	Refer to Mitigation Measures CUL-1, CUL-2 and CUL-3 above.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
UTILITY AND SERVICE SYSTEMS			
The project would require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
WILDFIRE			
The project would not substantially impair an adopted emergency response plan or emergency evacuation plan	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
Due to slope, prevailing winds, and other factors, the project would not exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1.A: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
The project would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
The project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

This page intentionally left blank

2.0 INTRODUCTION

2.1 PURPOSE OF THIS DRAFT EIR

The California Environmental Quality Act (CEQA) requires that all State and local government agencies consider the environmental consequences of programs and projects over which they have discretionary authority before taking action on them. This Draft Environmental Impact Report (Draft EIR) has been prepared in accordance with CEQA to evaluate the potential environmental impacts associated with implementation of Vesting Tentative Tract Map No. 6360 (herein referred to as the proposed project) for the City of Fresno. This Draft EIR has been prepared in conformance with CEQA, California Public Resources Code (PRC) Section 21000 et seq; the *State CEQA Guidelines* (California Code of Regulations [CCR], Title 14, Section 15000 et seq); and the rules, regulations, and procedures for implementing CEQA as adopted by the City of Fresno (herein referred to as the City).

This Draft EIR is intended to serve as an informational document for the public agency decision-makers and the public regarding the potential environmental impacts associated with the construction the proposed project. This Draft EIR identifies potential environmental impacts resulting from the proposed project, and identifies potential mitigation measures and alternatives to reduce potential environmental impacts.

Environmental impacts cannot always be mitigated to a level that is considered less than significant. In accordance with Section 15093(b) of the *State CEQA Guidelines*, if a lead agency, such as the City of Fresno, approves a project that has significant impacts that are not substantially mitigated (i.e., significant unavoidable impacts), the lead agency shall state in writing the specific reasons for approving the project, based on the final CEQA documents and any other information in the public record for the project. This is identified in Section 15093 of the *State CEQA Guidelines*, "a statement of overriding considerations." These potential impacts are discussed in more detail throughout Chapter 4.0 of this Draft EIR.

2.2 ENVIRONMENTAL REVIEW PROCESS

The City of Fresno, serving as Lead Agency responsible for administering the environmental review for the proposed project, determined that preparation of an EIR was required for the proposed project.

CEQA requires that, before a decision can be made to approve a project that could result in adverse physical effects, an EIR must be prepared that fully describes the environmental effects of the project. The EIR is a public information document for use by governmental agencies and the public to identify and evaluate potential environmental impacts of a project, to recommend mitigation measures to lessen or eliminate significant adverse impacts, and to examine feasible alternatives to the project. The information contained in the EIR must be reviewed and considered by the City of Fresno Planning Commission, City Council, and other approving bodies prior to a decision to approve, disapprove, or modify the project.

As part of the consideration of the proposed project, an agency must prepare findings that identifies that all environmental effects of the project are supported by substantial evidence in the record.

CEQA requires that agencies shall neither approve nor implement a project unless the project's significant environmental effects have been reduced to a less than significant level, essentially "eliminating, avoiding, or substantially lessening" the potentially significant impacts, except when certain findings are made. If an agency approves a project that will result in the occurrence of significant adverse impacts that cannot be mitigated to less than significant levels, the agency must state the reasons for its action in writing, demonstrate that its action is based on the EIR or other information in the record, and adopt a Statement of Overriding Considerations.

2.3 INTENDED USES OF THIS DRAFT EIR

As noted above and described in the *State CEQA Guidelines*, public agencies are charged with the duty to avoid or substantially lessen significant environmental effects, where feasible. In undertaking this duty, a public agency has an obligation to balance a project's significant effects on the environment with its benefits, including economic, social, technological, legal, and other non-environmental characteristics.

This Draft EIR is intended as an informational document to: evaluate the proposed project and the potential for significant impacts on the environment; examine methods of reducing adverse environmental impacts; identify any significant and unavoidable adverse impacts that cannot be mitigated; and identify reasonable and feasible alternatives to the proposed project that would eliminate any significant adverse environmental effects or reduce the impacts to a less than significant level. The Lead Agency is required to consider the information in the EIR, along with any other relevant information, in making its decisions on the proposed project. This analysis, in and of itself, does not determine whether a project will be approved, but aids the planning and decision-making process by disclosing the potential for significant and adverse impacts.

In conformance with CEQA and the *State CEQA Guidelines*, this Draft EIR provides objective information addressing the environmental consequences of the project and identifies possible means of reducing or avoiding significant impacts, either through mitigation measures or feasible project alternatives. The City of Fresno must certify the Final EIR prior to project approval and implementation. Under *State CEQA Guidelines* Section 15168, this is a project-level EIR. This type of EIR examines a specific project and considers potential construction and operational impacts of implementing the project.

The *State CEQA Guidelines* help define the role and standards of this Draft EIR, as follows:

- **Information Document:** An EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effect(s) of a project, identify possible ways to minimize significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information which may be presented to the agency (*State CEQA Guidelines* Section 15121(a)).

- **Degree of Specificity:** The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR. An EIR on a development project will necessarily be more detailed in its discussion of specific effects of the project than will be an EIR on the adoption of a local general plan or comprehensive zoning

ordinance because the effects of the construction can be predicted with greater accuracy (*State CEQA Guidelines* Section 15146(a)).

- **Standards for Adequacy of an EIR:** An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information, which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure (*State CEQA Guidelines* Section 15151).

Section 15382 of the *State CEQA Guidelines* defines a significant effect on the environment as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project…" Therefore, in identifying the significant impacts of the project, this Draft EIR focuses on the substantial physical effects and mitigation measures to avoid, reduce, or otherwise alleviate those effects.

2.4 PROPOSED PROJECT

The proposed project would consist of the development of 326 residential lots ranging in size between 1,979 and 8,474 square feet, with the average lot size being 2,365 square feet. The proposed lots would be developed into single-family residences over time. Thirty-nine outlot spaces for private landscaping, private pool, private road, private park, private parking, public pedestrian, and public utility uses would also be included in the project. The proposed project would include approximately 53,016 square feet of open space, including a 11,777-square-foot park, a 15,207-square-foot-pool and recreation area, and a 26,032-square-foot area across East McKinley Avenue parallel to the project site that would be deeded to the City of Fresno for future trail and open space uses.

The proposed project would also construct a two-lane, approximately 64-foot-wide eastern extension of McKinley Avenue and result in the expansion of the North Armstrong Avenue right-of-way along the project frontage. In addition, development of the project site would include infrastructure improvements for stormwater, water and wastewater services along the project frontage with North Armstrong Avenue and the future extension of East McKinley Avenue.

2.5 EIR SCOPE

A Notice of Preparation (NOP) of the EIR was circulated for 30 days on August 8, 2022, to help identify the types of impacts that could result from implementation of the proposed project, as well as potential areas of controversy. The NOP was mailed to public agencies, organizations, and individuals likely to be interested in the project and its potential impacts. Additionally, a public scoping meeting to inform interested parties and the public about the proposed project was held on August 17, 2022. A total of six comment letters regarding the NOP were received within the review period. Copies of the NOP and the comment letters are included in Appendix A.

The Initial Study prepared for this Draft EIR evaluated the environmental issue topics required by CEQA. The individual environmental topics evaluated in the Initial Study include the following:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

The Initial Study identified potentially significant environmental issue topics that will be analyzed in more detail in this Draft EIR. The topics include:

- Air Quality
- Greenhouse Gas Emissions
- Transportation

2.6 REPORT ORGANIZATION

This Draft EIR is organized into the following chapters:

- **Chapter 1.0, Executive Summary:** Provides a summary of the impacts that would result from implementation of the proposed project, describes mitigation measures recommended to reduce or avoid significant impacts, and describes the alternatives to the proposed project.

- **Chapter 2.0, Introduction:** Discusses the overall EIR purpose, provides a summary of the proposed project, describes the EIR scope, and summarizes the organization of the EIR.

- **Chapter 3.0, Project Description:** Provides a description of the project site, the project objectives, the proposed project, and intended uses of this Draft EIR.

- **Chapter 4.0, Evaluation of Environmental Impacts:** Describes the following for each environmental technical topic: existing conditions (setting), potential environmental impacts and their level of significance, and mitigation measures recommended to mitigate identified impacts. Potential adverse impacts are identified by levels of significance, as follows: less than significant impact (LTS), significant impact (S), and significant and unavoidable impact (SU). The significance of each impact is categorized before and after implementation of any recommended mitigation measures(s). Cumulative impacts are also addressed.

- **Chapter 5.0, Alternatives:** Provides an evaluation of the alternatives to the proposed project in addition to the CEQA-required No Project Alternative.

- **Chapter 6.0, CEQA-Required Assessment Conclusions:** Provides an analysis of effects found not to be significant, growth-inducing impacts, unavoidable significant environmental impacts, and significant irreversible changes.

- **Chapter 7.0, Report Preparation:** Identifies preparers of the EIR, references used, and the persons and organizations contacted.

- **Appendices:** The appendices contain the NOP and comment letters on the NOP (Appendix A), technical calculations, and other documentation prepared in conjunction with this Draft EIR.

2.7 PUBLIC PARTICIPATION

The *State CEQA Guidelines* encourage public participation in the planning and environmental review processes. The City will provide opportunities for the public to present comments and concerns regarding the CEQA and planning processes. These opportunities will occur during the Draft EIR public review and comment period and public hearings before the City of Fresno Planning Commission and City Council.

This Draft EIR, in compliance with Section 15105 of the *State CEQA Guidelines*, has been distributed to responsible and trustee agencies, and other interested organizations, agencies and individuals for review and comment on the adequacy of the environmental analysis.

The Draft EIR 45-day public review and comment period for this project began on February 23 and will end on April 8.

Written public comments may be submitted to the Planning and Development Department during the specified public review and comment period, and oral comments may be presented at the Draft EIR public hearing before the City of Fresno Planning Commission and City Council. Written comments should be delivered in person or by courier service, or be sent by mail or email to:

Chris Lang
Supervising Planner
City of Fresno – Planning and Development Department
2600 Fresno Street, Room 3043
Fresno, CA 93721
(559) 621-8023
Chris.Lang@fresno.gov

This page intentionally left blank

3.0 PROJECT DESCRIPTION

The following describes the proposed Vesting Tentative Tract Map No. 6360 (project) to be developed by Wilson Premier Homes, Inc. (Project Applicant). The project would consist of developing a 31.29-acre project site into 326 residential lots. The City of Fresno (City) is the lead agency for review of the proposed project under the California Environmental Quality Act (CEQA).

3.1 PROJECT SITE LOCATION AND SETTING

The following section describes the location and characteristics of the project site and provides a brief overview of the existing land uses within and in the vicinity of the project site.

3.1.1 Location

The project site is in Fresno, on the northeast corner of the future intersection between North Armstrong Avenue and East McKinley Avenue, and 0.35 mile south of the existing intersection of North Armstrong Avenue and East Clinton Avenue. The project site is bounded by North Armstrong Avenue to the west, by Mill No. 36 Canal and TM 6201 to the south, by rural residential uses to the east, and by residential development to the north. The proposed project would be on Assessor's Parcel Numbers 574-140-04 and -05. Figure 3-1 shows the project site's regional and local context.

3.1.2 Site Characteristics and Existing Site Conditions

The project site is 31.29 acres in size and is currently being used for agriculture. In 2022, crops produced on the project site included almonds, peaches, grapes, and plums.[1] The project site is undeveloped and does not have any existing structures.

The Mill No. 36 Canal (Mill Canal) borders the project site's southern boundary. The Mill Canal is an unlined canal owned and operated by the Fresno Irrigation District and serves to deliver water for irrigation, recharge, conveyance of stormwater flows, and municipal use for Fresno and Clovis.

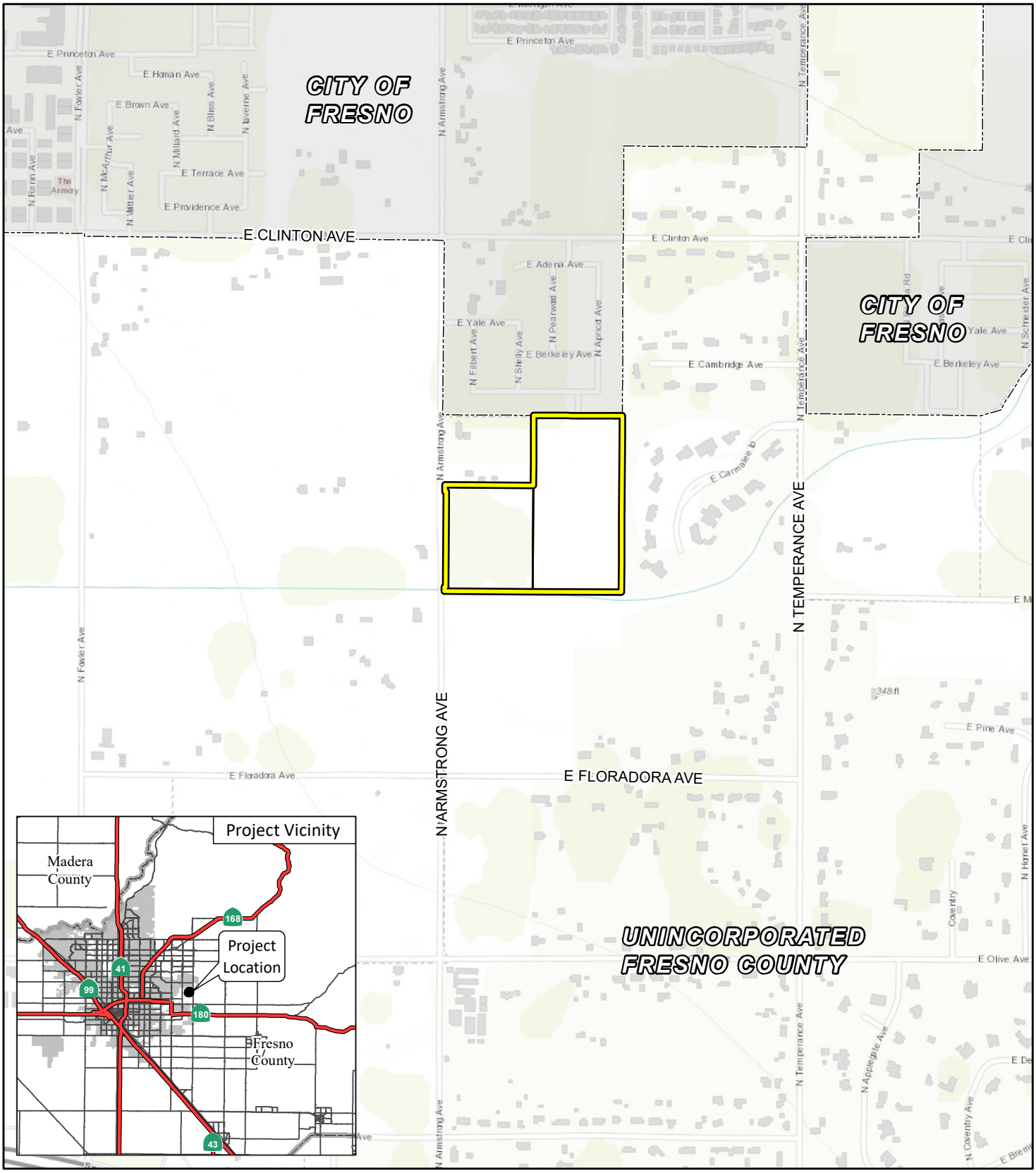
3.1.3 Existing Zoning and General Plan Land Use Designation

The project site is zoned Single Family Residential, Low Density (RS-3). The RS district is intended to provide for a variety of single-family residences built to urban or suburban standards to suit a spectrum of individual lifestyles and needs.[2] This district is also meant to enhance the City's residential neighborhoods while providing new opportunities for the development of a range of housing types throughout Fresno. The project site is designated Low Density Residential in the City of Fresno General Plan. The proposed project would rezone the site from Single Family Residential,

[1] United States Department of Agriculture (USDA) National Agriculture Statistics Service (NASS). 2022. CroplandCROS. Website: https://croplandcros.scinet.usda.gov/ (accessed February 2023).

[2] City of Fresno. 2016. Fresno Municipal Code Chapter 15: Citywide Development Code. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/Complete_Code_March_2017.pdf (accessed February 2023).

This page intentionally left blank



LSA

FIGURE 1

LEGEND

- Project Location
- Parcel Boundary
- Fresno City Limit

0 500 1000
FEET

SOURCE: Esri Streetmap (2021)

I:\HAA2103-TM 6360\GIS\MXD\Regional_Local_Context.mxd (6/8/2022)

Vesting Tentative Tract Map No. 6360

Regional and Local Context

This page intentionally left blank

Low Density (RS-3) to Single Family Residential, Medium Density (RS-5). Additionally, the proposed project would also require a General Plan Amendment to change the land use designation of the project site from Low Density Residential to Medium Density Residential.

3.1.4 Surrounding Land Uses

The project site is surrounded by residential, rural residential and agricultural uses (Table 3.A). Figure 3-2 shows the project site and surrounding land uses.

Table 3.A: Surrounding Land Uses and Setting

	Planned Land Use	Existing Zoning	Existing Land Use
North	Residential – Low Density/ Medium Low Density	RS-4, Residential Single-Family, Medium Low Density	Residential – Medium Low Density
East	Residential – Medium Low Density/ Open Space/ Elementary School	RR NB, Rural Residential, Neighborhood Beautification (Fresno County)	Rural Residential
South	Residential – Low Density/ Medium Density	RS-5, Residential Single-Family, Medium Density	Agriculture/Rural Residential
West	Residential – Medium Density/Elementary School	RS-5, Residential Single-Family, Medium Density	Agriculture/Rural Residential

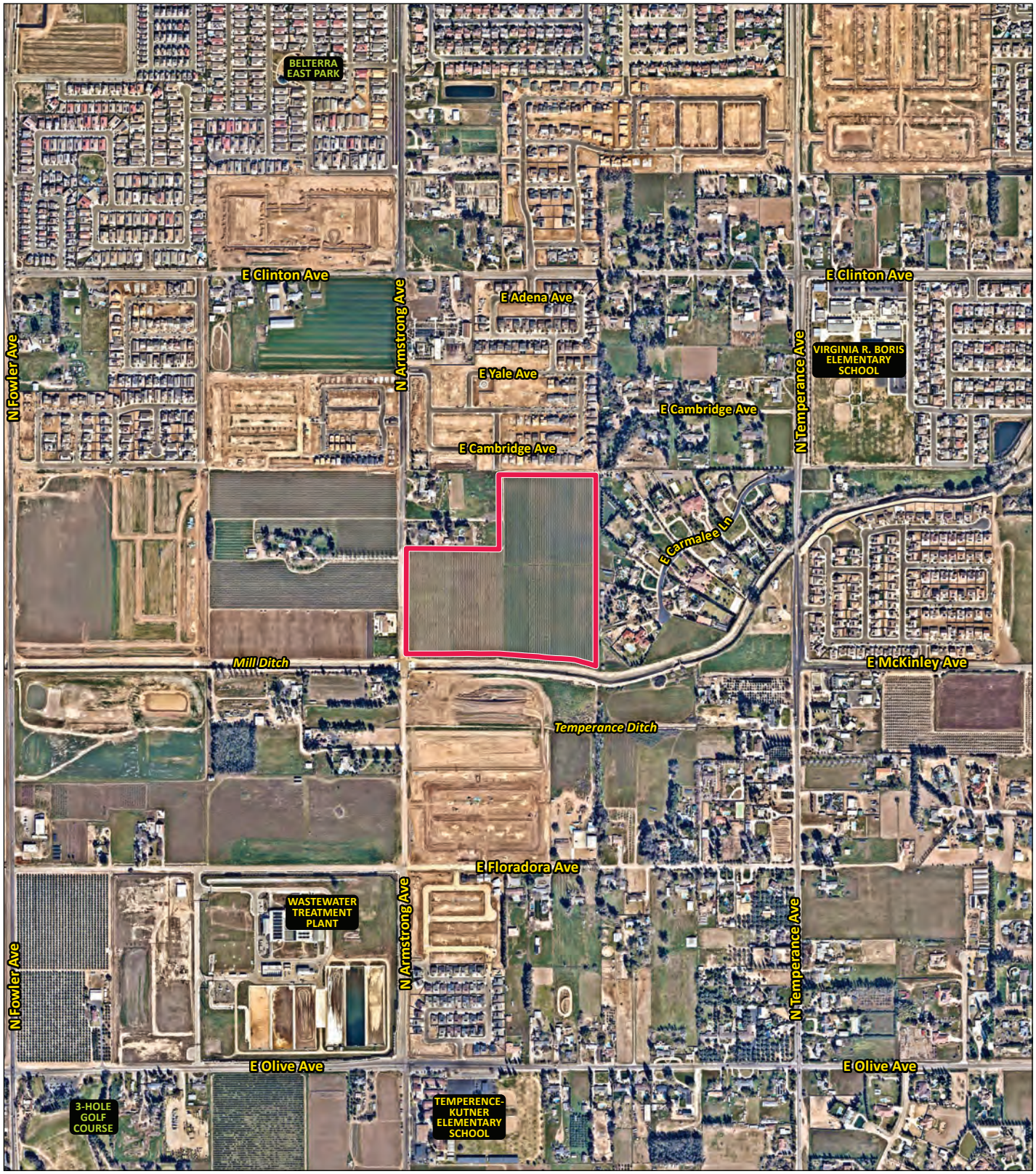
Source: Compiled by LSA (December 2023).

3.2 PROJECT OBJECTIVES

The following is a list of objectives for the proposed project:

- Address the City of Fresno's current and projected housing needs by providing a range of single-family residences
- Provide residential housing opportunities that are visually attractive and accommodate the future housing demand in Fresno
- Establish a mixture of housing types, sizes and densities that collectively provide for local and regional housing demand
- Provide infrastructure that meets City standards and is integrated with existing and planned facilities and connections
- Develop a project that meets City standards by implementing a logical phasing plan for development of public infrastructure improvements

This page intentionally left blank



LSA

FIGURE 2

Project Site Boundary

N

0 500 1000
FEET

Vesting Tentative Tract Map No. 6360

Aerial Photograph of Project Site and Surrounding LU

SOURCE: NearMap, 2/24/2022; LSA, 2022

I:\HAA1903-TM 6360\G\Fig 2_Aerial Photo of Site & Surrounding LU.ai (6/8/2022)

This page intentionally left blank

3.3 PROPOSED PROJECT

The proposed project would consist of the development of 326 residential lots ranging in size between 1,979 and 8,474 square feet, with the average lot size of 2,365 square feet. The proposed lots would be developed into single-family residences over time. Thirty-nine outlot spaces would also be included in the project. Although the site plan does not provide details on what would be constructed in these spaces, potential uses for the outlots would include private landscaping, private pool, private road, private park, private parking, public pedestrian, and public utility uses. Figure 3-3 shows the proposed site plan for the project. The proposed project would include 53,016 square feet of open space, including a 11,777-square-foot park, a 15,207-square-foot pool and recreation area, and a 26,032-square-foot area across East McKinley Avenue that would be deeded to the City of Fresno for future trail and open-space uses. The project site would introduce 7.09 acres of impervious surfaces to the site. The proposed project would remove five existing power poles along North Armstrong Avenue, two existing power poles along the project site's northern boundary, and two existing power poles on the northeast corner of the project site.

3.3.1 Building Program

The proposed project would be constructed in two phases, as described below.

3.3.1.1 Phase 1

Phase 1 of the proposed project would include the development of 110 single-family residential units with an average size of 1,514 square feet per unit. Phase 1 would be on the northeast corner of North Armstrong Avenue and East McKinley Avenue and would be accessed through the two ingress and egress streets on North Armstrong Avenue and East McKinley Avenue. Phase 1 would include the construction of a 15,207-square-foot pool and recreation area, and construction of North Armstrong and East McKinley Avenues. The proposed project would remove five existing power poles along North Armstrong Avenue and two existing power poles along the project site's northern boundary under this phase.

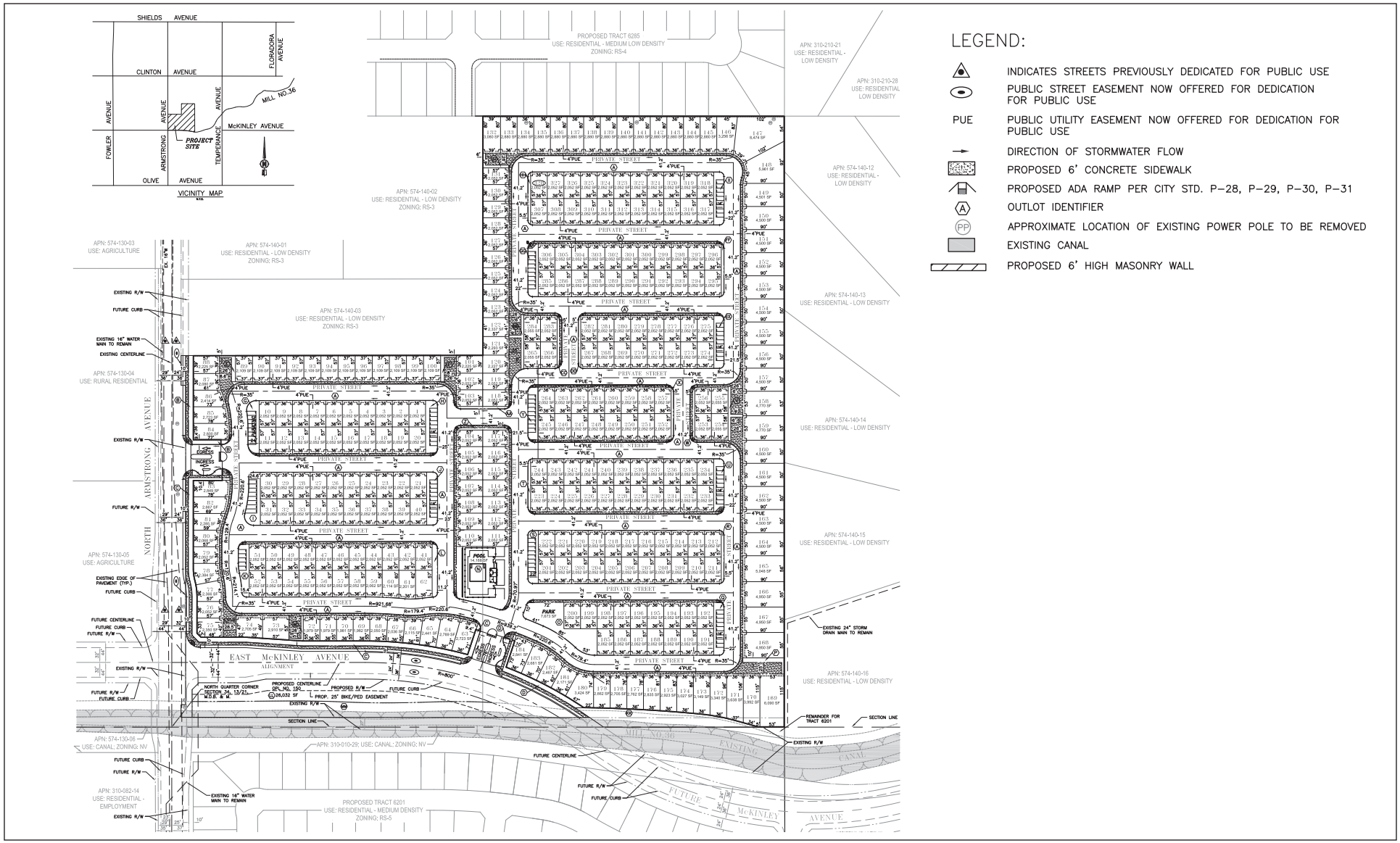
3.3.1.2 Phase 2

Phase 2 of the proposed project would include the development of 216 single-family residential units with an average size of 1,514 square feet per unit. Phase 2 would be east of Phase 1 and north of East McKinley Avenue and to the west, by Mill No. 36 Canal. Phase 2 would include the construction of the on-site, 11,777-square-foot park and removal of the two existing power poles at the northeast corner of the project site.

3.3.2 Landscaping

The proposed project would include 1.04 acres of landscaping along the perimeter and within the project site.

This page intentionally left blank



LSA

FIGURE 3

0 80 160
FEET

Vesting Tentative Tract Map No. 6360
Site Plan

SOURCE: Harbour & Associates, 5/19/2022

I:\HAA1903-TM 6360\G\Fig 3_Site Plan.ai (7/20/2022)

This page intentionally left blank

3.3.3 Lighting

The proposed project would introduce nine new exterior lights along the McKinley and Armstrong Avenues' right-of-way on the project perimeter. Additionally, the project would include 49 interior lights associated with private street lighting and private lighting systems.

3.3.4 Utilities and Infrastructure

3.3.4.1 Water and Wastewater

Water supply and wastewater services for the proposed project would be provided by the City of Fresno through the Department of Public Utilities (DPU) Water and Wastewater Management Divisions. The proposed project would connect to an existing water service pipeline along North Armstrong Avenue, and proposed wastewater service pipelines located along North Armstrong Avenue and the future extension of East McKinley Avenue.

3.3.4.2 Stormwater

The Fresno Metropolitan Flood Control District (FMFCD) would provide flood control and urban storm water services to the project site. Stormwater from the project site would be directed through internal drainage infrastructure (e.g., manholes, drainage basins, and drainage lines) towards proposed drainage infrastructure along North Armstrong Avenue and along the future extension of East McKinley Avenue. Stormwater from the project site would then be redirected towards ponding Basin BS, 0.26 mile southwest of the project site across Mill Canal.[3]

3.3.4.3 Solid Waste

Solid waste collection for the project site would be provided by the City of Fresno through the DPU Solid Waste and Recycling Division.

3.3.4.4 Electricity and Telecommunication

Electricity for the proposed project would be supplied by the Pacific Gas and Electric Company (PG&E) through connections to existing service lines. The proposed project would be all electric; therefore, the proposed project would not include any new natural gas services. Comcast and AT&T would provide telecommunication services to the project site.

3.3.5 Site Access, Circulation and Parking

The proposed project would include 157,367 square feet of parking space, which includes private parking stalls and parking garages attached to proposed residential units. Two parking spaces would be provided for each proposed residential unit, 652 parking spaces in total. Vehicle access to the project site would be provided by two gated 55-foot-wide ingress and egress driveways on North Armstrong Avenue and on East McKinley Avenue. The proposed project would construct an approximately 861-foot-long eastern extension of McKinley Avenue. This extension of McKinley Avenue would be two-lanes and approximately 64 feet wide within an 88-foot right-of-way, with

[3] Fresno Metropolitan Flood Control District (FMFCD). 2019. Storm Drainage and Flood Control Master Plan. Website: http://www.fresnofloodcontrol.org/wp-content/uploads/2022/09/District-Wall-Map.png (accessed February 2023).

curbs on both sides of the proposed extension and a 6-foot pedestrian concrete sidewalk along the project frontage with McKinley Avenue. A 25-foot bicycle and pedestrian easement would also be included across the proposed roadway extension, parallel with the project site. The proposed project would also include the expansion of the North Armstrong Avenue right-of-way and the construction of new curbs on both sides of the portion of North Armstrong Avenue facing the project. The project would also construct a 6-foot pedestrian concrete sidewalk on the project frontage with North Armstrong Avenue. Vehicle circulation within the project site would be provided by a network of two-way, 41.2-foot-wide roadways. Pedestrian circulation would be through internal pedestrian sidewalks with Americans with Disabilities Act-compliant access ramps.

3.3.6 Energy Reduction Strategies

The proposed project would also incorporate the following energy reduction strategies and sustainability features:

- Third party independent inspections would be conducted to assure energy efficiency compliance.
- Heating, ventilation, and air conditioning equipment for the project would be rated 14 seasonal energy efficiency ratio, 12 energy efficiency ratio, and 92 percent ultra efficient.
- Solar panels would be provided ranging from 3.71 kilowatts (kW) to 3.98 kW.
- Windows would be argon-filled vinyl low-e, double strength glass to reduce energy and increase ultraviolet blockage.

Additionally, the project would be designed to include the following water and wastewater conservation measures:

- Install all lead-free plumbing fixtures including water-saving shower heads rated 1.75 gallons per minute (gpm) and sink faucets rated to 1.5 gpm.
- Install water conservation toilets with a flush rate of 1.228 gpm.
- Install water-wise landscaping and drought-tolerant, native California and/or Mediterranean plant species.
- Install Intellisense Environmental sensitive landscape controllers.

3.3.7 Construction

Construction of the proposed project is expected to take place over a period of 36 months starting on April 2024. Site preparation would include removal of rocks, debris, and vegetation from the project site. The proposed project would have 5,500 cubic yards of cut and 80,000 cubic yards of fill, with a net import of 74,500 cubic yards of soil. Dry utility construction would follow, including construction of electrical utilities consisting of conduit, services, transformers, vaults, boxes and streetlights. Street construction would follow, including subgrade preparation, base rock, concrete

curbs and gutters, valley gutters, ramps and sidewalks, paving and perimeter landscaping and irrigation. Block walls, fences and amenities would be installed after grading operations and be completed after paving operations. Construction of the proposed project would comply with City standards, including the City's current building code, landscape standards, and lighting standards. The project would be constructed using a minimum of Tier 3 construction equipment. In addition, the project site would be graded similar to other developments throughout Fresno. Table 3.B shows the schedule of each project development phase.

Table 3.B: Project Construction Schedule

Project Phase	Development Phase	Estimated Construction Period
I	Site Development	April 2024 – September 2024
	Home Building	June 2024 – August 2025
II	Site Development	September 2024 – April 2025
	Home Building	April 2025 - April – 2027

Source: Compiled by LSA (December 2023).

3.4 DISCRETIONARY ACTIONS AND USES OF THIS EIR

Although the City is the CEQA Lead Agency for the project, other agencies also have discretionary authority related to the project and approvals or serve as a responsible and/or trustee agency in connection to the project. The following lists these agencies and potential permits and approvals that may be required.

- Planning & Development Department, General Plan Amendment/Rezone; Planned Development Permit (gated community and private streets)
- Department of Public Works, Grading Permit
- DPU, water connection(s)/sanitary sewer connection(s)
- City of Fresno Fire Department
- FMFCD
- San Joaquin Valley Air Pollution Control District
- State Water Resources Control Board National Pollutant Discharge Elimination System General Permit
- PG&E, electrical connection

This page intentionally left blank.

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

This chapter contains an analysis of each potentially significant environmental issue that has been identified for Vesting Tentative Tract Map No. 6360 (project). The following (1) identifies how a determination of significance is made, (2) identifies the environmental issues addressed in this chapter, (3) describes the context for the evaluation of cumulative effects, (4) lists the format of the topical issue section, and (5) provides an evaluation of each potentially significant issue in Sections 4.1 through 4.3.

DETERMINATION OF SIGNIFICANCE

Under the California Environmental Quality Act (CEQA), a significant effect is defined as a substantial, or potentially substantial, adverse change in the environment. The *State CEQA Guidelines* direct that this determination be based on scientific and factual data. The impact evaluation in this chapter is prefaced by criteria of significance, which are the thresholds for determining whether an impact is significant. These criteria of significance are based on the *State CEQA Guidelines* and applicable City policies.

ISSUES ADDRESSED IN THE DRAFT EIR

Sections 4.1 through 4.3 of this chapter describe the environmental setting of the project as evaluated in this Draft Environmental Impact Report (Draft EIR) and the impacts that are expected to result from implementation of the proposed project. Mitigation measures are proposed to reduce potential impacts, where appropriate.

- 4.1, Air Quality
- 4.2, Greenhouse Gas Emissions
- 4.3, Transportation

ENVIRONMENTAL SETTING

This chapter has been prepared in accordance with *State CEQA Guidelines* Section 15125, which states “An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. The environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant. The description of the environmental setting shall be no longer than is necessary to provide an understanding of the physical effects of the proposed project and its alternatives.”

The Notice of Preparation of an EIR for the proposed project was published on August 8, 2022. Thus, each of the environmental topical sections in this chapter includes a discussion of physical conditions in the vicinity of the project site on or around August 8, 2022.

CUMULATIVE ANALYSIS CONTEXT

CEQA defines cumulative impacts as "two or more individual effects which, when considered together, are considerable, or which can compound to increase other environmental impacts." Section 15130 of the *State CEQA Guidelines* requires that an EIR evaluate potential environmental impacts when the project's incremental effect is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of "reasonably foreseeable probable future" projects, per *State CEQA Guidelines* Section 15355. Cumulative impacts can result from a combination of the proposed project together with other closely related projects that cause an adverse change in the environment. Cumulative impacts can result from individually minor but collectively significant projects taking place over time.

The methodology used for assessing cumulative impacts typically varies depending on the specific topic being analyzed. CEQA requires that cumulative impacts be discussed using either a list of past, present, and probable future projects producing related or cumulative impacts, or a summary of projections contained in an adopted local, regional, or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. This Draft EIR uses both approaches to evaluate cumulative impacts, and the particular approach used depends on the topical area under consideration. Refer to the cumulative discussion in the individual topic sections for further discussion and the identification of the cumulative study are for each topic.

FORMAT OF ISSUE SECTIONS

The environmental topical sections comprise two primary parts: (1) Environmental Setting, and (2) Impacts and Mitigation Measures. An overview of the general organization and the information provided in the two parts is provided below.

- **Environmental Setting:** The Environmental Setting section for the environmental topic generally provides a description of the applicable physical setting (e.g., existing land uses, existing traffic conditions) for the project site. An overview of regulatory considerations that are applicable to each specific environmental topic is also provided.

- **Impacts and Mitigation Measures:** The Impacts and Mitigation Measures section for the environmental topic presents a discussion of the impacts that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine whether an impact is significant. The latter part of this section presents the impacts from the proposed project and mitigation measures, as appropriate. Cumulative impacts are also addressed.

Impacts are numbered and shown in bold type, and the corresponding mitigation measures are numbered and indented. Impacts and mitigation measures are numbered consecutively and begin with an acronymic or abbreviated reference to the impact section (e.g., TRA for Transportation). The following symbols are used for individual topics:

- AIR ..... Air Quality
- GHG ..... Greenhouse Gas Emissions
- TRA ..... Transportation

Impacts are also categorized by type of impact, as follows: No Impact, Less-Than-Significant, Less-Than-Significant with Mitigation Incorporated, and Potentially Significant.

ENVIRONMENTAL ISSUES

Sections 4.1 through 4.3 of this chapter describe the environmental setting of the project as it relates to each specific environmental topic evaluated in the EIR and the impacts that are expected to result from implementation of the proposed project. Mitigation measures are proposed to reduce potential impacts, where appropriate.

This page left intentionally blank

4.1 AIR QUALITY

This section has been prepared using the methodologies and assumptions contained in the San Joaquin Valley Air Pollution Control District's (SJVAPCD) Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI).[1] This section describes existing air quality and the regulatory framework for air quality. The section also describes the potential air quality effects of the proposed project, including the effects of construction and operational traffic on regional pollutant levels and health risks. The analysis in this section is based on the California Emissions Estimator Model (CalEEMod), Version 2022.1, included as Appendix C; and the findings of a construction health risk assessment included as Appendix D.

4.1.1 Environmental Setting

The following discussion provides an overview of existing air quality conditions in the region and in Fresno. Ambient air quality standards and the regulatory framework are summarized and climate, air quality conditions, and typical air pollutant types and sources are also described.

4.1.1.1 Project Area

The project site is in Fresno, in the San Joaquin Valley Air Basin (SJVAB). The SJVAB consists of Tulare, Kings, Madera, San Joaquin, Merced, Stanislaus, and Fresno counties, as well as a portion of Kern County. The local agency with jurisdiction over air quality in the SJVAB is the SJVAPCD. Regional and local air quality is impacted by topography, dominant airflows, atmospheric inversions, location, and season.

4.1.1.2 Air Pollutants and Health Effects

Both State and federal governments 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. 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.

The primary pollutants of concern in Fresno are O_3, CO, and suspended particulate matter. Significance thresholds established by an air quality district are used to manage total regional and local emissions within an air basin based on the air basin's attainment status for criteria pollutants. These emission thresholds were established for individual development projects that would contribute to regional and local emissions and could adversely affect or delay the air basin's projected attainment target goals for nonattainment criteria pollutants.

[1] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015b. *Guidance for Assessing and Mitigating Air Quality Impacts*. March. Website: https://www.valleyair.org/transportation/GAMAQI.pdf (accessed October 2023).

Because of the conservative nature of the significance thresholds, and the basin-wide context of individual development project emissions, there is no direct correlation between a single project and localized air quality-related health effects. One individual project that generates emissions exceeding a threshold does not necessarily result in adverse health effects for residents in the project vicinity. This condition is especially true when the criteria pollutants exceeding thresholds are those with regional effects, such as ozone precursors like nitrogen oxides (NO_X) and reactive organic gases (ROG).

Further, 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 ambient air quality standards. 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 air quality districts have 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.

Occupants of facilities such as schools, daycare centers, parks and playgrounds, hospitals, and nursing and convalescent homes are considered to be more sensitive than the general public to air pollutants because these population groups have increased susceptibility to respiratory disease. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions, compared to commercial and industrial areas, because people generally spend longer periods of time at their residences, with greater associated exposure to ambient air quality conditions. Recreational uses are also considered sensitive compared to commercial and industrial uses due to greater exposure to ambient air quality conditions associated with exercise.

Air pollutants and their health effects, and other air pollution-related considerations are summarized in Table 4.1.A and are described in more detail below.

Ozone. Ozone (O_3) is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROG and NO_X. The main sources of ROG and NO_X, often referred to as ozone precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. Automobiles are typically the largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide. CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. CO transport is limited; it disperses with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels that adversely affect local sensitive receptors (e.g., residents,

Table 4.1.A: Sources and Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Ozone (O_3)	• Precursor sources:[1] motor vehicles, industrial emissions, and consumer products.	• Respiratory symptoms. • Worsening of lung disease leading to premature death. • Damage to lung tissue. • Crop, forest, and ecosystem damage. • Damage to a variety of materials, including rubber, plastics, fabrics, paints, and metals.
Particulate Matter Less than 2.5 Microns in Diameter ($PM_{2.5}$)	• Cars and trucks (especially diesels). • Fireplaces, woodstoves. • Windblown dust from roadways, agriculture, and construction.	• Premature death. • Hospitalization for worsening of cardiovascular disease. • Hospitalization for respiratory disease. • Asthma-related emergency room visits. • Increased symptoms, increased inhaler usage.
Particulate Matter Less than 10 Microns in Diameter (PM_{10})	• Cars and trucks (especially diesels). • Fireplaces, woodstoves. • Windblown dust from roadways, agriculture, and construction.	• Premature death and hospitalization, primarily for worsening of respiratory disease. • Reduced visibility and material soiling.
Nitrogen Oxides (NO_X)	• Any source that burns fuels such as cars, trucks, construction and farming equipment, and residential heaters and stoves.	• Lung irritation. • Enhanced allergic responses.
Carbon Monoxide (CO)	• Any source that burns fuels such as cars, trucks, construction and farming equipment, and residential heaters and stoves.	• Chest pain in patients with heart disease. • Headache. • Light-headedness. • Reduced mental alertness.
Sulfur Oxides (SO_X)	• Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes.	• Worsening of asthma: increased symptoms, increased medication usage, and emergency room visits.
Lead (Pb)	• Contaminated soil.	• Impaired mental functioning in children. • Learning disabilities in children. • Brain and kidney damage.
Toxic Air Contaminants (TACs)	• Cars and trucks (especially diesels). • Industrial sources, such as chrome platers. • Neighborhood businesses, such as dry cleaners and service stations. • Building materials and products.	• Cancer. • Reproductive and developmental effects. • Neurological effects.

Sources *Common Air Pollutants* (CARB n.d.-a) and *Sources of Air Pollution*. (CARB n.d.-b).

[1] Ozone is not generated directly by these sources. Rather, chemicals emitted by these precursor sources react with sunlight to form ozone in the atmosphere.

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. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Extremely high levels of CO, such as those generated when a vehicle is running in an unventilated garage, can be fatal.

Particulate Matter. Particulate matter is a class of air pollutants that consists of heterogeneous solid and liquid airborne particles from human-made and natural sources. Particulate matter is categorized in two size ranges: PM_{10}, for particulate matter less than 10 microns in size, and $PM_{2.5}$, for particulate matter less than 2.5 microns in size. Motor vehicles are the primary generators of particulates, through tailpipe emissions as well as brake pad, tire wear, and entrained road dust. Wood burning in fireplaces and stoves, industrial facilities, and ground-disturbing activities such as construction are other sources of such fine particulates. These fine particulates are small enough to be inhaled into the deepest parts of the human lung and can cause adverse health effects. According to the California Air Resources Board (CARB), studies in the United States and elsewhere have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks, and studies of children's health in California have demonstrated that particle pollution may significantly reduce lung function growth in children.[2] Statewide attainment of particulate matter standards could reduce premature deaths, hospital admissions for cardiovascular and respiratory disease, asthma-related emergency room visits, and episodes of respiratory illness in California.

Nitrogen Dioxide. NO_2 is a reddish-brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. NO_2 decreases lung function and may reduce resistance to infection.

Sulfur Dioxide. SO_2 is a colorless acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels such as oil, coal, and diesel. SO_2 has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute and chronic respiratory disease. SO_2 also reduces visibility and the level of sunlight at the ground surface.

Lead. Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery factories. Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the United States Environmental Protection Agency (EPA) established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of EPA regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.

Toxic Air Contaminants. In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. Some examples of TACs include

[2] California Air Resources Board (CARB). 2020. *Inhalable Particulate Matter and Health ($PM_{2.5}$ and PM_{10})*. Website: ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health (accessed April 2023).

benzene, butadiene, formaldehyde, and hydrogen sulfide. Potential human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

TACs do not have ambient air quality standards, but are regulated by the EPA, CARB, and the SJVAPCD. In 1998, the CARB identified particulate matter from diesel-fueled engines as a TAC. The CARB has completed a risk management process that identified potential cancer risks for a range of activities and land uses that are characterized by use of diesel-fueled engines.[3] High volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (distribution centers, truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high volume transit centers, and schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

Unlike TACs emitted from industrial and other stationary sources noted above, most diesel particulate matter (DPM) is emitted from mobile sources—primarily "off-road" sources such as construction and mining equipment, agricultural equipment, and truck-mounted refrigeration units, as well as trucks and buses traveling on freeways and local roadways.

The CARB Diesel Risk Reduction Plan is intended to substantially reduce DPM emissions and associated health risks through introduction of ultra-low-sulfur diesel fuel—a step already implemented—and cleaner-burning diesel engines.[4] The technology for reducing DPM emissions from heavy-duty trucks is well established, and both State and federal agencies are moving aggressively to regulate engines and emission control systems to reduce and remediate diesel emissions.

High-Volume Roadways. Air pollutant exposures and their associated health burdens vary considerably within places in relation to sources of air pollution. Motor vehicle traffic is perhaps the most important source of intra-urban spatial variation in air pollution concentrations. Air quality research consistently demonstrates that pollutant levels are substantially higher near freeways and busy roadways, and human health studies have consistently demonstrated that children living within 100 to 200 meters (328 to 656 feet) of freeways or busy roadways have reduced lung function and higher rates of respiratory disease. At present, it is not possible to attribute the effects of roadway proximity on non-cancer health effects to one or more specific vehicle types or vehicle pollutants. Engine exhaust, from diesel, gasoline, and other combustion engines, is a complex mixture of particles and gases, with collective and individual toxicological characteristics.

---

3 California Air Resources Board (CARB). 2000a. *Fact Sheet – California's Plan to Reduce Diesel Particulate Matter Emissions*. October. Website: www.arb.ca.gov/diesel/factsheets/rrpfactsheet.pdf (accessed April 2023).

4 CARB. 2000b. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October. Prepared by the Stationary Source Division and Mobile Source Control Division. Website: www.arb.ca.gov/diesel/documents/rrpFinal.pdf (accessed April 2023).

Valley Fever. Valley fever is a fungal infection caused by coccidioides organisms. It can cause fever, chest pain and coughing, among other signs and symptoms. The coccidioides species of fungi that cause Valley fever are commonly found in the soil in certain areas. These fungi can be stirred into the air by anything that disrupts the soil, such as farming, construction and wind. The fungi can then be breathed into the lungs and cause Valley fever, also known as acute coccidioidomycosis. A mild case of Valley fever usually goes away on its own. In more severe cases of Valley fever, doctors prescribe antifungal medications that can treat the underlying infection. Valley Fever is not contagious and therefore does not spread from person to person. Most cases (approximately 60 percent) have no symptoms or only very mild flu-like symptoms and do not see a doctor. When symptoms are present, the most common are fatigue, cough, fever, profuse sweating at night, loss of appetite, chest pain, generalized muscle and joint aches, particularly of the ankles and knees. There may also be a rash that resembles measles or hives but develops more often as tender red bumps on the shins or forearms.

4.1.1.3 National and State Ambient Air Quality Standards

Both State and federal governments have established health-based ambient air quality standards (AAQS) for criteria air pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

Both the EPA and the CARB have established AAQS for the following common pollutants: CO, O_3, NO_2, SO_2, Pb, and suspended particulate matter. 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. These ambient air quality standards are levels of contaminants that avoid specific adverse health effects associated with each pollutant.

Federal standards include both primary and secondary standards. Primary standards establish limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, and damage to animals, crops, vegetation, and buildings. Table 4.1.B lists State and federal standards for the criteria air pollutants.

4.1.1.4 Existing Climate and Air Quality

The following provides a discussion of the local and regional air quality and climate in the project area.

Regional and Local Air Quality. Air quality is a function of both local climate and local sources of air pollution. 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.

Table 4.1.B: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]		Federal Standards[b]		
		Concentration[c]	Method[d]	Primary[c,e]	Secondary[c,f]	Method[g]
Ozone (O3)[h]	1-Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM10)[i]	24-Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		–		
Fine Particulate Matter (PM2.5)[i]	24-Hour	-		35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12.0 µg/m³	15 µg/m³	
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m³)	–	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m³)		35 ppm (40 mg/m³)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m³)		–	–	
Nitrogen Dioxide (NO2)[j]	Annual Arithmetic Mean	0.03 ppm (57 µg/m³)	Gas Phase Chemi-luminescence	0.053 ppb (100 µg/m³)	Same as Primary Standard	Gas Phase Chemi-luminescence
	1-Hour	0.18 ppm (339 µg/m³)		100 ppb (188 µg/m³)	-	
Lead (Pb)[l,m]	30-Day Average	1.5 µg/m³	Atomic Absorption	–	–	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m³ (for certain areas)[l]	Same as Primary Standard	
	Rolling 3-Month Average[i]	–		0.15 µg/m³		
Sulfur Dioxide (SO2)[k]	24-Hour	0.04 ppm (105 µg/m3)	Ultraviolet Fluorescence	0.14 ppm (for certain areas)	–	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3-Hour	–		–	0.5 ppm (1300 µg/m³)	
	1-Hour	0.25 ppm (655 µg/m³)		75 ppb (196 µg/m³)[k]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[k]	–	
Visibility-Reducing Particles[l]	8-Hour	See footnote n	Beta Attenuation and Transmittance through Filter Tape.	No Federal Standards		
Sulfates	24-Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[j]	24-Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

Source: California Air Resources Board (2016).

(Footnotes continue on next page)

[a] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact EPA for further clarification and current national policies.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

[e] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[f] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[g] Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.

[h] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[i] On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24- hour PM2.5 standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[j] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[k] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[l] The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[m] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[n] In 1989, the CARB converted both the general Statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the Statewide and Lake Tahoe Air Basin standards, respectively.

°C = degrees Celsius
µg/m^3 = micrograms per cubic meter
CARB = California Air Resources Board
mg/m^3 = milligrams per cubic meter
ppb = parts per billion
ppm = parts per million
EPA = United States Environmental Protection Agency

The project site is within the SJVAB and is under the jurisdiction of the SJVAPCD. 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 SJVAB is composed of approximately 25,000 square miles and covers eight counties including Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare, and the western portion of Kern. The SJVAB is defined by the Sierra Nevada in the east (8,000 to more than 14,000 feet in elevation), the Coast Ranges in the west (averaging 3,000 feet in elevation), and the Tehachapis in the south (6,000 to 8,000 feet in elevation). The valley is basically flat with a slight downward gradient to the northwest. The valley opens to the sea at the Carquinez Strait, where the Sacramento-San Joaquin River 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 SJVAB.

Although marine air generally flows into the SJVAB from the Sacramento-San Joaquin River Delta, the Coast Range hinders wind access into the SJVAB from the west, the Tehachapis prevent southern passage of air flow, and the high Sierra Nevada range is a significant barrier to the east. These topographic features result in weak air flow, which becomes blocked vertically by high barometric pressure over the SJVAB. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Most of the surrounding mountains are above the normal height of summer inversion layers (1,500 to 3,000 feet).

Local climatological effects, including wind speed and direction, temperature, inversion layers, precipitation and fog, can exacerbate the air quality in the SJVAB. Wind speed and direction play an important role in dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing vertically and by transporting it to other locations. For example, in the summer, wind usually originates at the north end of the SJVAB and flows in a south-southeastern direction through the SJVAB, through Tehachapi Pass, into the Southeast Desert Air Basin. In the winter, the wind direction reverses and flows in a north-northwestern direction. In addition to the seasonal wind flow, a sea breeze flows into SJVAB during the day and a land breeze flowing out of the SJVAB at night. The diversified wind flow enhances the pollutant transport capability within SJVAB.

The annual average temperature varies throughout the SJVAB, ranging from the low 40s to high 90s, measured in degrees Fahrenheit (°F). With a more pronounced valley influence, inland areas show more variability in annual minimum and maximum temperatures than coastal areas. The climatological station closest to the site is the Fresno Yosemite International Airport Station (043257). The monthly average maximum temperature recorded at this station from January 1948 to June 2016 ranged from 54.6°F in January to 98.3°F in July, with an annual average maximum of 76.5°F. The monthly average minimum temperature recorded at this station ranged from 35.3°F in December to 65.7°F in July, with an annual average minimum of 50.4°F.[5] These levels are still representative of the project area. January and December are typically the coldest months and July is typically the warmest month in this area of the SJVAB.

[5] Western Regional Climate Center. n.d. Fresno Yosemite International Airport (043257), Period of Record Monthly Climate Summary. Website: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3257 (accessed April 2023).

The majority of annual rainfall in the SJVAB occurs between November and March. Summer rainfall is minimal and is generally limited to scattered thundershowers in desert regions and slightly heavier showers near the lower portion of the SJVAB and along the Sierra Nevada to the east. Average monthly rainfall during that period varied from 0.01 inch in July and August to 2.09 inches in January, with an annual total of 10.89 inches.[6] Patterns in monthly and yearly rainfall totals are predictable due to the recognizable differences in seasons within the valley.

The vertical dispersion of air pollutants in the SJVAB is limited by the presence of persistent temperature inversions. Because of cooling of the atmosphere, air temperature usually decreases with altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. Inversions can exist at the surface, or at any height above the ground. The height of the base of the inversion is known as the "mixing height". This is the level within which pollutants can mix vertically. Air above and below the inversion base does not mix because of the differences in air density. Semi-permanent systems of high barometric pressure fronts frequently establish themselves over the SJVAB, preventing low-pressure systems that might otherwise bring rain and winds that clean the air.

Inversion layers are significant in determining ozone formation and CO and PM_{10} concentrations. Ozone and its precursors will mix and react to produce higher ozone concentrations under an inversion. The inversion will also simultaneously trap and hold directly emitted pollutants such as carbon monoxide. PM_{10} is both directly emitted and created in the atmosphere as a chemical reaction. Concentration levels of pollutants are directly related to inversion layers due to the limitation of mixing space.

Surface or radiation inversions form when the ground surface becomes cooler than the air above it during the night. The Earth's surface goes through a radiative process on clear nights, where heat energy transfers from the ground to a cooler night sky. As the Earth's surface cools during the evening hours, the air directly above it also cools, while air higher up remains relatively warm. The inversion is destroyed when heat from the sun warms the ground, which in turn heats the lower layers of air; this heating stimulates the ground level air to float up through the inversion layer.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. Periods of low inversions and low wind speeds are conditions favorable to high concentrations of CO and PM_{10}. In the winter, the greatest pollution problems are CO and NO_X because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and oxides of nitrogen to form photochemical smog.

Attainment Status. The EPA and the CARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an

[6] Western Regional Climate Center. n.d. Fresno Yosemite International Airport (043257), Period of Record Monthly Climate Summary. Website: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3257 (accessed April 2023).

"attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified."

National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or "form" of what constitutes attainment, based on specific air quality statistics. For example, the federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring value exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the 3-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard. Table 4.1.C shows the current attainment designations for the SJVAB.

Table 4.1.C: San Joaquin Valley Air Basin Air Quality Attainment Status

Pollutant	State	Federal
Ozone (1-hour)	Severe/Nonattainment	Not Applicable
Ozone (8-hour)	Nonattainment	Extreme Nonattainment
PM_{10}	Nonattainment	Attainment (Maintenance)
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Attainment (Maintenance)
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Lead	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified
Sulfates	Attainment	No Federal Standard
Hydrogen Sulfide	Unclassified	No Federal Standard

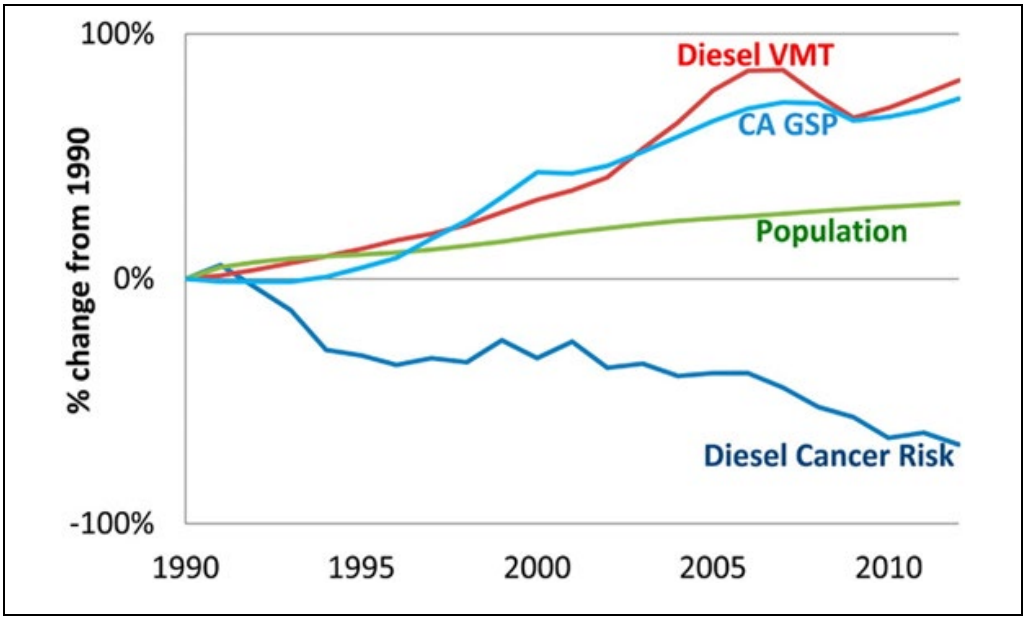
Source: *Ambient Air Quality Standards & Attainment Status - San Joaquin Valley Attainment Status*.(San Joaquin Valley Air Pollution Control District, n.d.).

Air Quality Monitoring Results. Air quality monitoring stations are located throughout the nation and maintained by the local air pollution control district and state air quality regulating agencies. The EPA uses ambient air data collected at permanent monitoring stations to identify regions as attainment or nonattainment depending on whether the regions met the requirements stated in the primary National Ambient Air Quality Standards (NAAQS). Attainment areas are required to maintain their status through moderate, yet effective air quality maintenance plans. Nonattainment areas are imposed with additional restrictions as required by the EPA. In addition, different classifications of attainment such as marginal, moderate, serious, severe, and extreme are used to classify each air basin in the state on a pollutant-by-pollutant basis. Different classifications have different mandated attainment dates and are used as guidelines to create air quality management strategies to improve air quality and comply with the NAAQS by the attainment date. A region is determined to be unclassified when the data collected from the air quality monitoring stations do not support a designation of attainment or nonattainment, due to lack of information, or a conclusion cannot be made with the available data.

The SJVAPCD, together with CARB, maintains ambient air quality monitoring stations in the SJVAB. The air quality monitoring stations closest to the project area are at 4706 East Drummond Street and 3727 North First Street in Fresno.

Pollutant monitoring results for years 2019 to 2021 at the Fresno monitoring stations, shown in Table 4.1.D, indicate that air quality in the vicinity of the city has generally been moderate. As indicated in the monitoring results, the federal PM_{10} standard was exceeded one time in 2019 and 2020 only. The State PM_{10} standard was exceeded 13 times in 2019, 25 times in 2020, and 20 times in 2021. $PM_{2.5}$ levels exceeded the federal standard an unknown number of times during the 3-year period. The State 1-hour ozone standards were exceeded 1 time in 2019, 11 times in 2020, and 9 times in 2021. The State 8-hour ozone standards were exceeded 11 times in 2019, 27 times in 2020, and 41 times in 2021. The federal 8-hour standards were exceeded 10 times in 2019, 27 times in 2020, and 39 times in 2021. The CO, SO_2, and NO_2 standards were also not exceeded in this area during the 3-year period.

Toxic Air Contaminant Trends. In 1984, the CARB adopted regulations to reduce TAC emissions from mobile and stationary sources, as well as consumer products. A CARB study showed that ambient concentrations and emissions of the seven TACs responsible for the most cancer risk from airborne exposure declined by 76 percent between 1990 and 2012.[7] Concentrations of DPM, a key TAC, declined by 68 percent between 1990 and 2012, despite a 31 percent increase in State population and an 81 percent increase in diesel vehicle miles traveled (VMT), as shown on Figure 4.1-1, below. The study also found that the significant reductions in cancer risk to California residents from the implementation of air toxics controls are likely to continue.



Source: Ambient and Emission Trends of Toxic Air Contaminants in California (Propper, Ralph, et al. 2015).

Figure 4.1-1: California Population, Gross State Product (GSP), Diesel Cancer Risk, and Diesel Vehicle Miles Traveled (VMT) Regulatory Context

[7] Propper, Ralph, Patrick Wong, Son Bui, Jeff Austin, William Vance, Álvaro Alvarado, Bart Croes, and Dongmin Luo. 2015. Ambient and Emission Trends of Toxic Air Contaminants in California. *American Chemical Society: Environmental Science & Technology*. Website: pubs.acs.org/doi/full/10.1021/acs.est.5b02766 (accessed April 2023).

Table 4.1.D: Ambient Air Quality at Nearby Monitoring Stations

Pollutant	Standard	2019	2020	2021
Carbon Monoxide (CO)[2]				
Maximum 1-hour concentration (ppm)		1.9	5.0	1.9
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		1.5	2.5	1.7
Number of days exceeded:	State: > 9 ppm	0	0	0
	Federal: > 9 ppm	0	0	0
Ozone (O_3)[1]				
Maximum 1-hour concentration (ppm)		0.099	0.123	0.125
Number of days exceeded:	State: > 0.09 ppm	1	11	9
Maximum 8-hour concentration (ppm)		0.080	0.092	0.100
Number of days exceeded:	State: > 0.07 ppm	11	27	41
	Federal: > 0.07 ppm	10	27	39
Coarse Particulates (PM_{10})[1]				
Maximum 24-hour concentration (µg/m^3)		181.3	349.2	149.8
Number of days exceeded:	State: > 50 µg/m^3	13	25	20
	Federal: > 150 µg/m^3	1	1	0
Annual arithmetic average concentration (µg/m^3)		39.6	ND	ND
Exceeded for the year:	State: > 20 µg/m^3	Yes	ND	ND
	Federal: > 50 µg/m^3	No	ND	ND
Fine Particulates ($PM_{2.5}$)[2]				
Maximum 24-hour concentration (µg/m^3)		51.3	168.6	99.9
Number of days exceeded:	Federal: > 35 µg/m^3	ND	ND	ND
Annual arithmetic average concentration (µg/m^3)		11.2	18.1	15.6
Exceeded for the year:	State: > 12 µg/m^3	No	Yes	Yes
	Federal: > 15 µg/m^3	No	No	No
Nitrogen Dioxide (NO_2)[1]				
Maximum 1-hour concentration (ppm)		0.042	0.066	0.064
Number of days exceeded:	State: > 0.250 ppm	0	0	0
Annual arithmetic average concentration (ppm)		ND	ND	0.0011
Exceeded for the year:	Federal: > 0.053 ppm	ND	ND	No
Sulfur Dioxide (SO_2)[2]				
Maximum 1-hour concentration (ppm)		0.0089	0.0162	0.0075
Number of days exceeded:	State: > 0.25 ppm	0	0	0
Maximum 24-hour concentration (ppm)		0.0021	0.0022	0.0027
Number of days exceeded:	State: > 0.04 ppm	0	0	0
	Federal: > 0.14 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.00042	0.00046	0.00043
Exceeded for the year:	Federal: > 0.030 ppm	No	No	No

Sources: California Air Resources Board (2021) and United States Environmental Protection Agency (2021).
[1] Data taken from 4706 East Drummond Street, Fresno monitoring station
[2] Data were taken from 3727 North First Street, Fresno monitoring station
ND = No data. There were insufficient (or no) data to determine the value.
ppm = parts per million
µg/m^3 = micrograms per cubic meter

4.1.2 Regulatory Setting

The EPA and the CARB regulate direct emissions from motor vehicles. The SJVAPCD is the regional agency primarily responsible for regulating air pollution emissions from stationary sources (e.g., factories) and indirect sources (e.g., traffic associated with new development), as well as monitoring ambient pollutant concentrations.

The applicable federal, State, regional, and local regulatory framework is discussed below.

4.1.2.1 Federal Regulations

Federal Clean Air Act. At the federal level, the EPA has been charged with implementing national air quality programs. The EPA air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was enacted in 1963. The CAA was amended in 1970, 1977, and 1990.

The CAA required the EPA to establish primary and secondary NAAQS and required each state to prepare an air quality control plan referred to as a state Implementation Plan (SIP). The CAA Amendments of 1990 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The EPA has responsibility to review all state SIPs to determine conformity with the mandates of the CAA and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan may be prepared for the nonattainment area, which imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated time frame may result in sanctions on transportation funding and stationary air pollution sources in the air basin.

The EPA is also required to develop National Emission Standards for Hazardous Air Pollutants, which are defined as those which may reasonably be anticipated to result in increased deaths or serious illness, and which are not already regulated. An independent science advisory board reviews the health and exposure analyses conducted by the EPA on suspected hazardous pollutants prior to regulatory development.

4.1.2.2 State Regulations

The CARB is the lead agency for implementing air quality regulations in the State. Key efforts by the State are described below.

California Clean Air Act. 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.

Legal authority for California to regulate sources of air pollution is found in federal and State law. The CARB is charged with coordinating regional and local efforts to attain and maintain State and nation air quality standards. The CARB has been given authority to regulate many sources that would normally be pre-empted by federal regulations through the issuance of waivers.

Pursuant to these authorities, CARB has adopted the world's most stringent standards for passenger cars, light-duty trucks, and medium-duty vehicles. CARB has also adopted regulations establishing standards for heavy-duty vehicles, offroad vehicles and engines, offroad recreational vehicles, off-road diesel engines and equipment, offroad gasoline and liquefied petroleum gas engines and equipment, and marine pleasure craft. Descriptions of these regulations are provided below.

Low-Emission Vehicle Program. The CARB first adopted Low-Emission Vehicle (LEV) program standards in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010, represent continuing progress in emission reductions. As the State's passenger vehicle fleet continues to grow and more sport utility vehicles and pickup trucks are used as passenger cars rather than work vehicles, the more stringent LEV II standards were adopted to provide reductions necessary for California to meet federally mandated clean air goals outlined in the 1994 SIP. In 2012, CARB adopted the LEV III amendments to California's LEV regulations. These amendments include more stringent emission standards for both criteria pollutants and greenhouse gases for new passenger vehicles.

Air Quality Land Use Handbook. The CARB has developed an *Air Quality and Land Use Handbook*[8] (CARB Handbook), which is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. According to the CARB Handbook, recent air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high-traffic roadways. Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. The CARB Handbook recommends that county and city planning agencies strongly consider proximity to these sources when finding new locations for "sensitive" land uses such as homes, medical facilities, daycare centers, schools and playgrounds.

Land use designations with air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome-plating facilities, dry cleaners and large gasoline service stations. Key recommendations in the CARB Handbook include taking steps to avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day;
- Within 1,000 feet of a major service and maintenance rail yard;

[8] CARB. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April.

- Immediately downwind of ports (in the most heavily impacted zones) and petroleum refineries;
- Within 300 feet of any dry cleaning operation (for operations with two or more machines, provide 500 feet); and
- Within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater).

The CARB Handbook specifically states that its recommendations are advisory and acknowledges land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

The recommendations are generalized and do not consider site specific meteorology, freeway truck percentages or other factors that influence risk for a particular project site. The purpose of the land use compatibility analysis is to further examine the project site for actual health risk associated with the location of new housing on the project site.

4.1.2.3 Regional Regulations

San Joaquin Valley Air Pollution Control District. The SJVAPCD is responsible for controlling emissions primarily from stationary sources. The SJVAPCD maintains air quality monitoring stations throughout the SJVAB. The SJVAPCD, in coordination with the eight county transportation agencies, is also responsible for developing, updating, and implementing air quality attainment plans for the SJVAB. The SJVAPCD also has roles under the California Environmental Quality Act (CEQA) ***Guide for Assessing and Mitigating Air Quality Impacts.*** The SJVAPCD provides guidance and thresholds for CEQA air quality and greenhouse gas (GHG) analyses. The result of this guidance as well as State regulations to control air pollution is an overall improvement in the SJVAB. In particular, the SJVAPCD's GAMAQI states the following:

> The SJVAPCD's Air Quality Attainment Plans include measures to promote air quality elements in county and city general plans as one of the primary means of reducing indirect emissions such as those from land use development projects. The approved General Plan is the primary long range planning document used by cities and counties to direct development. Since air districts have no authority over land use decisions, it is up to cities and counties to ensure that their general plans help achieve air quality goals. Section 65302.1 of the California Government Code requires cities and counties in the San Joaquin Valley to amend appropriate elements of their general plans to include data, analysis, comprehensive goals, policies, and feasible implementation strategies to improve air quality in their next housing element revisions.

The SJVAB is classified nonattainment for ozone, PM_{10}, and $PM_{2.5}$. The SJVAPCD had adopted project level thresholds based on a cumulative contribution of ozone precursors ROG and NO_X of 10 tons per year and thresholds for PM_{10} and $PM_{2.5}$ of 15 tons per year.

Current Air Quality Plans. The SJVAPCD is responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the SJVAB. The main purpose of an AQMP is to bring the

area into compliance with federal and State air quality standards. The SJVAPCD does not have one single AQMP for criteria pollutants, rather the SJVAPCD address each criteria pollutant with its own Plan. The SJVAPCD has the following AQMPs:

- 2022 Plan for the 2015 8-Hour Ozone Standard
- 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards
- 2016 Moderate Area Plan for the 2012 $PM_{2.5}$ standard
- 2016 Plan for the 2008 8-Hour Ozone Standard
- 2013 Plan for the Revoked 1-Hour Ozone Standard
- 2007 PM_{10} Maintenance Plan
- 2004 Revision to the California State Implementation Plan for Carbon Monoxide

The SJVAPCD's AQMPs incorporate the latest scientific and technological information and planning assumptions, including updated emission inventory methodologies for various source categories. The SJVAPCD's AQMPs included the integrated strategies and measures needed to meet the NAAQS, implementation of new technology measures, and demonstrations of attainment of the 1-hour and 8-hour ozone NAAQS as well as the latest 24-hour and annual $PM_{2.5}$ standards.

The SJVAPCD's current air quality plans are discussed below.

Ozone Plans. The SJVAPCD's Governing Board approved the 2022 Plan for the 2015 8-hour ozone standard on December 15, 2022. The comprehensive strategy in this plan will reduce NO_X emissions by 72 percent by 2037 and will bring the San Joaquin Valley into attainment of EPA's 2015 8-hour ozone standard as expeditiously as practicable by the 2037 attainment deadline.

Particulate Matter Plans. The SJVAPCD adopted the 2007 PM_{10} Maintenance Plan in September 2007 to assure the SJVAB's continued attainment of the EPA's PM_{10} standard. The EPA designated the valley as an attainment/maintenance area for PM_{10}.

The 2008 $PM_{2.5}$ Plan builds upon the comprehensive strategy adopted in the 2007 Ozone Plan to bring the SJVAB into attainment of the 1997 national standards for $PM_{2.5}$. The EPA has identified NO_X and SO_2 as precursors that must be addressed in air quality plans for the 1997 $PM_{2.5}$ standards. The 2008 $PM_{2.5}$ Plan is a continuation of the SJVACPD's strategy to improve the air quality in the SJVAB.

The SJVAPCD prepared the 2012 $PM_{2.5}$ Plan to bring the San Joaquin Valley into attainment of the EPA's most recent 24-hour $PM_{2.5}$ standard of 35 micrograms per cubic meter ($\mu g/m^3$). The CARB approved the SJVAPCD's 2012 $PM_{2.5}$ Plan at a public hearing on January 24, 2013. The plan, approved by the SJVAPCD Governing Board on December 20, 2012, will bring the Valley into attainment of EPA's 1997 $PM_{2.5}$ standard as expeditiously as practicable, but no later than, December 31, 2020.

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards on November 15, 2018. This plan addresses the EPA federal 1997 annual $PM_{2.5}$ standard of

15 µg/m³ and 24-hour $PM_{2.5}$ standard of 65 µg/m³; the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m³; and the 2012 annual $PM_{2.5}$ standard of 12 µg/m³. This plan demonstrates attainment of the federal $PM_{2.5}$ standards as expeditiously as practicable.

Rules and Regulations. The SJVAPCD rules and regulations that may apply to the project include but are not limited to the following:

- **Rule 2280, Portable Equipment Registration:** Portable equipment used at project sites for less than six consecutive months must be registered with the SJVAPCD. The SJVAPCD will issue the registrations 30 days after receipt of the application.

- **Rule 2303, Mobile Source Emission Reduction Credits:** A project may qualify for SJVAPCD vehicle emission reduction credits if it meets the specific requirements of Rule 2303 for any of the following categories:

    - Low-Emission Transit Buses
    - Zero-Emission Vehicles
    - Retrofit Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles
    - Retrofit Heavy-Duty Vehicles

- **Rule 4102, Nuisance:** The purpose of this rule is to protect the health and safety of the public and applies to any source operation that emits or may emit air contaminants or other materials.

- **Rule 4601, Architectural Coatings:** The purpose of this rule is to limit volatile organic compound (VOC) emissions from architectural coatings. Emissions are reduced by limits on VOC content and providing requirements on coatings storage, cleanup, and labeling.

- **Rule 4641, Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations:** The purpose of this rule is to limit VOC emissions from asphalt paving and maintenance operations. The paving operations for new development and existing paved surfaces will be subject to Rule 4641.

- **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. For projects in which construction-related activities would disturb equal to or greater than 1 acre of surface area, the SJVAPCD recommends that demonstration of receipt of an SJVAPCD-approved Dust Control Plan or Construction Notification Form, before issuance of the first grading permit, be made a condition of approval.

- **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 material storage, paved

and unpaved roads, carryout and track out, etc. All development projects that involve soil disturbance are subject to at least one provision of the Regulation VIII series of rules.

- **Rule 9510, Indirect Source Review:** This rule reduces the impact of NO_X and PM_{10} emissions from new development projects. The rule places application and emission reduction requirements on development projects meeting applicability criteria to reduce emissions through onsite mitigation, offsite 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 CEQA process, although the control measures used to comply with Rule 9510 may be used to mitigate significant air quality impacts.

Odor impacts on residential areas and other sensitive receptors, such as hospitals, day-care centers, schools, etc., warrant the closest scrutiny, but consideration could also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas. While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the SJVAPCD.

Two situations create a potential for odor impact. The first occurs when a new odor source is located near an existing sensitive receptor. The second occurs when a new sensitive receptor locates near an existing source of odor. The SJVAPCD has determined the common land use types that are known to produce odors in the SJVAB. Table 4.1.E shows these types.

Table 4.1.E: Screening Levels for Potential Odor Sources

Odor Generator	Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g., auto body shop)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile

Source: San Joaquin Valley Air Pollution Control District (2015b).

4.1.2.4 Local Regulations

City of Fresno General Plan. The approved General Plan is a set of policies and programs that form a blueprint for the physical development of the city. Table 4.1.F shows General Plan policies related to air quality applicable to the proposed project.

Table 4.1.F: City of Fresno General Plan Policies Related to Air Quality

Policy/Action Item No.	Policy/Action Item
Resource Conservation and Resilience Element	
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. *Commentary: A list of Reasonably Available Control Measures was submitted by the SJVAPCD to the U.S. Environmental Protection Agency as part of the Ozone Attainment Plan designed to reduce ozone-forming emissions. The City is responsible for implementing measures related to operations and/or services that the City controls.*
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-k	**Electric Vehicle Charging.** Develop standards to facilitate electric vehicle charging infrastructure in both new and existing public and private buildings, in order to accommodate these vehicles as the technology becomes more widespread.

Source: City of Fresno General Plan (2014).
City = City of Fresno
SJVAPCD = San Joaquin Valley Air Pollution Control District

4.1.3 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to air quality that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with implementation of the proposed project and the recommended mitigation measures. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less than significant level. Cumulative impacts are also addressed.

4.1.3.1 Significance Criteria

Based on *State CEQA Guidelines* Appendix G, the proposed project would have a significant impact on air quality if it would:

a. Conflict with or obstruct implementation of the applicable air quality plan;

b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under an applicable federal or state ambient air quality standard;

c. Expose sensitive receptors to substantial pollutant concentrations; or

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

4.1.3.2 Regional Emissions Thresholds

A threshold of significance is defined by the SJVAPCD in its GAMAQI[9] as an identifiable quantitative, qualitative, or performance level of a particular environmental effect. Non-compliance with a threshold of significance means the effect will normally be determined to be significant. Compliance with a threshold of significance means the effect normally will be determined to be less than significant. The SJVAPCD has established thresholds of significance for criteria pollutant emissions generated during construction and operation of projects as shown in Table 4.1.G, below.

Table 4.1.G: SJVAPCD Construction and Operation Thresholds of Significance (tons/year)

	CO	NO_x	ROG	SO_X	PM_{10}	$PM_{2.5}$
Construction Thresholds	100	10	10	27	15	15
Operation Thresholds	100	10	10	27	15	15

Source: Guidance for Assessing and Mitigating Air Quality Impacts (SJVAPCD, 2015b).
CO = carbon monoxide
NO_X = nitrous 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 compounds
SJVAPCD = San Joaquin Valley Air Pollution Control District
SO_X = sulfur oxide

The emissions thresholds in the SJVAPCD GAMAQI were established based on the attainment status of the SJVAB 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.

4.1.3.3 Health Risk Thresholds

Both the State and federal governments have established health-based 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:

[9] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. March. Website: https://www.valleyair.org/transportation/GAMAQI.pdf (accessed October 2023).

- **MICR:** MICR is the estimated probability of a maximally 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*[10] states that emissions of TACs are considered significant if a Health Risk Assessment (HRA) shows an increased risk of greater than 20 in 1 million.

- **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.

4.1.3.4 Project Impacts

The following discussion describes the potential impacts related to air quality that could result from implementation of the proposed project.

a. **Would the project conflict with or obstruct implementation of the applicable air quality plan?**

An air quality plan describes air pollution control strategies to be implemented by a city, county, or 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 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 CAA requirements and ensure attainment of the 70 parts per billion (ppb) 8-hour ozone standard.[11]

To ensure the SJVAB's continued attainment of the EPA PM_{10} standard, the SJVAPCD adopted the 2007 PM_{10} Maintenance Plan in September 2007.[12] The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards in November 2018 to address the EPA 1997 annual $PM_{2.5}$

[10] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015a. *Final Staff Report. Update to District's Risk Management Policy to Address OEHHA's Revised Risk Assessment Guidance Document*. May 28. Website: https://www.valleyair.org/busind/pto/staff-report-5-28-15.pdf (accessed April 2023).

[11] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2022. *2022 Plan for the 2015 8-Hour Ozone Standard*. December 15. Website: https://ww2.valleyair.org/media/q55posm0/0000-2022-plan-for-the-2015-8-hour-ozone-standard.pdf (accessed April 2023).

[12] San Joaquin Valley Air Pollution Control District (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 April 2023).

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.[13]

CEQA requires that certain proposed projects be analyzed for consistency with the applicable air quality plan as it relates to a region's non-attainment status. An air quality plan describes air pollution control strategies to be implemented in a non-attainment 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 quality standards. As discussed above, the SJVAB is designated as non-attainment for O_3 and $PM_{2.5}$ for federal standards and non-attainment for O_3, PM_{10}, and $PM_{2.5}$ for State standards.

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, construction of the proposed project is anticipated in three consecutive phases over a total 36-month period starting in April 2024 and would not result in the generation of criteria air pollutants that would exceed SJVAPCD thresholds of significance.

Impact AIR-1 The project would conflict with or obstruct implementation of the applicable air quality plan.

Implementation of Mitigation Measure AIR-2, which requires the implementation of measures required under SJVAPCD's Regulation VIII would further reduce construction dust impacts. In addition, as discussed below and shown later in Table 4.1.I, long-term operational emissions associated with the proposed project, including area, energy, and mobile source emissions, would also not exceed SJVAPCD established significance thresholds. Therefore, impacts related to the proposed project's potential to conflict with or obstruct implementation of the applicable air quality plan would be less than significant with implementation of Mitigation Measure AIR-2.

The proposed project's potential air quality impacts from construction and operation would not exceed any applicable threshold of significance and would not conflict with or obstruct the applicable clean air plan. Therefore, the proposed project's potential impacts on the applicable air quality plan are less than significant with implementation of Mitigation Measure AIR-2.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measure: Refer to Mitigation Measure AIR-2 below.

Level of Significance With Mitigation: Less than Significant with implementation of Mitigation Measure AIR-2.

[13] San Joaquin Valley Air Pollution Control District (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 April 2023).

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under an applicable federal or state ambient air quality standard?

The SJVAB is designated as non-attainment for O_3 and $PM_{2.5}$ for federal standards and non-attainment for O_3, PM_{10}, and $PM_{2.5}$ for State standards. The SJVAPCD'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 ambient air quality standards. 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 project-level construction- and operation-related air quality impacts.

Short-Term Construction Emissions. During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by grading, paving, building, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_X, ROG, directly-emitted particulate matter ($PM_{2.5}$ and PM_{10}), and TACs such as diesel exhaust particulate matter.

Construction activities associated with implementation of the proposed project would include site preparation, grading, paving, and building activities. Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase due to 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 the amount of operating equipment. Larger dust particles would settle near the source, while 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 implemented Regulation VIII measures for reducing fugitive dust emissions (PM_{10}). 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, SO_2, NO_X, ROG, 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 for the proposed project were analyzed using CalEEMod. Construction of the proposed project is anticipated to take place over a 36-month period starting in April 2024 and ending in April 2027. In addition, the proposed project would have 5,500 cubic yards of cut and 80,000 cubic yards of fill, with a net import of 74,500 cubic yards of soil, which was included in CalEEMod. The construction equipment list included in CalEEMod was provided by the Project Applicant As identified in the Project Description, the proposed project would use Tier 3 construction equipment, which was included in CalEEMod. Other precise details of construction activities are unknown at this time; therefore, default assumptions (e.g., construction worker and construction fleet activities) from CalEEMod were used. Construction-related emissions are presented in Table 4.1.H. CalEEMod output sheets are included in Appendix C.

Table 4.1.H: Project Construction Emissions (Tons Per Year)

Project Construction	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
2024	0.1	2.2	2.4	<0.1	0.5	0.3
2025	0.1	1.9	2.8	<0.1	0.2	0.1
2026	0.7	1.7	2.3	<0.1	0.2	0.1
2027	1.8	<0.1	0.1	<0.1	<0.1	<0.1
Maximum Annual Construction Emissions	**1.8**	**2.2**	**2.8**	**<0.1**	**0.5**	**0.3**
SJVAPCD Thresholds	**10.0**	**10.0**	**100.0**	**27.0**	**15.0**	**15.0**
Exceeds thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (December 2023).

CO = carbon monoxide
NO_X = nitrous 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 compounds
SJVAPCD = San Joaquin Valley Air Pollution Control District
SO_2 = sulfur dioxide

As shown in Table 4.1.H, construction emissions for the proposed project would not exceed the SJVAPCD annual threshold for construction emissions. In addition to the construction period thresholds of significance, the SJVAPCD has implemented Regulation VIII measures for dust control during construction. These control measures are intended to reduce the amount of PM_{10} emissions during the construction period. Implementation of the fugitive dust control measures outlined in Mitigation Measure AIR-2, would ensure that the proposed project complies with Regulation VIII, and further reduces the short-term construction period air quality impacts.

With implementation of Mitigation Measure AIR-2, construction of the proposed project would result in a less than significant impact related to a cumulative considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or State ambient air quality standard.

Long-Term Operational Emissions. 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).

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. Entrainment of PM_{10} occurs when vehicle tires pulverize small rocks and pavement, and the vehicle wakes generate airborne dust. The contribution of tire and brake wear is small compared to the other PM emission processes. Gasoline-powered engines have small rates of particulate matter emissions compared with diesel-powered vehicles. Trip generation rates for the proposed project were based on the project's trip generation estimate, as identified in Section 4.3, Transportation. As discussed in Section 4.3, Transportation, the proposed project would generate 3,074 average daily trips.

Energy source emissions result from activities in buildings that use natural gas. 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. The proposed project would be all-electric; therefore, the proposed project would not generate energy source emissions. In addition, the proposed project would exceed Title 24 standards and would install energy efficient appliances, which were included in CalEEMod. The proposed project would also incorporate the following energy reduction strategies: third party independent inspections would be conducted to assure energy efficiency compliance; heating, ventilation, and air conditioning equipment would be rated 14 seasonal energy efficiency ratio, 12 energy efficiency ratio, and 92 percent ultra efficient; solar panels would be provided ranging from 3.71 kW to 3.98 kW; and windows would be argon-filled vinyl low-e, double strength glass to reduce energy and increase ultraviolet blockage.

Area source emissions associated with the proposed project would include emissions from the use of architectural coatings, consumer products, and landscaping equipment.

Emission estimates for operation of the project were calculated using CalEEMod. The primary emissions associated with the project are regional in nature, meaning that air pollutants are rapidly dispersed on release or, in the case of vehicle emissions associated with the project, emissions are released in other areas of the SJVAB. The annual emissions associated with project operational trip generation, energy, and area sources are identified in Table 4.1.I for ROG, NO_x, CO, sulfur oxide (SO_x), PM_{10}, and $PM_{2.5}$. CalEEMod output sheets are included in Appendix C.

Table 4.1.I: Project Operation Emissions (tons/year)

	ROGs	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Mobile Source Emissions	1.8	1.6	11.1	<0.1	2.4	0.6
Area Source Emissions	3.3	0.1	<0.1	<0.1	<0.1	<0.1
Energy Source Emissions	0.0	0.0	0.0	0.0	0.0	0.0
Total Project Operation Emissions	**5.0**	**1.7**	**11.2**	**<0.1**	**2.4**	**0.6**
SJVAPCD Significance 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 (December 2023).
Note: Some values may not appear to add up correctly due to rounding.
CO = carbon monoxide
NO_X = nitrous oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROGs = reactive organic compounds
SJVAPCD = San Joaquin Valley Air Pollution Control District
SO_X = sulfur oxide

The results in Table 4.1.I indicate the proposed project's operational emissions 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 result in a less-than-significant impact related to a cumulatively considerable net increase of any criteria pollutant for which the proposed project region is in nonattainment under an applicable federal or State ambient air quality standard.

Impact AIR-2 Implementation of the proposed project would result in a cumulatively considerable net increase of criteria pollutants for which the project region is non-attainment under an applicable federal or State ambient air quality standards.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measure AIR-2 Consistent with San Joaquin Vally 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, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, 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.
- 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 out-door storage piles, said piles shall be effectively stabilized of fugitive dust emission utilizing sufficient water or chemical stabilizer/suppressant.

With the implementation of Regulation VIII measures, fugitive dust emissions from construction activities would not result in adverse air quality impacts.

Level of Significance With Mitigation: Less than Significant with implementation of Mitigation Measure AIR-2.

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to DPM are children, whose lung tissue is still developing, and the elderly, who may have serious health problems that can be aggravated by exposure to DPM. Exposure from diesel exhaust associated with construction activity contributes to both cancer and chronic non-cancer health risks. The closest sensitive receptors include single-family residential uses located adjacent to the northern and eastern boundaries of the project site and the single-family residential uses across North Armstrong Avenue, approximately 75 feet west of the project site.

Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Particulate matter can also lead to a variety of health effects in people. These include premature death of people with heart or lung disease, heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms.

A construction HRA, which evaluates construction-period health risk to off-site receptors, was performed for the proposed project and is summarized below. The project site is near existing residential uses that could be exposed to diesel emission exhaust during the construction period.

To estimate the potential cancer risk associated with equipment exhaust (including DPM) released during construction of the proposed project, 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 EPA dispersion 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.

Table 4.1.J, below, identifies the results of the analysis assuming the use of Tier 3 construction equipment, as proposed by the project, at the MEI, which is the nearest sensitive receptor. Model images and details related to the modeled sources are shown in Appendix D of this Draft Environmental Impact Report (Draft EIR).

Table 4.1.J: Unmitigated Inhalation Health Risks from Project Construction to Off-Site Receptors

	Carcinogenic Inhalation Health Risk in 1 Million	Chronic Inhalation Hazard Index	Acute Inhalation Hazard Index
Sensitive Receptor Risk	28.98	0.019	0
Worker Receptor Risk	0.54	0.015	0
Threshold	**20.00**	**1.000**	**1**
Exceeds threshold?	**Yes**	**No**	**No**

Source: Compiled by LSA (December 2023).

As shown in Table 4.1.J, the maximum cancer risk for the sensitive receptor MEI would be 28.98 in 1 million, which would exceed the SJVAPCD cancer risk threshold of 20 in 1 million. The worker receptor risk would be lower at 0.54 in 1 million, which would not exceed the threshold. The chronic HI would be 0.019 for the sensitive receptor MEI, which would be below the threshold of 1.0. The chronic HI at the worker receptor MEI would be 0.015, which would also not exceed the threshold. In addition, the total acute HI would be nominal for both (0), which would also not exceed the threshold of 1.0. Therefore, since cancer risk concentrations would exceed the SJVAPCD's threshold at the sensitive receptor MEI, the project would result in the exposure of sensitive receptors to substantial pollutant concentrations.

Impact AIR-3 Implementation of the proposed project would expose sensitive receptors to substantial pollutant concentrations. (Less than Significant With Mitigation)

Implementation of Mitigation Measure AIR-3 would require off-road diesel-powered construction equipment of 50 horsepower or more to meet the CARB Tier 3 emissions standards and be equipped with Level 3 diesel particulate filters or equivalent. This measure would be required to reduce substantial pollutant concentrations during project construction. Table 4.1.K identifies the results of the analysis with implementation of Mitigation Measure AIR-3.

Table 4.1.K: Mitigated Inhalation Health Risks from Project Construction to Off-Site Receptors

	Carcinogenic Inhalation Health Risk in 1 Million	Chronic Inhalation Hazard Index	Acute Inhalation Hazard Index
Sensitive Receptor Risk	5.4	0.004	0
Worker Receptor Risk	0.1	0.003	0
Threshold	**20.0**	**1.000**	**1**
Exceed?	**No**	**No**	**No**

Source: Compiled by LSA (December 2023)

As shown in Table 4.1.K, the mitigated cancer risk at the MEI would be 5.40 in 1 million, which would not exceed the SJVAPCD cancer risk of 20 in 1 million. Therefore, with implementation of Mitigation Measure AIR-3, construction of the proposed project would not exceed SJVAPCD thresholds and

would not expose nearby sensitive receptors to substantial pollutant concentrations. This impact would be less than significant with mitigation incorporated.

Operational TACs are associated with various industrial and commercial processes (e.g., manufacturing and dry cleaning). Industrial land uses, such as chemical processing facilities, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities, have the potential to be substantial stationary sources that would require a permit from SJVAPCD for emissions of TACs. Commercial and industrial operations can be a source of TACs generated from off-road equipment use and truck idling. The proposed project consists of residential uses and would not include stationary sources, off-road equipment use, or truck idling. Therefore, once the proposed project is constructed, the proposed project would not be a source of substantial emissions. As such, implementation of the proposed project would not result in new sources of TACs and the project would not expose sensitive receptors to substantial levels of TACs. This operational impact would be less than significant.

Based on the analysis presented above, the proposed project's potential air quality impacts from construction (with mitigation) and operation would not expose sensitive receptors to substantial pollutant concentrations. The proposed project would not result in any individual health risk in excess of the thresholds considered to be prudent risk management levels. Therefore, the proposed project's potential air quality impacts on sensitive receptors would be less than significant with mitigation incorporated.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measure AIR-3 During construction of the proposed project, the project contractor shall ensure all off-road diesel-powered construction equipment of 50 horsepower or more used for the project construction at a minimum meets the California Air Resources Board Tier 3 emissions standards equipped with Level 3 diesel particulate filters or equivalent.

Level of Significance With Mitigation: Less than Significant with implementation of Mitigation Measure AIR-3.

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

During construction, the various diesel-powered vehicles and equipment in use on site would create localized odors. These odors would be temporary and are not likely to be noticeable for extended periods of time beyond the project site. Because the project's potential construction-related odor impacts are localized and temporary, they would not adversely affect a substantial number of people. Therefore, the project's potential construction-related odor impacts are less than significant.

The SJVAPCD addresses odor criteria within the Guidance GAMAQI.[14] 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". After construction, the proposed land use of the project (residential) is not anticipated to emit any objectionable odors.

As identified in Table 4.1 E above, the SJVAPCD has determined the common land use types that are known to produce odors in the SJVAB, including wastewater treatment facilities within 2 miles. The Southeast Surface Water Treatment Plant is 0.3 mile south of the project site. These odors could be detected at the project site. However, since the proposed project is not expected to produce any offensive odors that would result in frequent odor complaints. The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Impact AIR-4 The project would not result in significant odors that could adversely affect a substantial number of people.

Level of Significance Without Mitigation: Less than Significant Impact. No mitigation is required.

Mitigation Measure: No mitigation is required.

Level of Significance With Mitigation: No mitigation is required.

4.1.3.5 Cumulative Impacts

According to the SJVAPCD, regional air pollution is largely a cumulative impact. No single project is sufficient in size to independently create regional nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts.

The SJVAPCD is currently designated as a nonattainment area for State and national ozone standards and national particulate matter AAQS. SJVAPCD 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 ambient air quality standards. 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.

[14] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015b. Guidance for Assessing and Mitigating Air Quality Impacts. March. Website: https://www.valleyair.org/transportation/GAMAQI.pdf (accessed October 2023).

Therefore, if the proposed project's annual emissions of construction- or operational-related criteria air pollutants exceed any applicable threshold established by the SJVAPCD, the proposed project would result in a considerable contribution to a cumulatively significant impact. As shown in Table 4.1.H and Table 4.1.I, with implementation of Mitigation Measure AIR-2, the proposed project would not generate significant construction and operational emissions. As shown in the project-specific air quality impacts discussion above, the proposed project would not result in individually significant impacts and therefore the proposed project would not result in a cumulatively considerable contribution to regional air quality impacts. Cumulative impacts would be considered less than significant.

In addition, as demonstrated in the analysis, with implementation of Mitigation Measure AIR-3, the health risk levels to nearby residents from project construction-related emissions of TACs would be well below the SJVAPCD's HRA thresholds. Once operational, the proposed project would not be a source of substantial emissions. Therefore, the proposed project would not result in any individual health risk in excess of the thresholds considered to be prudent risk management levels. Therefore, the proposed project's cumulative air quality impacts on sensitive receptors are less than significant with mitigation.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measures AIR-2 and AIR-3.

Level of Significance With Mitigation: Less than Significant with Mitigation Measures AIR-2 and AIR-3.

4.2 GREENHOUSE GAS EMISSIONS

This section summarizes existing greenhouse gas (GHG) emissions and discusses global climate change, its causes, and the contribution of human activities. This section also estimates the likely GHG emissions that would result from construction and operational activities associated with implementation of the proposed project, including vehicular traffic, energy consumption and other emission sources. The proposed project was evaluated for consistency with the City of Fresno (City) Greenhouse Gas Reduction Plan Update,[1] as shown in the Consistency Checklist included in Appendix E.

4.2.1 Environmental Setting

The following discussion describes existing GHG emissions in Fresno and the San Joaquin Valley Air Basin (SJVAB), beginning with a discussion of typical GHG types and sources, impacts of global climate changes, the regulatory framework surrounding these issues, and current emission levels.

4.2.1.1 Background

The following section provides background information on GHGs and global climate change.

Global Climate Change. Global climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans in recent decades. The Earth's average near-surface atmospheric temperature rose 0.6 ±0.2 degree Celsius (°C) or 1.1 ±0.4 degrees Fahrenheit (°F) in the 20th century. The prevailing scientific opinion on climate change is that most of the warming observed over the last 50 years is attributable to human activities. The increased amounts of carbon dioxide (CO_2) and other GHGs are the primary causes of the human-induced component of warming. GHGs are released by the burning of fossil fuels, land clearing, agriculture, and other activities, and lead to an increase in the greenhouse effect.[2]

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 the following:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)

---

1 City of Fresno. 2021. *Greenhouse Gas Reduction Plan Update.* March. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2021/03/Link4AppendixGGHGRPUpdate.pdf (accessed April 2023).

2 The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse allows heat from sunlight in and reduces the heat escaping, GHGs like carbon dioxide, methane, and nitrous oxide in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, although an excess of GHGs results in global warming, the *naturally occurring* greenhouse effect is necessary to keep our planet at a comfortable temperature.

- Perfluorocarbons (PFCs)
- 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. Although manmade GHGs include naturally-occurring GHGs such as CO_2, CH_4, and N_2O, some gases, like HFCs, PFCs, and SF_6 are completely new to the atmosphere.

Certain gases, such as 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. For the purposes of this air quality analysis, the term "GHGs" will refer collectively to the six gases listed above.

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 global warming potential 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 carbon dioxide, 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). Table 4.2.A shows the GWP for each type of GHG. For example, sulfur hexafluoride is 23,900 times more potent at contributing to global warming than carbon dioxide.

Table 4.2.A: Global Warming Potential of Greenhouse Gases

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-year Time Horizon)
Carbon Dioxide	50-200	1
Methane	12	25
Nitrous Oxide	114	310
HFC-23	270	11,700
HFC-134a	14	140
HFC-152a	1.4	140
PFC: Tetrafluoromethane (CF_4)	50,000	6,500
PFC: Hexafluoromethane (C_2F_6)	10,000	9,200
Sulfur Hexafluoride (SF_6)	3,200	23,900

Source: *Second Update to the Climate Change Scoping Plan: Building on the Framework* (CARB 2017b).

The following discussion summarizes the characteristics of the six GHGs and black carbon. Black carbon also contributes to climate change and is therefore discussed below.

Carbon Dioxide. In the atmosphere, carbon generally exists in its oxidized form, as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals and plants, volcanic out gassing, decomposition of organic matter and evaporation from the oceans. Human caused sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. Natural sources release approximately 150 billion tons of CO_2 each year, far outweighing the 7 billion tons of man-made emissions of CO_2 each year. Nevertheless, natural removal processes, such as photosynthesis by land- and ocean-dwelling plant species, cannot keep pace with this extra input of man-made CO_2, and consequently, the gas is building up in the atmosphere.

In 2020, total annual CO_2 accounted for approximately 80.2 percent of California's overall GHG emissions.[3] Transportation is the single largest source of CO_2 in California, which is primarily comprised of on-road travel. Electricity production, industrial, and residential sources also make important contributions to CO_2 emissions in California.

Methane. Methane (CH_4) is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands and oceans. Decomposition occurring in landfills accounts for the majority of human generated CH_4 emissions in California and in the United States as a whole. Agricultural processes such as intestinal fermentation in dairy cows, manure management, and rice cultivation are also significant sources of CH_4 in California. Total annual emissions of CH_4 accounted for approximately 10.5 percent of GHG emissions in California in 2020.

Nitrous Oxide. Nitrous oxide (N_2O) is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for most natural source emissions. Nitrous oxide is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion emit N_2O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human generated N_2O emissions in California. N_2O emissions in California. Nitrous oxide emissions accounted for approximately 3.5 percent of GHG emissions in California in 2020.

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride. HFCs are primarily used as substitutes for ozone-depleting substances regulated under the Montreal Protocol.[4] PFCs and SF_6 are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in California; however, the rapid growth in the

[3] California Air Resources Board (CARB). 2022b. GHGs Descriptions & Sources in California. Website: ww2.arb.ca.gov/ghg-descriptions-sources (accessed April 2023).

[4] The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for ozone depletion.

semiconductor industry has resulted in greater use of PFCs. HFCs, PFCs, and SF_6 accounted for about 5.5 percent of GHG emissions in California in 2020.[5]

Black Carbon. Black carbon is the most strongly light-absorbing component of particulate matter (PM) formed by burning fossil fuels such as coal, diesel, and biomass. Black carbon is emitted directly into the atmosphere in the form of particulate matter less than 2.5 microns in size ($PM_{2.5}$) and is the most effective form of PM, by mass, at absorbing solar energy. Per unit of mass in the atmosphere, black carbon can absorb one million times more energy than CO_2.[6] Black carbon contributes to climate change both directly, such as absorbing sunlight, and indirectly, such as affecting cloud formation. However, because black carbon is short-lived in the atmosphere, it can be difficult to quantify its effect on global warming.

Most United States emissions of black carbon come from mobile sources (52 percent), particularly from diesel-fueled vehicles.[7] The other major source of black carbon is open biomass burning, including wildfires, although residential heating and industry also contribute. The California Air Resources Board (CARB) estimates that the annual black carbon emissions in California will be reduced approximately 50 percent below 2013 levels by 2030.[8]

Emissions Inventories. An emissions inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes the latest information on global, United States, and California GHG emission inventories.

Global Emissions. Worldwide emissions of GHGs in 2020 totaled 22.9 billion metric tons of CO_2e (MT CO_2e). Global estimates are based on country inventories developed as part of the programs of the United Nations Framework Convention on Climate Change.[9]

United States Emissions. In 2020, the year for which the most recent data are available, the United States emitted about 5,222 million metric tons of CO_2e (MMT CO_2e). Overall, emissions in 2020 decreased by 11 percent since 2019 and were 21 percent lower than 2005 levels. The primary driver for the decrease was an 11 percent decrease in CO_2 emissions from fossil fuel combustion. This decrease was primarily due to a 13 percent decrease in transportation emissions driven by decreased demand due to the ongoing COVID-19 pandemic. Electric power sector emissions also decreased 10 percent, reflecting both a slight decrease in demand from the COVID-19 pandemic and a continued shift from coal to less carbon intensive natural gas and renewables. Of the five major sectors (i.e., residential and commercial, agricultural, industry,

---

5 California Air Resources Board (CARB). 2022b. GHGs Descriptions and Sources in California. Website: ww2.arb.ca.gov/ghg-descriptions-sources (accessed April 2023).

6 United States Environmental Protection Agency (EPA). 2017. Black Carbon, Basic Information. February 14, 2017. Website: 19january2017snapshot.epa.gov/www3/airquality/blackcarbon/basic.html (accessed April 2023).

7 Ibid.

8 CARB. 2017c. *Short-Lived Climate Pollutant Reduction Strategy.* March. Website: https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf (accessed April 2023).

9 United Nations Framework Convention on Climate Change (UNFCCC). 2022. GHG Data from UNFCCC. Website: https://di.unfccc.int/time_series (accessed April 2023).

transportation, and electricity generation), transportation accounted for the highest amount of GHG emissions in 2020 (approximately 27 percent), with electricity generation second at 27 percent and emissions from industry third at 24 percent.[10]

State of California Emissions. The State emitted 369.2 MMT CO_2e in 2020, 35.3 MMT CO_2e lower than 2019 levels and 61.8 MMT CO_2e below the 2020 GHG limit of 431 MMT CO_2e.[11] The CARB estimates that transportation was the source of 37 percent of the State's GHG emissions in 2020, which is a smaller share than recent years, as the transportation sector saw a significant decrease of 26.6 MMT CO_2e in 2020, likely due in large part to the impact of the COVID-19 pandemic. The next largest sources included industrial sources at approximately 20 percent and electricity generation at 16 percent. The remaining sources of GHG emissions were commercial and residential activities at 10 percent, agriculture at 9 percent, high GWP at 6 percent, and waste at 2 percent.[12]

City of Fresno Emissions. The Fresno baseline inventory year was 2010. The City has prepared an updated inventory for 2016 that accounts for regulations adopted to that point in time. Therefore, 2016 provides the best available baseline for the GHG Plan and can be compared directly with State progress to date and targets. Table 4.2.B shows the inventory.

Table 4.2.B: City of Fresno GHG Emissions by Sector for 2016

Sector	2016 (MT CO_2e)	Percentage of Total Emissions
Motor Vehicles	1,520,052	52
Residential Energy	479,371	16
Commercial Energy	524,838	18
Fugitive Emissions	270,130	9
Solid Waste	119,167	4
Industrial Energy	10,055	<1
Agriculture Energy	20	<1
Total	**2,923,633**	**100**

Source: *Greenhouse Gas Reduction Plan Update* (City of Fresno 2021).
GHG = greenhouse gas
MT CO_2e = metric tons of carbon dioxide equivalent

As shown in Table 4.2.B, motor vehicles were the largest source at 52 percent of the City's GHG emissions in 2016, followed by commercial and residential energy at 18 and 16 percent, respectively. The remaining sources included fugitive emissions at 9 percent and solid waste

10 United States Environmental Protection Agency (EPA). 2021. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019. Website: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019 (accessed April 2023).

11 California Air Resources Board. 2022a. *California Greenhouse Gas Emissions for 2000 to 2020, Trends of Emissions and Other Indicators Report*. Website: https://ww2.arb.ca.gov/sites/default/files/classic/cc/inventory/2000-2020_ghg_inventory_trends.pdf (accessed April 2023).

12 Ibid.

sources at 4 percent. Agriculture and industrial energy emissions each account for less than 1 percent of total emissions.

4.2.2 Regulatory Setting

4.2.2.1 Federal Regulations

Federal Clean Air Act. 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 United States Environmental Protection Agency (EPA) has the authority to regulate CO_2 emissions under the federal Clean Air Act (CAA). Although there currently are no adopted federal regulations for the control or reduction of GHG emissions, the EPA commenced several actions in 2009 to implement a regulatory approach to global climate change.

This includes the 2009 EPA final rule for mandatory reporting of GHGs from large GHG emission sources in the United States. Additionally, the EPA Administrator signed an endangerment finding action in 2009 under the CAA, finding that six GHGs (CO_2, CH_4, N_2O, HFCs, 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 national GHG emission standards.

In October 2012, the EPA and the National Highway Traffic Safety Administration (NHTSA), on behalf of the United States Department of Transportation, issued final rules to further reduce GHG emissions and improve Corporate Average Fuel Economy (CAFE) standards for light-duty vehicles for model years 2017 and beyond[13]. The NHTSA's CAFE standards have been enacted under the Energy Policy and Conservation Act since 1978. This national program requires automobile manufacturers to build a single light-duty national fleet that meets all requirements under both federal programs and the standards of California and other states. This program would increase fuel economy to the equivalent of 54.5 miles per gallon, limiting vehicle emissions to 163 grams of CO_2 per mile for the fleet of cars and light-duty trucks by model year 2025[14].

On March 31, 2022, the NHTSA finalized the 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 miles per gallon (mpg) for passenger cars and light trucks in model year 2026 by increasing fuel efficiency by 8 percent annually for model years 2024–2025, and 10 percent annually for model year 2026. The final standards are estimated to save about 234 billion gallons of gas between model years 2030 to 2050.

4.2.2.2 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 1493 (2002). In a response to the transportation sector's significant contribution to California CO_2 emissions, Assembly Bill (AB) 1493 was enacted on July 22, 2002. AB 1493 requires the

[13] *77 Federal Register 62624*
[14] *77 Federal Register 62630*

CARB to set GHG emission standards for passenger vehicles and light duty trucks (and other vehicles whose primary use is noncommercial personal transportation in the State) manufactured in 2009 and all subsequent model years. CARB approved these standards (starting in model years 2009 to 2016) in 2004, but the EPA did not grant the needed waiver of Clean Air Act Preemption until June 30, 2009. CARB responded by amending its original regulation, now referred to as LEV III, to take effect for model years starting in 2017 to 2025. The Trump administration revoked California's waiver in 2019, but the Biden administration restored California's waiver in 2021.

Executive Order S-3-05 (2005). Governor Arnold Schwarzenegger signed Executive Order (EO) S-3-05 on June 1, 2005, which proclaimed that California is vulnerable to the impacts of climate change. To combat those concerns, the executive order established California's GHG emissions reduction targets, which established the following goals:

- GHG emissions should be reduced to 2000 levels by 2010
- GHG emissions should be reduced to 1990 levels by 2020
- GHG emissions should be reduced to 80 percent below 1990 levels by 2050

The Secretary of the California Environmental Protection Agency (CalEPA) is required to coordinate efforts of various State agencies to collectively and efficiently reduce GHGs. A biannual progress report must be submitted to the Governor and State Legislature disclosing the progress made toward GHG emission reduction targets. In addition, another biannual report must be submitted illustrating the impacts of global warming on California's water supply, public health, agriculture, the coastline, and forestry, and report possible mitigation and adaptation plans to address these impacts.

The Secretary of CalEPA leads a Climate Action Team (CAT) made up of representatives from State agencies as well as numerous other boards and departments. The CAT members work to coordinate statewide efforts to implement global warming emission reduction programs and the State's Climate Adaptation Strategy. The CAT is also responsible for reporting on the progress made toward meeting the statewide GHG targets that were established in the executive order and further defined under AB 32, the "Global Warming Solutions Act of 2006." The first CAT Report to the Governor and the Legislature was released in March 2006. It laid out 46 specific emission reduction strategies for reducing GHG emissions and reaching the targets established in the EO. The most recent report was released in December 2020.

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 aims at reducing GHG emissions to 1990 levels by 2020. The CARB has established the level of GHG emissions in 1990 at 427 MMT CO_2e. The emissions target of 427 MMT 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 emissions 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 reductions 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)
- A renewable portfolio standard for electricity production (21.3 MMT CO_2e)

The Scoping Plan identifies 18 emission reduction measures that address cap-and-trade programs, vehicle gas standards, energy efficiency, low carbon fuel standards, renewable energy, regional transportation-related GHG targets, vehicle efficiency measures, goods movement, solar roof programs, industrial emissions, high speed rail, green building strategies, recycling, sustainable forests, water, and air. The measures would result in a total reduction of 174 MMT CO_2e by 2020.

On August 24, 2011, the CARB unanimously approved both the new supplemental assessment and reapproved its Scoping Plan, which provides the overall roadmap and rule measures to carry out AB 32. The CARB also approved a more robust California Environmental Quality Act (CEQA) equivalent document supporting the supplemental analysis of the cap-and-trade program. The cap-and-trade took effect on January 1, 2012, with an enforceable compliance obligation that began January 1, 2013.

CARB has not yet determined what amount of GHG reductions it recommends from local government operations and local land use decisions; however, the Scoping Plan states that land use planning and urban growth decisions will play an important role in the State's GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions (meanwhile, CARB is also developing an additional protocol for community emissions). CARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. The Scoping Plan states that the ultimate GHG reduction assignment to local government operations is to be determined. With regard to land use planning, the Scoping Plan expects an approximately 5 MMT CO_2e reduction due to implementation of Senate Bill (SB) 375.

In addition to reducing GHG emissions to 1990 levels by 2020, AB 32 directed the CARB and CAT to identify a list of "discrete early action GHG reduction measures" that could be adopted and made enforceable by January 1, 2010. On January 18, 2007, Governor Schwarzenegger signed EO S-1-07, further solidifying California's dedication to reducing GHGs by setting a new Low Carbon Fuel Standard (LCFS). This EO sets a target to reduce the carbon intensity of California transportation fuels by at least 10 percent by 2020 and directs the CARB to consider the LCFS as a discrete early action measure. In 2011, U.S. District Court Judge Lawrence O'Neil issued an injunction preventing implementation of the LCFS, ruling that it is unconstitutional. In 2012, the Ninth Circuit Court of

Appeal stayed the District Court's injunction, allowing implementation of the LCFS. The Ninth Circuit decided to uphold the LCFS.

In June 2007, the CARB approved a list of 37 early action measures, including three discrete early action measures (LCFS, Restrictions on GWP Refrigerants, and Landfill CH_4 Capture).[15] Discrete early action measures are measures that were required to be adopted as regulations and made effective no later than January 1, 2010, the date established by Health and Safety Code Section 38560.5. The CARB adopted additional early action measures in October 2007 that tripled the number of discrete early action measures. These measures relate to truck efficiency, port electrification, reduction of PFCs from the semiconductor industry, reduction of propellants in consumer products, proper tire inflation, and SF_6 reductions from the non-electricity sector. The combination of early action measures is estimated to reduce statewide GHG emissions by nearly 16 MMT.[16]

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 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. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan,[17] to reflect the 2030 target set by EO B-30-15 and codified by SB 32.

The 2022 Scoping Plan[18] was approved in December 2022, assesses progress towards achieving the SB 32 2030 target, and lays 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 97 (2007). SB 97, signed by the Governor in August 2007 (Chapter 185, Statutes of 2007; Public Resources Code [PRC], Sections 21083.05 and 21097), acknowledges climate change is a prominent environmental issue that requires analysis under CEQA. This bill directed the Governor's Office of Planning and Research to prepare, develop, and transmit to the California Resources Agency guidelines for mitigating GHG emissions or the effects of GHG emissions, as required by CEQA.

---

15 California Air Resources Board (CARB). 2007b. *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration*. October.

16 CARB. 2007a. "ARB approves tripling of early action measures required under AB 32" News Release 07-46. October 25.

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

18 CARB. 2022c. *2022 Scoping Plan Update*. December. Website: https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf (accessed January 2024).

The California Natural Resources Agency adopted the amendments to the *State CEQA Guidelines* in November 2018, which went into effect in December 2018. The amendments do not identify a threshold of significance for GHG emissions, nor do they prescribe assessment methodologies or specific mitigation measures. The amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but preserve the discretion granted by CEQA to lead agencies in making their own determinations based on substantial evidence. The amendments also encourage public agencies to make use of programmatic mitigation plans and programs when they perform individual project analyses.

Senate Bill 375 (2008). SB 375, the Sustainable Communities and Climate Protection Act, which establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions, the State adopted on September 30, 2008. On September 23, 2010, the CARB adopted the vehicular GHG emissions reduction targets that had been developed in consultation with the Metropolitan Planning Organization (MPOs); the targets require a 6 to 15 percent reduction by 2020 and between 13 to 19 percent reduction by 2035 for each MPO. SB 375 recognizes the importance of achieving significant GHG reductions by working with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs such as the Fresno Council of Governments will work with local jurisdictions in the development of Sustainable Communities Strategy designed to integrate development patterns and the transportation network in a way that reduces GHG emissions while meeting housing needs and other regional planning objectives. Pursuant to SB 375, the Central Valley/San Joaquin reduction targets for per capita vehicular emissions were 6 to 13 percent by 2020 and are 13 to 16 percent by 2035 as shown in Table 4.2.C.

Table 4.2.C: Senate Bill 375 Regional Greenhouse Gas Emissions Reduction Targets

Metropolitan Planning Organization	By 2020 (%)	By 2035 (%)
San Francisco Bay Area	10	19
San Diego	15	19
Sacramento	7	19
Central Valley/San Joaquin	6–13	13–16
Los Angeles/Southern California	8	19

Source: California Air Resources Board (2018).

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. 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
- Increasing energy efficiency in buildings by 50 percent by the year 2030

The 50 percent renewable energy standard will be implemented by the California Public Utilities Commission for the private utilities and by the California Energy Commission (CEC) for municipal utilities. Each utility must submit a procurement plan showing it will purchase clean energy to displace other non-renewable resources. The 50 percent increase in energy efficiency in buildings must be achieved using 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 us 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 emissions trajectory that would stabilize atmospheric GHG concentrations at 450 parts per million (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 CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 meant to provide easier public access to air emissions data that are collected by CARB was posted in December 2016.

Senate Bill 100 (SB 100). On September 10, 2018, Governor Brown signed SB 100, which raises California's Renewables 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.

Title 24, Building Standards Code and CALGreen Code. The California Building Standards Code, or Title 24 of the California Code of Regulations (CCR) contains the regulations that govern the construction of buildings in California. Within the Building Standards Code, two parts pertain to the incorporation of both energy efficient and green building elements into land use development. Part 6 is California's Energy Efficiency Standards for Residential and Non-Residential Buildings. These standards were first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption and are updated on an approximately 3-year cycle to allow consideration and possible incorporation of new energy efficient technologies and methods.

In November 2008, the California Building Standards Commission established the California Green Building Standards Code (CALGreen Code), which sets performance standards for residential and non-residential development to reduce environmental impacts and encourage sustainable construction practices. The CALGreen Code addresses energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The CALGreen Code is updated every 3 years and was most recently updated in 2022 to include new mandatory measures for residential as well as non-residential uses; the new measures took effect on January 1, 2023. The next set of standards will be adopted in 2022 and apply to projects seeking building permits on or after January 1, 2023.

Cap and Trade. The development of a cap-and-trade program was included as a key reduction measure of the CARB AB 32 Climate Change Scoping Plan. The cap-and-trade program will help put California on the path to meet its goal of reducing GHG emissions to 1990 levels by 2020 and ultimately achieving an 80 percent reduction from 1990 levels by 2050. The cap-and-trade emissions trading program developed by the CARB took effect on January 1, 2012, with enforceable compliance obligations beginning January 1, 2013. The cap-and-trade program aims to regulate GHG emissions from the largest producers in the State by setting a statewide firm limit, or cap, on allowable annual GHG emissions. The cap was set in 2013 at approximately 2 percent below the emissions forecast for 2020. In 2014, the cap declined approximately 2 percent. Beginning in 2015 and continuing through 2020, the cap has been declining approximately 3 percent annually. The CARB administered the first auction on November 14, 2012, with many of the qualified bidders representing corporations or organizations that produce large amounts of GHG emissions, including energy companies, agriculture and food industries, steel mills, cement companies, and universities. On January 1, 2015, compliance obligation began for distributors of transportation fuels, natural gas, and other fuels. The cap-and-trade program was initially slated to sunset in 2020 but the passage of SB 398 in 2017 extended the program through 2030.[19]

Executive Order N-79-20. EO N-79-20, which Governor Gavin Newsom on September 23, 2020, sets the following goals for the State: 100 percent of in-state sales of new passenger cars and trucks shall be zero-emission by 2035; 100 percent of medium- and heavy-duty vehicles in the State shall be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks; and 100 percent of off-road vehicles and equipment in the State shall be zero-emission by 2035, where feasible.

[19] California Air Resources Board (CARB). 2014. Cap-and-Trade Program. Website: www.arb.ca.gov/cc/capandtrade/capandtrade.htm (accessed April 2023).

California Integrated Waste Management Act. To minimize the amount of solid waste that must be disposed of in landfills, the State Legislature passed the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties were required to divert 25 percent of all solid waste from landfill facilities by January 1, 1995, and 50 percent by January 1, 2000. Through other statutes and regulations, this 50 percent diversion rate also applies to State agencies. In order of priority, waste reduction efforts must promote source reduction, recycling and composting, and environmentally safe transformation and land disposal. In 2011, AB 341 modified the California Integrated Waste Management Act and directed the California Department of Resources Recycling and Recovery (CalRecycle) to develop and adopt regulations for mandatory commercial recycling. The resulting 2012 Mandatory Commercial Recycling Regulation requires that on and after July 1, 2012, certain businesses that generate 4 cubic yards or more of commercial solid waste per week shall arrange recycling services. To comply with this requirement, businesses may either separate recyclables and self-haul them or subscribe to a recycling service that includes mixed waste processing. AB 341 also established a statewide recycling goal of 75 percent; the 50 percent disposal reduction mandate still applies for cities and counties under AB 939, the Integrated Waste Management Act. In April 2016, AB 1826 further modified the California Integrated Waste Management Act, requiring businesses that generate a specified amount of organic waste per week to arrange for recycling services for that organic waste in a specified manner. If CalRecycle determines that statewide disposal of organic waste has not been reduced by 50 percent below 2014 levels by 2020, businesses generating more than 2 cubic yards of organic waste per week would be subject to these waste collection requirements. CalRecycle plans to make this assessment in the fall of 2020. Diverting organic waste from landfills reduces emissions of CH_4. This is equivalent to reducing anaerobic decomposition of organic waste that would have otherwise occurred in landfills where organic waste is often buried with other inorganic waste.

Low Carbon Fuel Standard. In January 2007, EO S-01-07 established an LCFS. This EO calls for a statewide goal to be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020, and that an LCFS for transportation fuels be established for California. The LCFS applies to all refiners, blenders, producers, or importers ("Providers") of transportation fuels in California, including fuels used by off-road construction equipment. In June 2007, CARB adopted the LCFS under AB 32 pursuant to Health and Safety Code Section 38560.5, and, in April 2009, CARB approved the new rules and carbon intensity reference values with new regulatory requirements taking effect in January 2011. The standards require providers of transportation fuels to report on the mix of fuels they provide and demonstrate they meet the LCFS intensity standards annually. This is accomplished by ensuring that the number of "credits" earned by providing fuels with a lower carbon intensity than the established baseline (or obtained from another party) is equal to or greater than the "deficits" earned from selling higher intensity fuels. In response to certain court rulings, CARB re-adopted the LCFS regulation in September 2015, and the LCFS went into effect on January 1, 2016. In 2018, CARB approved amendments to the regulation to readjust carbon intensity benchmarks to meet California's 2030 GHG reductions targets under SB 32. These amendments include opportunities to promote zero emission vehicle (ZEV) adoption, carbon capture and sequestration, and advanced technologies for decarbonization of the transportation sector.

Advanced Clean Cars Program. In January 2012, CARB approved the Advanced Clean Cars program, which combines the control of GHG emissions and criteria air pollutants, as well as requirements for

greater numbers of ZEVs, into a single package of regulatory standards for vehicle model years 2017 through 2025. The new regulations strengthen the GHG standard for 2017 models and beyond. This will be achieved through existing technologies, the use of stronger and lighter materials, and more efficient drivetrains and engines. The program's ZEVs regulation requires battery, fuel cell, and/or plug-in hybrid electric vehicles (EV) to account for up to 15 percent of California's new vehicle sales by 2025. The program also includes a clean fuels outlet regulation designed to support the commercialization of zero-emission hydrogen fuel cell vehicles planned by vehicle manufacturers by 2015 by requiring increased numbers of hydrogen fueling stations throughout the State. The number of stations will grow as vehicle manufacturers sell more fuel cell vehicles. By 2025, when the rules will be fully implemented, the statewide fleet of new cars and light trucks will emit 40 percent fewer GHGs and 75 percent fewer smog-forming emissions than 2012 model year vehicles.

Executive Order B-48-18. In January 2018, Governor Brown signed EO B-48-18, requiring all State entities to work with the private sector to have at least 5 million ZEVs on the road by 2030, as well as install 200 hydrogen fueling stations and 250,000 EV charging stations by 2025. It specifies that 10,000 of the EV charging stations should be direct current fast chargers. This order also requires all State entities to continue to partner with local and regional governments to streamline the installation of ZEV infrastructure. The Governor's Office of Business and Economic Development is required to publish a Plug-in Charging Station Design Guidebook and update the 2015 Hydrogen Station Permitting Guidebook to aid in these efforts. All State entities are required to participate in updating the 2016 Zero-Emissions Vehicle Action Plan to help expand private investment in ZEV infrastructure with a focus on serving low-income and disadvantaged communities. Additionally, all State entities are to support and recommend policies and actions to expand ZEV infrastructure at residential land uses, through the LCFS Program, and recommend how to ensure affordability and accessibility for all drivers.

Assembly Bill 1279. Governor Newsom signed AB 1279 in September 2022. It 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.

4.2.2.3 Regional Regulations

San Joaquin Valley Air Pollution Control District. Fresno is within the SJVAB, which is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (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. District 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 2019 CALGreen Code) and the 2030 GHG targets, established in SB 32.

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. 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 District is one of the first to have offsets available for trading on the GHGRx.

4.2.2.4 Local Regulations

Greenhouse Gas Reduction Plan Update. The City of Fresno adopted the first GHG Reduction Plan in December 2014 to reduce local community GHG emissions to 1990 levels by the year 2020, consistent with the State objectives set forth in AB 32. In 2020, the City updated its 2014 GHG Reduction Plan (GHG Reduction Plan Update) to conform with existing applicable State climate change policies and regulations to reduce local community GHG emissions to 40 percent below 1990 levels by the year 2030, consistent with the State objectives set by SB 32 and the 2017 Scoping Plan. The GHG Plan Update outlines strategies that the City will undertake to achieve its proportional share of GHG emission reductions. The GHG Reduction Plan Update includes a Consistency Checklist to help the City provide a streamlined review process for new development projects that are subject to discretionary review pursuant to CEQA. As discussed below, the City's GHG Reduction Plan Update meets the requirements for a Qualified Greenhouse Gas Reduction Strategy and is designed to streamline environmental review of future development projects in the City, consistent with *State CEQA Guidelines* Section 15183.5.

City of Fresno General Plan. The City of Fresno General Plan provides goals, policies, and action items that work to meet or exceed all current and future state-mandated targets for reducing emissions of GHGs. The policies and action items from the General Plan, listed in Table 4.2.D, would apply to the proposed project.

Table 4.2.D: City of Fresno General Plan Policies Related to Greenhouse Gas Emissions

Policy/Action Item No.	Policy/Action Item
Mobility and Transportation Element	
Resource Conservation and Resilience Element	
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.** 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 actions the City can take to minimize the adverse impacts of growth and development on global climate change. The Greenhouse Gas Reduction Plan shall include, but not be limited to: • A baseline inventory of all known or reasonably discoverable sources of GHGs that currently exist in the city and sources that existed in 1990. • A projected inventory of the GHGs that can reasonably be expected to be emitted from those sources in the year 2035 with implementation of this General Plan and foreseeable communitywide and municipal operations. • A target for the reduction of emissions from those identified sources. • A list of feasible GHG reduction measures to meet the reduction target, including energy conservation and "green building" requirements in municipal buildings and private development. • Periodically update municipal and community wide GHG emissions inventories to determine the efficacy of adopted measures and to guide future policy formulation needed to achieve and maintain GHG emissions reduction targets.
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 the expansion of incentive-based programs that involve certification of projects for energy and water efficiency and resiliency. These certification programs and scoring systems may include public agency "Green" and conservation criteria, Energy Star™ certification, CALGreen Tier 1 or Tier 2, Leadership in Energy Efficient Design (LEED™) certification, etc. • 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. • Incorporate the City's "Guidelines for Ponding Basin/Pond Construction and Management to Control Mosquito Breeding" as conditions of approval for any project using an on-site stormwater basin to prevent possible increases in vector-borne illnesses associated with global climate change. • Periodically evaluate the City's facility maintenance practices to determine whether there are additional opportunities to reduce GHGs through facility cleaning and painting, parks maintenance, road maintenance, and utility system maintenance. • Periodically evaluate standards and mitigation strategies for highly vehicle-dependent land uses and facilities, such as drive-through facilities and auto-oriented development

Table 4.2.D: City of Fresno General Plan Policies Related to Greenhouse Gas Emissions

Policy/Action Item No.	Policy/Action Item
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-c	**Best Practices for Conservation.** Require all City facilities and all new private development to follow United States Bureau of Reclamation Best Management Practices for water conservation, as warranted and appropriate.
Policy RC-8-a	**Existing Standards and Programs.** Existing Standards and Programs. Continue existing beneficial energy conservation programs, including adhering to the California Energy Code in new construction and major renovations.
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. • Establish recycling collection and storage area standards for commercial and industrial facilities to size the recycling areas according to the anticipated types and amounts of recyclable material generated. • Provide educational materials to residents on how and what to recycle and how to dispose of hazardous waste. • Provide recycling canisters and collection in public areas where trash cans are also provided. • Institute a program to evaluate major waste generators and identify recycling opportunities for their facilities and operations. • Continue to partner with the California Integrated Waste Management Board on waste diversion and recycling programs and the CalMax (California Materials Exchange) program. • Evaluate the feasibility of a residential, restaurant, and institutional food waste segregation and recycling program, to reduce the amount of organic material sent to landfill and minimize the emissions generated by decomposing organic material. • Evaluate the feasibility of "carbon footprinting" for the City's wastewater treatment facilities, biomass and composting operations, solid waste collection and recycling programs. • Expand yard waste collection to divert compostable waste from landfills. • Study the feasibility and cost-benefit analysis of a municipal composting program to collect and compost food and yard waste, including institutional food and yard waste, using the resulting compost matter for City park and median maintenance.

Source: City of Fresno General Plan (2014).
City = City of Fresno
GHG = greenhouse gas
SJVAPCD = San Joaquin Valley Air Pollution Control District

4.2.3 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to GHG emissions that could result from implementation of the proposed project. The section begins with the criteria of significance,

which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with implementation of the proposed project and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less-than-significant level. Cumulative impacts are also addressed.

4.2.3.1 Significance Criteria

Based on *State CEQA Guidelines* Appendix G, the proposed project would have a significant impact related to greenhouse gas emissions if it would:

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

b. 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 compared to the existing 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.

The City of Fresno adopted the GHG Reduction Plan in December 2014 to reduce local community GHG emissions to 1990 levels by the year 2020, consistent with the State objectives set forth in AB 32.

The City of Fresno updated its 2014 GHG Reduction Plan in the year 2021 to conform with existing applicable State climate change policies and regulations to reduce local community GHG emissions to 40 percent below 1990 levels by the year 2030, consistent with the State objectives set by SB 32. The City's GHG Reduction Plan Update meets the requirements for a Qualified Greenhouse Gas Reduction Strategy and is designed to streamline environmental review of future development projects in the City, consistent with *State CEQA Guidelines* Section 15183.5.

This analysis evaluates the proposed project's consistency with the City's GHG Reduction Plan Update.

4.2.3.2 Project Impacts

a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

This section discusses the proposed project's potential impacts related to the release of GHG emissions for both construction and project operation.

Construction GHG 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 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 City of Fresno does not have an adopted threshold of significance for construction related GHG emissions. However, emissions that would occur during construction were quantified and are disclosed for informational purposes. Using the California Emissions Estimator Model (CalEEMod) Version 2022.1, it is estimated that construction of the proposed project would generate 1,487.4 MT CO_2e. Table 4.2.E lists the annual GHG emissions (details are provided in the CalEEMod output in Appendix C).

Table 4.2.E: Construction GHG Emissions

Emissions Source	Greenhouse Gases (MT/yr)			
	CO_2	CH_4	N_2O	CO_2e
2024	668.8	<0.1	0.1	686.1
2025	427.3	<0.1	<0.1	432.1
2026	356.9	<0.1	<0.1	360.8
2027	7.9	<0.1	<0.1	8.0
Total Project Construction Emissions				**1,487.1**

Source: Compiled by LSA (December 2023).
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT/yr = metric tons per year
N_2O = nitrous oxide

Even though the City of Fresno does not have any adopted GHG emission thresholds, the emission results shown in Table 4.2.E would be temporary in nature and would only occur for the duration construction.

Operational GHG Emissions. Long-term GHG emissions are typically generated from mobile sources (e.g., cars), 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.

As described above, consistent with the *State CEQA Guidelines*, Section 15183.5, if a project is consistent with an adopted qualified Greenhouse Gas Reduction Strategy that meets the standards, it can be presumed that the project would not have significant GHG emission impacts.

The City of Fresno's GHG Reduction Plan was adopted in December 2014 to reduce local community GHG emissions to 1990 levels by 2020, consistent with the State objectives set forth in AB 32. The City's 2014 GHG Reduction Plan meets the requirements for a Qualified Greenhouse Gas Reduction Strategy and is designed to streamline environmental review of future development projects in the City, consistent with *State CEQA Guidelines* Section 15183.5.

The City of Fresno updated its 2014 GHG Reduction Plan in 2021 to conform with existing applicable State climate change policies and regulations to reduce local community GHG emissions to 40 percent below 1990 levels by 2030, consistent with the State objectives set by SB 32. The GHG Plan Update outlines strategies that the City will undertake to achieve its proportional share of GHG emission reductions. As required by *State CEQA Guidelines* Section 15183.5, the Program Environmental Impact Report (PEIR)[20] for the General Plan and GHG Reduction Plan Update and City Council Hearings provide the environmental review and adoption in a public process. The GHG Reduction Plan Update includes a Consistency Checklist to help the City provide a streamlined review process for new development projects that are subject to discretionary review pursuant to CEQA. This analysis evaluates the proposed project's consistency with the City's GHG Reduction Plan Update.

The GHG Reduction Plan Update requires an analysis of GHG emissions to ensure that the change in land use designation would not result in a significant increase in GHG emissions compared to the existing land use designation. The project site is currently designated Low-Density Residential in the General Plan and zoned within the Residential Single-Family District (RS-3). The proposed project would require a General Plan Amendment and Rezone to Medium-Density Residential and Residential Single-Family, Medium Density (RS-5), respectively. Based on the existing Low-Density Residential designation, the maximum buildout of the existing designation would be 109 single-family residential units. Table 4.2.F provides a comparison of the estimated CO_2e per year from the proposed project's operational activities under the maximum buildout of the existing land use designation and the proposed project, which were calculated using CalEEMod. CalEEMod output sheets are included in Appendix C.

[20] The PEIR can be found online at https://ceqanet.opr.ca.gov/2019050005/3.

Table 4.2.F: Comparison of Project and Existing Designation GHG Emissions

Emissions Source	Operational Emissions (MT/yr)	
	Existing Designation	Proposed Project
Mobile Source	868.0	2,625.5
Area Source	68.7	127.8
Energy Source	321.0	287.4
Water Source	12.4	28.6
Waste Source	30.2	27.1
Total Operational	**1,300.3**	**3,096.4**

Source: Compiled by LSA (December 2023)
GHG = greenhouse gas
MT/yr = metric tons per year

As shown in Table 4.2.F, the estimated annual GHG emissions associated with the maximum buildout of the existing designation are 1,300.3 MT CO_2e and the proposed project's estimated annual GHG emissions are 3,096.4 MT CO_2e. GHG emissions associated with proposed project would be greater than the estimated emissions associated with maximum buildout of the existing designation due to the increase in density and residential units.

In addition, as stated above, the GHG Reduction Plan Update includes a Consistency Checklist to help the City provide a streamlined review process for new development projects that are subject to discretionary review pursuant to CEQA. The project's Consistency Checklist is included in Appendix E. As shown in the Consistency Checklist and as described further in Section 4.3, Transportation, Impact TRA-2, the proposed project would have a significant and unavoidable impact related to vehicle miles traveled (VMT) as the proposed project would result in 15.3 VMT per capita, 9.1 percent higher than the City's 14.0 VMT per capita threshold. The proposed project would be consistent with the other applicable GHG Reduction Plan Update strategies; however, since annual GHG emissions associated with the proposed project would be higher than the estimated emissions associated with maximum buildout of the existing designation and because the proposed project would not be consistent with all applicable strategies, the proposed project would conflict with the GHG Reduction Plan Update.

Impact GHG-1 The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. (SU)

As identified in Section 4.3, Transportation, Impact TRA-2, the project intends to implement project design features that would help reduce project VMT. VMT reduction that can be achieved by the project design features were evaluated using City's Urban Form VMT Calculator and CAPCOA's *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity – Designed for Local Governments, Communities, and Project Developers.*[21] The proposed project would implement the following project design features: T-17: Improve Street Connectivity; T-18: Provide Pedestrian Network Improvement; T-19A: Construct or

[21] California Air Pollution Control Officers Association (CAPCOA). 2021. *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity – Designed for Local Governments, Communities, and Project Developers*. December.

Improve Bike Facility; and T-40: Implement School Bus Program and would provide EV parking and EV infrastructure (as required by Mitigation Measure TRA-2). As described in Section 4.3, Transportation, based on the CAPCOA handbook, implementation of Mitigation Measure TRA-2, which consists of implementation of CAPCOA design features, would reduce the proposed project's VMT by 1.69 percent and help offset some of the project's VMT impacts but would not reach the required threshold of 14.0 VMT per capita and thus would not reduce the impact to a less than significant level. Therefore, the proposed project would have the potential to generate significant GHG emissions that would have a significant effect on the environment and this impact would be significant and unavoidable.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measure TRA-2.

Level of Significance With Mitigation: Significant and Unavoidable.

b. Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

As discussed above, the SJVAPCD has adopted a CCAP, which includes suggested 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 2019 CALGreen Code) and the 2030 GHG targets, established in SB 32. As discussed above, the proposed project is consistent with the City's GHG Reduction Plan Update

In addition, the proposed project was analyzed for consistency with the goals of EO B-30-15, SB 32, AB 197, and the 2022 Scoping Plan.

EO B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. 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. CARB released the 2017 Scoping Plan to reflect the 2030 target set by EO B-30-15 and codified by SB 32. SB 32 keeps the State on the path toward achieving the 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.

The 2022 Scoping Plan[22] 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 climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

[22] California Air Resources Board. 2022. *2022 Scoping Plan Update*. December. Website: https://ww2.arb.ca.gov/sites/default/files/ 2022-12/2022-sp.pdf (accessed April 2023).

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 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. 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. In addition, the proposed project would be all-electric. The elimination of natural gas in new development would help projects implement their "fair share" of achieving long-term 2045 carbon neutrality consistent with State goals. As such, if a project does not use natural gas, a lead agency can conclude that it would be consistent with achieving the 2045 neutrality goal.[23] In addition, the proposed project would also incorporate the following energy reduction strategies: third party independent inspections would be conducted to assure energy efficiency compliance; heating, ventilation, and air conditioning equipment would be rated 14 seasonal energy efficiency ratio, 12 energy efficiency ratio and 92 percent ultra efficient; solar panels would be provided ranging from 3.71 kW to 3.98 kW; and windows would be argon-filled vinyl low-e, double strength glass to reduce energy and increase ultraviolet blockage. 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. As noted above, the proposed project would be required to comply with the latest Title 24 standards of the CCR, which includes a variety of different measures, including reduction of wastewater and water use. In addition, the proposed project would be designed to include the following water and wastewater conservation measures: install all lead-free plumbing fixtures including water-saving shower heads rated 1.75 gallons per minute (gpm) and sink faucets rated to 1.5 gpm, install water conservation toilets with a flush rate of 1.228 gpm, install water-wise landscaping and drought tolerant native California and/or Mediterranean plant species, and install Intellisense Environmental sensitive landscape controllers. Therefore, the proposed project would not conflict with any of the water conservation and efficiency measures.

[23] Bay Area Air Quality Management District. 2022. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans.* April.

In addition, as discussed above, the proposed project was evaluated pursuant to the project review process of the City's GHG Reduction Plan Update. The City's GHG Reduction Plan Update was prepared to conform with existing applicable State climate change policies and regulations to reduce local community GHG emissions to 40 percent below 1990 levels by the year 2030, consistent with the State objectives set by SB 32 and the 2017 Scoping Plan. The GHG Reduction Plan Update includes a Consistency Checklist to help the City provide a streamlined review process for new development projects that are subject to discretionary review pursuant to CEQA. As shown in the Consistency Checklist, the proposed project would result in a significant and unavoidable impact related to VMT. As discussed above and in Section 4.3, Transportation, under Impact TRA-2, implementation of Mitigation Measure TRA-2, which consists of implementation of all applicable and feasible CAPCOA design features, would reduce the proposed project's VMT and contribute to a reduction in some of the VMT impacts of the project. However, it cannot be demonstrated that the project would reach the threshold of 14.0 VMT per capita that would be required to reduce the impact to a less than significant level. Therefore, the proposed project would not be consistent with all applicable strategies, and the proposed project would be inconsistent with the GHG Reduction Plan Update. Therefore, the proposed project would have the potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. This impact would be considered significant and unavoidable.

Impact GHG-2 The project would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measure TRA-2.

Level of Significance With Mitigation: Significant and Unavoidable.

4.2.3.3 Cumulative Impacts

GHG impacts are by their nature cumulative impacts. Localized impacts of climate change are the result of the cumulative impact of global emissions. The combined benefits of reductions achieved by all levels of government help to slow or reverse the growth in GHG emissions. In the absence of comprehensive international agreements on appropriate levels of reductions achieved by each country, another measure of cumulative contribution is required. This serves to define the State's share of the reductions regardless of the activities or lack of activities of other areas of the United States or the world. Therefore, a cumulative threshold based on consistency with State targets and actions to reduce GHGs is an appropriate standard of comparison for significance determinations.

AB 32 required the CARB to reduce Statewide GHG emissions to 1990 level by 2020. As part of this legislation, the CARB was required to prepare a "Scoping Plan" that demonstrates how the State will achieve this goal. The Scoping Plan was first adopted in 2011, and in it, local governments were described as "essential partners" in meeting the Statewide goal, recommending a GHG reduction level of 15 percent below 2005 to 2008 levels by 2020. The second update to the Scoping Plan, the 2017 Scoping Plan, was released by CARB to reflect the 2030 GHG emissions reductions target of at least 40 percent below 1990 levels by 2030. The 2022 Scoping Plan will assess progress towards achieving the SB 32 2030 target and lay out a path to achieve carbon neutrality no later than 2045.

As discussed above, the City of Fresno adopted the first GHG Reduction Plan in December 2014 to reduce local community GHG emissions to 1990 levels by the year 2020, consistent with the State objectives set forth in AB 32. In 2020, the City updated its 2014 GHG Reduction Plan (GHG Reduction Plan Update) to conform with existing applicable State climate change policies and regulations to reduce local community GHG emissions to 40 percent below 1990 levels by the year 2030, consistent with the State objectives set by SB 32 and the 2017 Scoping Plan. The GHG Plan Update outlines strategies that the City will undertake to achieve its proportional share of GHG emission reductions. The GHG Reduction Plan Update includes a Consistency Checklist to help the City provide a streamlined review process for new development projects that are subject to discretionary review pursuant to CEQA. As discussed above, the proposed project would result in a significant and unavoidable impact related to VMT. Although implementation of Mitigation Measure TRA-2, as described in Section 4.3, Transportation under Impact TRA-2, would offset some of the project's VMT impacts, it would not reduce VMT below the required threshold of 14.0 VMT per capita and thus would not reduce the impact to a less than significant level. Therefore, the proposed project would not be consistent with all applicable strategies, the proposed project would conflict with the GHG Reduction Plan Update. Therefore, the proposed project's incremental contribution to cumulative GHG emissions would not be cumulatively considerable. As such, cumulative impacts would be considered significant and unavoidable.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measures: Refer to Mitigation Measure TRA-2.

Level of Significance With Mitigation: Significant and Unavoidable.

This page intentionally left blank

4.3 TRANSPORTATION

This section describes the existing transportation network of the project site and evaluates the potential impacts associated with the proposed project, both at the individual and cumulative levels. The analysis in this section is based in part on the City of Fresno's (City's) General Plan, and on the Traffic Impact Study (TIS)[1] prepared by LSA included in Appendix D of this Environmental Impact Report (EIR)

4.3.1 Environmental Setting

4.3.1.1 Roadway Network

Within Fresno, all major roadways are classified based on the Major Street Circulation Diagram provided in the Mobility and Transportation Element of the City of Fresno General Plan. The following briefly describes major roadways within the study area for the proposed project.

- **Fowler Avenue:** Within the study area, Fowler Avenue is designated as an Arterial in the City's General Plan. Between McKinley Avenue and Olive Avenue, Fowler Avenue is a two-lane, undivided Arterial with a posted speed limit of 50 miles per hour (mph). There are no bicycle facilities or provision for on-street parking along either direction of this segment. Between Olive Avenue and Belmont Avenue, Fowler Avenue is mostly a four-lane, divided Arterial with a raised median and a posted speed limit of 45 mph. There are bicycle lanes along both directions of this segment. However, there is no provision for on-street parking along either direction of this roadway within the study area.

- **Armstrong Avenue:** Within the study area, Armstrong Avenue is designated as a Collector in the City's General Plan. Between Yale Avenue and Floradora Avenue, Armstrong Avenue is a two-lane, undivided Collector with a posted speed limit of 45 mph. There are no bike facilities nor provision for on-street parking along either direction of this segment. Between Floradora Avenue and Olive Avenue, Armstrong Avenue is a two-lane, divided Collector with a painted median and a posted speed limit of 45 mph. There is a bicycle lane along the southbound direction of this segment. There is no provision for on-street parking along either direction of this roadway within the study area.

- **Temperance Avenue:** Within the study area, Temperance Avenue is designated as a Super Arterial in the City's General Plan. Between McKinley Avenue and Floradora Avenue, Temperance Avenue is a two-lane, undivided Super Arterial with a posted speed limit of 45 mph. There are no bicycle facilities or provision for on-street parking along either direction of this roadway within the study area.

- **McKinley Avenue:** Within the study area, McKinley Avenue is designated as a Collector in the City's General Plan. Per discussion with City staff, McKinley Avenue will be constructed as a two-lane, undivided Collector between Fowler Avenue and Temperance Avenue. As previously mentioned, McKinley Avenue does not currently exist between Fowler Avenue and Temperance

[1] LSA Associates, Inc. 2023. *Traffic Impact Study Tract Map 6360 Project, City of Fresno, Fresno County, California*. June.

Avenue. The segment of McKinley Avenue between Fowler Avenue and Temperance Avenue is planned to be constructed prior to the completion of the project. Additionally, per the City's General Plan, McKinley Avenue is planned to be extended west of Fowler Avenue to connect to Sunnyside Avenue. Therefore, for the purposes of this analysis, this extension has been considered under cumulative year conditions.

- **Floradora Avenue:** Within the study area, Floradora Avenue is a local street and has no designation in the City's General Plan. Between Fowler Avenue and Temperance Avenue, Floradora Avenue is a two-lane, undivided road. There are no bicycle facilities or provision for on-street parking along either direction of this roadway within the study area.

- **Olive Avenue:** Within the study area, Olive Avenue is designated as a Collector in the City's General Plan. Between Fowler Avenue and Armstrong Avenue, Olive Avenue is mostly a two-lane, divided Collector with a painted median and posted speed limit of 45 mph. There is a bicycle lane on the westbound direction on this segment between the Southeast Surface Water Treatment Plant driveway and Armstrong Avenue. There is no provision for on-street parking on either direction of this roadway within the study area.

4.3.1.2 Bicycle Facilities

According to the City of Fresno Active Transportation Plan (ATP), the bikeway network within Fresno is classified into four categories:

- **Class I – Bike Paths:** Class I bikeways provide bicycle travel on a paved right-of-way completely separated from any street or highway.

- **Class II – Bike Lanes:** Class II bikeways provide a striped and stenciled lane for one-way travel on a street or highway.

- **Class III – Bike Routes:** Class III bikeways provide for shared use with motor vehicle traffic and are identified only by signing.

- **Class IV – Separated Bikeways:** Class IV bikeways are physically separated bikeway facilities distinct from the sidewalks and designated for exclusive use of the bikers.

Currently, Class II bikeways exist on parts of Fowler Avenue, Armstrong Avenue, and Olive Avenue within the study area. Proposed Class I bikeways are planned to be added along McKinley Avenue within the study area. Proposed Class II bikeways are planned to be added along Fowler Avenue, Armstrong Avenue, Temperance Avenue, and Olive Avenue within the study area.

4.3.1.3 Pedestrian Facilities

The implementation of enhanced pedestrian linkage with a comprehensive trails system links residential areas, schools, parks, and commercial centers so that residents can travel within the community without driving. Safe and attractive sidewalks and walkways improve the walkability of the city. Sidewalks are generally provided on both sides of the streets throughout Fresno. Additionally, cyclists and pedestrians in Fresno frequently use standard paved trails and

non-standard unpaved trails. The existence of trails and sidewalks provides accessible facilities, provides safety features and improves walkability in the city.

Paved sidewalks are present on the southbound direction of Fowler Avenue south of Olive Avenue, on both sides of Armstrong Avenue south of Floradora Avenue, intermittently on the eastbound direction of Floradora Avenue, and intermittently on the westbound direction of Olive Avenue within the study area. Proposed paved sidewalks are planned to be added to the remainder of Fowler Avenue, Armstrong Avenue, Temperance Avenue, and Olive Avenue within the study area. Additionally, the project will construct paved sidewalks along the project site frontage on Armstrong Avenue and McKinley Avenue.

According to the City's General Plan, the Old Town Clovis Trail currently runs alongside the Mill Ditch Canal directly adjacent to the project site. The McKinley Avenue extension between Armstrong Avenue and Temperance Avenue is planned to intersect with the Mill Ditch Canal and the Old Town Clovis Trail. The roadway extension is planned to be built over the canal and trail via an overpassing bridge. Therefore, the trail may still be used by pedestrians and bicyclists after the completion of the McKinley Avenue extension.

4.3.1.4 Transit Facilities

Fresno Area Express (FAX) is the Transportation Service Agency within Fresno and is responsible for coordinating transit services within its service area. FAX provides services via Route 1/Q (Bus Rapid Transit) as well as 17 other routes throughout Fresno and four routes for Clovis Transit. There are currently no transit routes present within the study area.

4.3.2 Regulatory Setting

The following federal, State, regional, and local transportation plans, policies, and regulations guide transportation planning in Fresno.

4.3.2.1 Federal Regulations

Federal Highway Administration. The Federal Highway Administration (FHWA) is a major agency of the United States Department of Transportation. In partnership with State and local agencies, the FHWA carries out federal highway programs to meet the nation's transportation needs. The FHWA administers and oversees federal highway programs to ensure that federal funds are used efficiently.

Americans with Disabilities Act of 1990. Titles I, II, III, IV, and V of the Americans with Disabilities Act (ADA) have been codified in Title 42 of the United States Code (USC), beginning at Section 12101. Title III prohibits discrimination on the basis of disability in "places of public accommodation" (businesses and nonprofit agencies that serve the public) and "commercial facilities" (other businesses). The regulation includes Standards for Accessible Design, which establish minimum standards for ensuring accessibility when designing and constructing a new facility or altering an existing facility.

Federal Transit Administration. The Federal Transit Administration (FTA) is an authority that provides financial and technical assistance to local public transit systems, including buses, subways,

light rail, commuter rail, trolleys, and ferries. The FTA is funded by USC Title 49, which states the FTA's interest in fostering the development and revitalization of public transportation systems. The FTA invests approximately $12 billion annually to support and expand public transit.

4.3.2.2 State Regulations

Assembly Bill 32 (Global Warming Act of 2006) and Senate Bill 375. Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, requires California to reduce its greenhouse gas (GHG) emissions to levels presented in the year 1990 by 2020. In response, the California Air Resources Board (CARB) is responsible for creating guidelines for the Global Warming Act. In 2008, CARB adopted its proposed Scoping Plan, which included the approval of Senate Bill (SB) 375 as a means of achieving regional transportation-related GHG targets. SB 375 provides guidance on how curbing emissions from cars and light trucks helps the State comply with AB 32.

Established through CARB, SB 375 lists four major components and requirements: (1) it requires regional GHG emissions targets; (2) it requires creating a Sustainable Communities Strategy (SCS) that provides a plan for meeting the regional targets; (3) it requires that regional housing elements and transportation plans be synchronized on 8-year schedules; and (4) it requires transportation and air pollutant emissions modeling techniques consistent with guidelines prepared by the California Transportation Commission.

Assembly Bill 1358 (Complete Streets). The California Complete Streets Act requires general plans updated after January 30, 2011, to include Complete Streets policies so that roadways are designed to safely accommodate all users, including bicyclists, pedestrians, transit riders, children, the elderly, and persons with disabilities, as well as motorists. The goal of the Complete Streets Act is to encourage cities to rethink policies that emphasize automobile circulation and prioritize motor vehicle improvements and produce creative solutions that emphasize all modes of transportation. Complete Streets roadways allow for more transportation options, more non-single-occupancy vehicles, and less traffic congestion. Additionally, increased transit ridership, walking, and biking can reduce air pollution while improving the overall travel experience for road users.

While there is no standard for a Complete Streets design, it generally includes one or more of the following features: bicycle lanes, wide shoulders, well-designed and well-placed crosswalks, crossing islands in appropriate mid-block locations, bus pullouts or special bus lanes, audible and accessible pedestrian signals, sidewalk bulb-outs, center medians, street trees, planter strips, and groundcover.

Senate Bill 743. On September 27, 2013, Governor Jerry Brown signed SB 743 into law and codified a process that changed transportation impact analysis as part of compliance with the California Environmental Quality Act (CEQA). SB 743 directs the California Office of Planning and Research (OPR) to administer new CEQA guidance for jurisdictions that removes automobile vehicle delay and level of service (LOS) or other similar measures of vehicular capacity or traffic congestions from CEQA transportation analysis. Rather, it requires the analysis of vehicle miles traveled (VMT) or other measures that "promote the reduction of greenhouse gas emissions, the development of multi-modal transportation networks, and a diversity of land uses," to be used as a basis for determining significant impacts to circulation in California. The goal of SB 743 is to appropriately balance the

needs of congestion management with statewide goals related to reducing GHG emissions, encourage infill development, and promote public health through active transportation.

Guide for the Preparation of Traffic Impact Studies. The California Department of Transportation (Caltrans) "Guide for the Preparation of Traffic Impact Studies"[2] provides general guidance regarding the preparation of traffic impact studies for projects that may have an impact on the State Highway System. The guidance includes when a traffic study should be prepared and the methodology to use when evaluating operating conditions on the State highway system. The "Guide for the Preparation of Traffic Impact Studies" states "Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on state highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS." In accordance with this recommendation, consultation with Caltrans staff indicated that Caltrans would be willing to consider LOS D at the LOS D/E threshold when improvements become infeasible for State facilities. The Guide for the Preparation of Traffic Impact Studies also states that where "an existing State highway facility is operating at less than the appropriate target LOS, the existing [measure of effectiveness (MOE)] should be maintained."

4.3.2.3 Regional Regulations

Fresno County Council of Governments. The Fresno Council of Governments (COG) is a voluntary association of local governments and a regional planning agency composed of 16 member jurisdictions, including the City of Fresno. The members are represented by a Policy Board consisting of mayors of each incorporated city, and the Chairman of the County Board of Supervisors, or their designated elected official. The Policy Advisory Committee, composed of the Chief Administrative Officer of each member agency, assists the Board in its decision-making process. Others involved in the decision process include expert staff from member agencies, citizen and interest groups, and other stakeholders. The Fresno COG's purpose is to establish a consensus on the needs of the Fresno County area and further action plans for issues related to the Fresno County region. The current regional transportation plan, known as the Fresno County Regional Transportation Plan (RTP) (2042), was adopted in 2018. The RTP addresses GHG emissions reductions and other air emissions related to transportation, with the goal of preparing for future growth in a sustainable way. The plan specifies how funding will be sourced and financed for the region's planned transportation investments, ongoing operations, and maintenance. The goals, objectives, and policies of the RTP are established to direct the courses of action that will provide efficient, integrated multi-modal transportation systems to serve the mobility needs of people, including accessible pedestrian and bicycle facilities, and freight, while fostering economic prosperity and development, and minimizing mobile sources of air pollution. They are organized into six broad transportation mode-based categories: (1) general transportation; (2) highways, streets, and roads; (3) mass transportation; (4) aviation; (5) active transportation; and (6) rail.

4.3.2.4 Local Regulations

City of Fresno CEQA Guidelines for Vehicle Miles Traveled Thresholds. In June 2020, the City adopted VMT thresholds and guidelines to address VMT to be effective on July 1, 2021, as required

[2] California Department of Transportation (Caltrans). 2002. Guide for the Preparation of Traffic Impact Studies. December.

by SB 743. The City's document serves as a detailed guideline for preparing VMT analyses consistent with SB 743 requirements for development projects, transportation projects, and plans. Project applicants are required to follow the guidance provided in the City's document for preparation of CEQA VMT analysis. The document includes:

- Definition of region for VMT analysis
- Standardized screening methods for VMT threshold compliance data
- Recommendations for appropriate VMT significance thresholds for development projects, transportation projects, and plans
- Feasible mitigation strategies applicable for development projects, transportation projects, and plans

City of Fresno Traffic Impact Study Report Guidelines. The City of Fresno adopted Traffic Impact Study Report Guidelines in October 2006, which were updated in February 2009. The Traffic Impact Study Report Guidelines establish general procedures and requirements for the preparation of traffic impact studies associated with development within Fresno. The guidelines are intended as a checklist for study preparers to be sure they have not missed any regular study items.

City of Fresno Active Transportation Plan. The City's ATP, adopted in March 2017, provides a comprehensive guide outlining the vision for active transportation in Fresno. The ATP supersedes the Bicycle, Pedestrian, and Trails Master Plan adopted in 2010. The ATP envisions a complete, safe, and comfortable network of trails, sidewalks, and bikeways that serves all residents of Fresno. This plan lays out specific goals to improve bicycle and pedestrian access and connectivity in Fresno. These goals include:

- Equitably improve the safety and perceived safety of walking and bicycling in Fresno;
- Increase walking and bicycling trips in Fresno by creating user-friendly facilities;
- Improve the geographical equity of access to walking and bicycling facilities in Fresno; and
- Fill key gaps in Fresno's walking and bicycling networks.

City of Fresno General Plan. City of Fresno's General Plan Mobility and Transportation Element includes objectives and policies that work to create and maintain a transportation system that is safe, efficient, provides access in an equitable manner, and optimizes travel by all modes. Table 4.3.A lists the General Plan policies and actions related to transportation applicable to the proposed project.

Table 4.3.A: City of Fresno General Plan Policies Related to Transportation

Policy/Action Item Number	Policy/Action Item
	Mobility and Transportation Element
Policy MT-1-d	**Integrate Land Use and Transportation Planning.** Plan for and maintain a coordinated and well integrated land use pattern, local circulation network and transportation system that accommodates planned growth, reduces impacts on adjacent land uses, and preserves the integrity of established neighborhoods.
Policy MT-1-e	**Ensure Interconnectivity Across Land Uses.** Update development standards and design guidelines applicable to public and private property to achieve Activity Centers, neighborhoods and communities which are well connected by pedestrian, bicycle, appropriate public transportation and automobile travel facilities.
Policy MT-1-i	**Local Street Standards.** Establish and implement local roadway standards addressing characteristics such as alignment, width, continuity and traffic calming, to provide efficient neighborhood circulation; to allow convenient access by residents, visitors, and public service and safety providers; and to promote neighborhood integrity and desired quality of life by limiting intrusive pass-through traffic.
Policy MT-2-g	**Transportation Demand Management and Transportation System Management.** Pursue implementation of Transportation Demand Management and Transportation System Management strategies to reduce peak hour vehicle traffic and supplement the capacity of the transportation system.

Policy MT-2-i:	**Transportation Impact Studies.** Require a Transportation Impact Study (currently named Traffic Impact Study) to assess the impacts of new development projects on existing and planned streets for projects meeting one or more of the following criteria, unless it is determined by the City Traffic Engineer that the project site and surrounding area already has appropriate multi-modal infrastructure improvements.
	• When a project includes a General Plan amendment that changes the General Plan Land Use Designation.
	• When the project will substantially change the off-site transportation system (auto, transit, bike or pedestrian) or connection to the system, as determined by the City Traffic Engineer.
	• Transportation impact criteria are tiered based on a project's location within the City's Sphere of Influence. This is to assist with areas being incentivized for development. The four zones, as defined on Figure MT-4, are listed below. The following criteria apply:
	  ○ Traffic Impact Zone I (TIZ-I): TIZ-I represents the Downtown Planning Area. Maintain a peak hour LOS standard of F or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.
	  ○ Traffic Impact Zone II (TIZ-II): TIZ-II generally represents areas of the City currently built up and wanting to encourage infill development. Maintain a peak hour LOS standard of E or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.
	  ○ Traffic Impact Zone III (TIZ-III): TIZ-III generally represents areas near or outside the City Limits but within the SOI as of December 31, 2012. Maintain a peak hour LOS standard of D or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 100 or more peak hour new vehicle trips.
	  ○ Traffic Impact Zone IV (TIZ-IV): TIZ-IV represents the southern employment areas within and planned by the City. Maintain a peak hour LOS standard of E or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.

Table 4.3.A: City of Fresno General Plan Policies Related to Transportation

Policy/Action Item Number	Policy/Action Item
Policy MT-2-m	**Use VMT analysis for CEQA.** Use Vehicle Miles Traveled (VMT) as the criteria for evaluating transportation impacts under the California Environmental Quality Act (CEQA), pursuant to Senate Bill 743. Level of Service (LOS) may still be used for planning purposes and implementation of Capital Improvement Projects; however, VMT shall be used for determining mitigation under CEQA beginning in July of 2020.
Policy MT-5-d	**Pedestrian Safety.** Minimize vehicular and pedestrian conflicts on both major and non-roadways through implementation of traffic access design and control standards addressing street intersections, median island openings and access driveways to facilitate accessibility while reducing congestion and increasing safety. Increase safety and accessibility for pedestrians with vision disabilities through the installation of Accessible Pedestrian Signals at signalized intersections.
Policy MT-8-c	**New Development Facilitating Transit.** Continue to review development proposals in transportation corridors to ensure they are designed to facilitate transit. Coordinate all projects that have residential or employment densities suitable for transit services, so they are located along existing or planned transit corridors or that otherwise have the potential for transit orientation to FAX, and consider FAX's comments in decision-making.
Policy MT-8-d	**Coordination of Transportation Modes.** Plan, design, and implement transportation system improvements promoting coordination and continuity of transportation modes and facilities, such as shared parking or park and ride facilities at Activity Centers.

Source: City of Fresno General Plan (City of Fresno 2014).
FAX = Fresno Area Express
TIS = Traffic Impact Study

4.3.3 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to transportation that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with implementation of the proposed project and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less than significant level. Cumulative impacts are also addressed.

4.3.3.1 Significance Criteria

Based on *State CEQA Guidelines* Appendix G, the proposed project would have a significant impact related to transportation if it would:

a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;

b. Conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b);

c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or

d. Result in inadequate emergency access.

4.3.3.2 Project Impacts

The following discussion describes the potential impacts related to transportation and traffic that could result from implementation of the proposed project.

a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The proposed project would consist of the development of 326 residential lots into single-family residences ranging in size between 1,979 square feet and 8,474 square feet. Thirty-nine outlot spaces for private landscaping, private pool, private road, private park, private parking, public pedestrian, and public utility uses would also be included in the proposed project.

Although LOS analysis is no longer a criterion of significance for traffic impacts under CEQA, the City of Fresno General Plan includes policies that use LOS to determine project conditions of approval. As such, this analysis includes LOS impacts, whereas VMT impacts are discussed in Response b) below.

Based on the City of Fresno General Plan Circulation Element, the City uses Traffic Impact Zone (TIZ) boundaries within Fresno to identify acceptable LOS for each TIZ. All roadway segments and intersections in the study area are within TIZ III, which has an LOS standard of D. Therefore, LOS D was considered as the minimum LOS criterion for all intersections and roadway segments. As such, an operational deficiency at intersections and roadway segments occurs when the project causes an unsatisfactory condition (deterioration from LOS A through D to LOS E or F) or when the project contributes to an existing or forecasted deficiency. The project needs to identify improvements to improve the intersection LOS to an acceptable level.

The County of Fresno (County) has an LOS standard of D on urban roadways within the spheres of influence of the cities of Fresno and Clovis. The LOS standard on all other roadways in the County is LOS C. The County considers that operational deficiencies at both signalized and unsignalized intersections occur when the project causes an unsatisfactory condition (deterioration from LOS A through D to LOS E or F on urban areas; deterioration from LOS A through C to LOS D, E or F in County areas) or when the project causes the average delay to increase by more than 5.0 seconds at an intersection that is operating at an unacceptable LOS. The County considers operational deficiencies at roadway segments to occur when the project causes an unsatisfactory condition (deterioration from LOS A through D to LOS E or F on urban roadways; deterioration from LOS A through C to LOS D, E or F in County roadways) or when the project causes the volume-to-capacity (v/c) ratio (on a directional peak-hour basis) to increase by more than 0.05 on a roadway that is already operating at an unacceptable LOS.

For intersections under the jurisdiction of Caltrans, Caltrans considers an acceptable LOS to be between LOS C and D at all intersections (delay of 45 seconds at signalized intersections and delay of 30 seconds at unsignalized intersections).

Caltrans does not have any operational deficiency criteria for study intersections. Therefore, an operational deficiency occurs when the project causes an unsatisfactory condition (deterioration from LOS A through D to LOS E or F) for intersections or when the project contributes to an existing or forecasted deficiency. The project needs to identify improvements to improve the intersection LOS to an acceptable level.

The TIS examined traffic operations in the vicinity of the proposed project under the following five scenarios:

- Existing Conditions
- Existing Plus Project Conditions
- Near-Term Plus Project Conditions
- Cumulative Year (2046) No Project Conditions
- Cumulative Year (2046) Plus Project Conditions

Traffic conditions were examined for the weekday a.m. and p.m. peak-hour conditions. The a.m. peak hour is defined as the 1 hour of highest traffic volumes occurring between 7:00 a.m. and 9:00 a.m. The p.m. peak hour is the 1 hour of highest traffic volumes occurring between 4:00 p.m. and 6:00 p.m. For each roadway segment, the highest volume on any part of the segment was considered as the analysis volume for the entire segment. The study area for the TIS included the following study intersections and roadway segments.

- **Intersections:**
  - Fowler Avenue/McKinley Avenue (City of Fresno/Fresno County – future intersection)
  - Fowler Avenue/Floradora Avenue (County of Fresno)
  - Fowler Avenue/Olive Avenue (County of Fresno)
  - Fowler Avenue/State Route 180 (SR-180) Westbound Ramps (Caltrans)
  - Fowler Avenue/SR-180 Eastbound Ramps (Caltrans)
  - Fowler Avenue/Belmont Avenue (City of Fresno/County of Fresno)
  - Armstrong Avenue/McKinley Avenue (City of Fresno/County of Fresno– future intersection)
  - Armstrong Avenue/Floradora Avenue (City of Fresno/County of Fresno)
  - Armstrong Avenue/Olive Avenue (City of Fresno/County of Fresno)
  - Temperance Avenue/McKinley Avenue (City of Fresno/County of Fresno)
  - Temperance Avenue/Floradora Avenue (County of Fresno)
  - Armstrong Avenue/Project Driveway 1 (City of Fresno)
  - Project Driveway 2/McKinley Avenue (City of Fresno)

- **Roadway Segments:**
  - Fowler Avenue, between McKinley Avenue and Floradora Avenue (County of Fresno)
  - Fowler Avenue, between Floradora Avenue and Olive Avenue (County of Fresno)
  - Fowler Avenue, between Olive Avenue and SR-180 Westbound Ramps (County of Fresno)
  - Fowler Avenue, between SR-180 Eastbound Ramps and Belmont Avenue (County of Fresno)
  - Armstrong Avenue, between Project Driveway 1 and McKinley Avenue (City of Fresno)

- Armstrong Avenue, between McKinley Avenue and Floradora Avenue (City of Fresno/County of Fresno)
- Armstrong Avenue, between Floradora and Olive Avenue (City of Fresno)
- Temperance Avenue, between McKinley Avenue and Floradora Avenue (County of Fresno)
- McKinley Avenue, between Fowler Avenue and Armstrong Avenue (City of Fresno/County of Fresno– future segment)
- McKinley Avenue, between Armstrong Avenue and Project Driveway 2 (City of Fresno – future segment)
- McKinley Avenue, between Project Driveway 2 and Temperance Avenue (City of Fresno/County of Fresno– future segment)
- Floradora Avenue, between Fowler Avenue and Armstrong Avenue (City of Fresno/County of Fresno)
- Olive Avenue, between Fowler Avenue and Armstrong Avenue (City of Fresno/Fresno County)

Project Trip Generation. To assess potential impacts that the project may have on the surrounding roadway network, the first step was to determine project trip generation. Project trip generation is identified in Table 4.3.B, and was developed using a select zone model run obtained from the Fresno COG Activity-Based Model (ABM), included as Appendix A of the TIS, and using rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition) for Land Use 210 – "Single-Family Detached Housing".

Table 4.3.B: Project Trip Generation

Land Use	DU	AM Peak Hour			PM Peak Hour			Daily Trips
Single-Family Detached Housing	326	In	Out	Total	In	Out	Total	
Trips/DU[1]		0.18	0.52	0.70	0.59	0.35	0.94	9.43
Trip Generation		59	170	229	192	114	306	3,074

Source: *Traffic Impact Study Tract Map 6360 Project* (LSA Associates, Inc. 2023).
[1] Rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition), Land Use 210 - "Single-Family Detached Housing", Setting/Location - "General Urban/Suburban."
DU = dwelling units

Intersection Capacity Analysis. For all study area intersections, the Highway Capacity Manual, 6th Edition (HCM 6) analysis methodologies were used to determine intersection LOS. Intersection LOS was calculated using Synchro 11 software, which uses the HCM 6 methodologies. LOS can be determined for both signalized and unsignalized intersections.

Based on the results of the LOS analysis, an operational deficiency currently exists at intersections of Fowler Avenue/Olive Avenue during AM and PM peak hours; Fowler Avenue/SR-180 Eastbound Ramps during p.m. peak hours; and at Temperance Avenue/McKinley Avenue during a.m. and p.m. peak hours. Under existing plus project conditions all intersections listed under existing conditions would continue operating at a deficient LOS at the same peak traffic periods.

Under near-term plus project conditions all intersections listed under existing and existing plus project conditions would continue operating at a deficient LOS at the same peak traffic periods. Additionally, operational deficiencies would occur at Fowler Avenue/McKinley Avenue during a.m.

and p.m. peak hours; Fowler Avenue/Floradora Avenue during a.m. and p.m. peak hours, Armstrong Avenue/McKinley Avenue during a.m. and p.m. peak hours; Armstrong Avenue/Floradora Avenue during AM peak hours; Armstrong Avenue/Olive Avenue during AM and PM peak hours; and Temperance Avenue/Floradora Avenue during AM peak hours.

Under cumulative year (2046) no project conditions, all intersections listed under near-term plus project conditions would continue operating at a deficient LOS at the same peak traffic periods, with the exception of the intersection of Temperance Avenue/Floradora Avenue, which would operate at a deficient LOS during both the a.m. and the p.m. peak hours.

Under cumulative year (2046) plus project conditions, all intersections listed under cumulative year (2046) no project conditions would continue operating at a deficient LOS at the same peak traffic periods, with the exception of the intersection of Armstrong Avenue/Floradora Avenue, which would operate at a deficient LOS during both the a.m. and the p.m. peak hours.

Table 4.3.C shows the recommended improvements for intersections under existing plus project, near-term plus project and Cumulative year (2046) plus project scenarios. A signal warrant analysis conducted at all unsignalized intersections determined that the following intersections do not meet signal warrants, and signalization is warranted under the following scenarios: Fowler Avenue/ Floradora Avenue under the Existing scenario; Armstrong Avenue/Floradora Avenue under the Existing, Near-term and Cumulative Year (2046) scenarios; and Temperance Avenue/Floradora Avenue under the Existing, Near-term and Cumulative Year (2046) scenarios. The City of Fresno Traffic Signal Mitigation Impact (TSMI) fees are charged to all new developments throughout the city to mitigate the traffic operational deficiencies through the funding of traffic signal improvements to serve new developments. Based on the City of Fresno *City-Wide Traffic Signal Mitigation Impact Fee nexus Analysis for Proposed Fee Update* (June 2022), several of the recommended signals for intersections analyzed in the signal warrant analysis are included in the Traffic Signal Capital Improvements, where TSMI funds are expected to cover the entire funding. Therefore, since these improvements are covered under the TSMI fee program, the project will pay into the fee program for these improvements. In addition, the proposed project would be required to pay into the Fresno COG Federal Transportation Improvement Program (FTIP), which covers projects under the State Transportation Improvement Program and other programs within the Fresno County region. Projects listed include “all transportation-related projects requiring federal funding or other approval by the federal transportation agencies” and “are consistent with the Fresno COG’s RTP and are part of the area’s overall strategy for providing mobility, congestion relief and reduction of transportation-related air pollution.” It should be noted that the timing for implementation of these projects may vary depending on the availability of funding. Additionally, in the absence of a fee program where the project has an impact on the roadway network, the project will pay its respective fair share for the recommended improvements. The project’s fair share has been calculated based on project traffic as a percentage of total growth of existing traffic plus project volumes. Tables 9-A through 9-D of the TIS illustrate the post-improvement intersection levels of service for the different scenarios. As shown in these tables, implementation of recommended improvements would improve operations at all study intersections to operate at satisfactory LOS levels. Therefore, the intersections are forecast to operate at a satisfactory LOS with the implementation of the recommended improvements and impacts to the study intersections’ LOS would be less than significant.

Table 4.3.C: Recommended Improvements for Intersections

Intersection	Jurisdiction	Existing Plus Project Improvements	Near-Term Plus Project Improvements	Cumulative Year (2046) Plus Project Improvements
Fowler Avenue/McKinley Avenue	City of Fresno/County of Fresno		Install traffic signal, add NBT lane, add SBL lane, add SBT lane, add WBL lane	Install traffic signal, add NBL lane, add NBT lane, add SBL lane, add SBT lane, add EBL lane, add WBL lane
Fowler Avenue/Floradora Avenue	County of Fresno		Install traffic signal, add NBT lane, add SBL lane, add SBT lane, add WBL lane	Install traffic signal, add NBT lane, add SBL lane, add SBT lane, add WBL lane
Fowler Avenue/Olive Avenue	County of Fresno	Install traffic signal, add NBL lane, add NBT lane, add SBL lane, add SBT lane	Install traffic signal, add NBL lane, add NBT lane, add SBL lane, add SBT lane	Install traffic signal, add NBL lane, add NBT lane, add SBL lane, add SBT lane
Fowler Avenue/SR-180 Eastbound Ramps	Caltrans	Optimize signal timings	Optimize signal timings	Optimize signal timings
Armstrong Avenue/ McKinley Avenue	City of Fresno/County of Fresno		Install traffic signal, add NBL lane, add SBL lane, add EBL lane, add WBL lane	Install traffic signal, add NBL lane, add SBL lane, add EBL lane, add WBL lane.
Armstrong Avenue/ Floradora Avenue	City of Fresno/County of Fresno		Install traffic signal, add WBL lane	Install traffic signal, add WBL lane
Armstrong Avenue/Olive Avenue	City of Fresno/County of Fresno		Install traffic signal	Install traffic signal, add EB receiving lane
Temperance Avenue/ McKinley Avenue	City of Fresno/County of Fresno	Install traffic signal	Install traffic signal, add NBT lane, add SBT lane	Install traffic signal, add NBT lane, add SBT lane
Temperance Avenue/ Floradora Avenue	County of Fresno		Add NBL lane, add NBT lane, add SBL lane, add SBT lane	Add NBL lane, add NBT lane, add SBL lane, add SBT lane

Source: *Traffic Impact Study, Tract Map 6360 Project* (LSA Associates, Inc. 2023).
Caltrans = California Department of Transportation
EB = Eastbound
L = Left
NB = Northbound
R = Right
SB = Southbound
SR- = State Route
T = Through
WB = Westbound

Roadway Segment Analysis. According to the HCM 6, LOS is categorized by two parameters of traffic: uninterrupted and interrupted flow. Uninterrupted-flow facilities do not have fixed elements such as traffic signals that cause interruptions in traffic flow. Interrupted-flow facilities do have fixed elements that cause an interruption in the flow of traffic, such as stop signs and signalized intersections along arterial roads. A roadway segment is defined as a stretch of roadway generally between signalized or controlled intersections. Roadway segment LOS was calculated based on the Florida LOS tables, consistent with the City's Guidelines.

Under existing conditions, the roadway segment of Fowler Avenue, between Olive Avenue and SR-180 Westbound Ramps operates at a deficient LOS. This roadway segment is also forecast to operate at a deficient LOS under existing plus project conditions, which indicates that the project is forecast to add to the existing deficiency at this segment.

Under near-term plus project, cumulative year (2046) no project, and cumulative year (2046) plus project the roadway segments of Fowler Avenue, between McKinley Avenue and Floradora Avenue; Fowler Avenue, between Floradora Avenue and Olive Avenue; and Fowler Avenue, between Olive Avenue and SR-180 Westbound Ramps are forecast to operate at a deficient LOS, which indicated

that the project is forecast to add to the forecasted deficiencies at these segments. Table 4.3.D, below, summarizes the recommended improvements for roadway segments for all analysis scenarios. The proposed project would be required to pay into FTIP to fund recommended roadway segment improvements. Tables 9-F, 9-G, and 9-H of the TIS illustrate the post-improvement roadway segment levels of service for the different scenarios. As shown in these tables, implementation of recommended improvements would improve operations at all study roadway segments to operate at satisfactory LOS levels. Therefore, the segments are forecast to operate at a satisfactory LOS with the implementation of the recommended improvements and impacts to the study roadway segments' LOS would be less than significant.

Table 4.3.D: Recommended Improvements for Roadway Segments

Roadway Segment	Jurisdiction	Existing Plus Project Improvements	Near-Term (2026) Plus Project Improvements	Cumulative (2046) Plus Project Improvements
Segments on Fowler Avenue				
Between McKinley Avenue and Floradora Avenue	Fresno County		Convert to 4-Lane Divided Arterial	Convert to 4-Lane Divided Arterial
Between Floradora Avenue and Olive Avenue	Fresno County		Convert to 4-Lane Divided Arterial	Convert to 4-Lane Divided Arterial
Between Olive Avenue and SR-180 Westbound Ramps	Fresno County	Convert to 4-Lane Divided Arterial	Convert to 4-Lane Divided Arterial	Convert to 4-Lane Divided Arterial

Source: *Traffic Impact Study, Tract Map 6360 Project* (LSA Associates, Inc. 2023).
SR- = State Route

Transit. There are no existing dedicated transit facilities within the study area for the proposed project. The proposed project is not in an important transit corridor in the city; therefore, it is not anticipated that the construction of additional transit facilities would be required in the study area as a result of the proposed project. Therefore, the proposed project would not substantially conflict with plans or policies supporting public transit or transit facilities, and a less than significant impact would occur.

Bicycles. Currently, Class II bikeways exist on parts of Fowler Avenue, Armstrong Avenue, and Olive Avenue within the study area. Pursuant to the City's ATP, future Class I bikeways would be added along McKinley Avenue within the study area, and Class II bikeways would be added along Fowler Avenue, Armstrong Avenue, Temperance Avenue, and Olive Avenue within the study area to improve bicycle and pedestrian accessibility and connectivity in the vicinity of the project site. The proposed project would not conflict with the planning and construction of bicycle facilities pursuant to the City's ATP or other plans or policies supporting bicycles or bicycle facilities in Fresno. Therefore, a less than significant impact would occur.

Pedestrian Facilities. Currently, Paved sidewalks are present on the southbound direction of Fowler Avenue south of Olive Avenue, on both sides of Armstrong Avenue south of Floradora Avenue, intermittently on the eastbound direction of Floradora Avenue, and intermittently on the westbound direction of Olive Avenue within the study area. Pursuant to the City's ATP, the City recommends pedestrian sidewalks to be constructed on Fowler Avenue, Armstrong Avenue, Temperance Avenue, and Olive Avenue within the study area. The proposed project would construct sidewalks along the project frontage on Armstrong Avenue and McKinley Avenue. Sidewalks would be constructed

pursuant to City standards and would increase pedestrian access and safety in the study area. As such, the proposed project would not conflict with plans and policies for pedestrian facilities in the City, and a less than significant impact would occur.

Conclusion. As described above, the addition of project traffic is not anticipated to exceed the City's, County's, or Caltrans' level of significance threshold of LOS. In addition, the project-related traffic would not result in a deficiency to existing transit, roadway, bicycle, and pedestrian facilities. Therefore, the proposed project would not conflict with any plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system or congestion management program. Impacts would be less than significant.

Impact TRA-1 The project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

Level of Significance Without Mitigation: Less Than Significant Impact.

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

As discussed above, SB 743 requires that relevant CEQA analysis of transportation impacts be conducted using a metric known as VMT instead of LOS. VMT measures how much actual automobile travel (additional miles driven) a proposed project would create on California roads. If the project would add excessive car travel onto roads, the project may cause a significant transportation impact.

The *State CEQA Guidelines* were amended to implement SB 743, by adding Section 15064.3. Among its provisions, Section 15064.3 confirms that, except with respect to transportation projects, a project's effect on automobile delay shall not constitute a significant environmental impact. Therefore, LOS measures of impacts on traffic facilities are no longer relevant CEQA criteria for transportation impacts

State CEQA Guidelines Section 15064.3(b)(4) states that "[a] lead agency has discretion to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate used to estimate vehicle miles traveled and any revision to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section."

On June 25, 2020, the City of Fresno adopted CEQA Guidelines for Vehicle Miles Traveled Thresholds (VMT Guidelines), pursuant to SB 743, to be effective as of July 1, 2020. The December 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory), published by the OPR, was used as a reference and guidance document in the preparation of the Fresno VMT Guidelines.

The VMT Guidelines provides multiple screening criteria for land use projects. The project was compared with the screening criteria established in the "Project Screening" section of the VMT Guidelines to check if the project can be screened out. Following is a brief description about the project in relation with the project screening criteria:

- **Project Located in a High-Quality Transit Area:** The project is not within an High-Quality Transit Area; therefore, this screening criteria does not apply to the project.
- **Local-Serving Retail:** The project consists of residential land use only; therefore, this screening criteria does not apply to the project.
- **Provision of Affordable Housing:** The project proposes to develop market-rate, single-family dwelling units. Therefore, this screening criteria does not apply to the project.
- **Small Project:** The VMT Guidelines state that projects generating fewer than 500 daily trips could be screened out of a detailed VMT analysis. As discussed in Table 4.3.B above, Project Trip Generation, the project is estimated to generate 3,074 daily trips. Therefore, the project does not satisfy this screening criteria.
- **Project Located in Low VMT Area:** Given the project consists of only residential uses, the City's VMT per capita map can be used to check if the project is within a low VMT area. Based on review of the City of Fresno VMT per capita screening map, the project is not within a low VMT area; therefore, this criterion does not apply to the project.

As shown above, the project could not be screened out from detailed VMT analysis. For projects that are not screened out, a quantitative analysis of VMT impacts must be prepared and compared against the adopted VMT thresholds of significance.

Thresholds of Significance. The VMT Guidelines document includes thresholds of significance for development projects, transportation projects, and land use plans. The project consists of residential land use. The VMT Guidelines established VMT per capita as the appropriate metric to evaluate residential land use projects while defining Fresno County as the "region" for determining VMT thresholds. The project would have a significant VMT impact if the baseline project VMT per capita is greater than a 13 percent reduction from or 87 percent of the baseline Fresno County VMT per capita. Based on the VMT Guidelines, baseline Fresno County VMT per capita is 16.1 and the corresponding threshold is 14.0 (which is 87 percent of 16.1). Therefore, the project would have a significant VMT impact if the project VMT per capita is greater than 14.0.

VMT Analysis. As recommended in the City of Fresno CEQA Guidelines for Vehicle Miles Traveled Thresholds, for projects that could not be screened out from a quantitative VMT assessment, the VMT analysis should be conducted using the Fresno COG ABM, which is a tour-based model. The model database was updated with the project land uses to calculate project VMT. The project VMT per capita was determined to be 15.3, 9.1 percent higher than the City's VMT per capita threshold. Therefore, based on the VMT Guidelines, the project would have a significant VMT impact.

When a lead agency identifies a significant CEQA impact, the agency must identify feasible mitigation measures to avoid or substantially reduce that impact. These measures can be incorporated as a part of plans, policies, regulations, or project designs. Project design features that encourage mode shift from automobiles to transit or non-motorized modes can therefore help reduce project VMT. Typically, VMT reduction and benefits from these project design features are not accounted in the project VMT calculations conducted using the regional travel demand model. Therefore, VMT reduction credit can be accounted for these design features, similar to VMT mitigation measures to help reduce or eliminate the project's VMT impact. Enforcement of mitigation measures will be subject to the mitigation monitoring requirements under CEQA, as well as the regular police powers of the lead agency.

Evaluation of VMT reductions should be conducted using state-of-the-practice methodologies recognizing that many of the VMT mitigation strategies/project design features depend on resident performance over time. The following is a detailed description of both and the corresponding potential reduction that could be achieved with implementation of these measures.

Project Design Features. Per information provided by the Project Applicant, the project would implement project design features that would help reduce project VMT. VMT reduction that can be achieved by the project design features were evaluated using City's Urban Form VMT Calculator and California Air Pollution Control Officers Association's (CAPCOA) "*Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity – Designed for Local Governments, Communities, and Project Developers*" dated December 2021[3], as described below.

Urban Form VMT Calculator. The City of Fresno has developed a tool (City of Fresno Urban Form VMT Calculator) to assist land use projects with estimation of VMT reduction that can be obtained from project design features. The tool takes into account multiple project attributes (e.g., density, mix of uses), project location characteristics (accessibility to other land uses, major street connections), and project design features (inclusion of sidewalks, bicycle lanes, provision of trees) to estimate the VMT reduction that can be achieved from project location and design.

LSA used the project site plan in computer-aided design to estimate the inputs for City's Urban Form VMT Calculator. Based on the project inputs, no VMT reduction was estimated from the tool. However, it should be noted that estimation of VMT reduction in the current tool was based on CAPCOA's "Quantifying Greenhouse Gas Mitigation Measures – A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures" dated August, 2010[4] and professional planning experience. However, CAPCOA has recently released an updated version of the handbook "Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity – Designed for

[3] California Air Pollution Control Officers Association. 2021. *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity – Designed for Local Governments, Communities, and Project Developers*. December.

[4] California Air Pollution Control Officers Association (CAPCOA). 2010. *Quantifying Greenhouse Gas Mitigation Measures – A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures*. August.

Local Governments, Communities, and Project Developers" dated December 2021. As such, the City is in the process of updating the VMT tool using the recommendations and methodologies from the new Green Book. Therefore, VMT reduction from the Urban Form VMT Calculator was not used for this project.

Improve Street Connectivity. The project proposes to provide an internal circulation network. Projects with higher density of intersections would help increase street connectivity, reduce trip lengths and promote use of alternative transportation modes of travel. The CAPCOA handbook identifies measure T-17: Improve Street Connectivity to evaluate project street network. The measure is recommended as an appropriate design feature for plans within urban or suburban areas. Measure T-17 estimates that an increased density of vehicular intersections improves street connectivity and helps in reduction in GHG emissions and corresponding VMT. As included in the CAPCOA Handbook, this measure could be applied to a project for:

> *Projects that increase intersection density would be building a new street network in a subdivision or retrofitting an existing street network to improve connectivity (e.g., converting culs-de-sac or dead-end streets to grid streets).*

The measure establishes the following numerical formula of VMT reduction due to increased intersection density and improved street connectivity:

$$A = \frac{B - C}{C} * D$$

Wh*ere,*
A = Percent Reduction in GHG/VMT emission from vehicle Travel
B = Intersection Density in project site with measure
C = Average Intersection Density for Typical developments (36)
D = Elasticity of VMT with respect to intersection density (-0.14)

The project is a gated community which has specified entry/exit ways that reduces accessibility to all project-related traffic. While the increased intersection density helps facilitate a greater number of short trips, the project consists of only single land use type (residential) and the amount of internal capture (trips that can be fulfilled within the project with both origin and destinations within the project site) would be minimal. Also, CAPCOA suggests application of different VMT mitigation measures at different scales – project/site scale or community/plan scale. Based on CAPCOA handbook, this mitigation measure is applicable at a plan/community scale, with appropriate limitations as described in the VMT Analysis section of the TIS. Due to these improved vehicular network connection and project design features, the project would achieve 1.69 percent reduction in VMT compared to the project VMT that was estimated from the regional travel demand model.

Pedestrian Infrastructure. The project proposes to provide pedestrian improvements/sidewalks both internal to the project site and along the project frontage. Providing sidewalk/pedestrian improvements encourages people to walk instead of drive and thus reduces VMT. CAPCOA transportation measure T-18: Provide Pedestrian Network Improvement was deemed applicable

to estimate the VMT reduction due to project related pedestrian network improvements. According to this measure, providing pedestrian network improvements helps improve pedestrian access within the area. This encourages a mode shift on the roadway parallel to the sidewalks from vehicles to walking, displacing VMT and thus reducing GHG emissions. However, no additional VMT reduction due to provision of pedestrian infrastructure was estimated, since increasing intersection density (Improve Street Connectivity Measure) already accounts for the mode shift that will occur in the project area. As such, to provide a more conservative scenario in the estimation of VMT reduction, no further VMT reduction was accounted for this design feature.

Bicycle Infrastructure/Improvements. The project is planning to provide a 25-foot-wide easement for bicycle and pedestrian infrastructure. This easement provides the necessary right-of-way for the City of Fresno to construct a Class I Bike Path on East McKinley Avenue as planned in the City of Fresno ATP. Similar to pedestrian facilities, these bicycle design features included in the project can encourage an increase in active transportation mode share in the area. CAPCOA transportation measure T-19A: Construct or Improve Bike Facility was deemed applicable to estimate the VMT reduction due to project bicycle features. According to the measure, providing bicycle infrastructure improves biking conditions within an area, which encourages a mode shift on the roadway parallel to the bicycle facility from vehicles to bicycles, displacing VMT and thus reducing GHG emissions. Similar to project pedestrian infrastructure, no VMT reduction was estimated for this design feature to present a conservative scenario.

Implement a School Bus Program. The project is within the Clovis Unified School District's (CUSD) jurisdiction. According to CUSD Board Policy 351, the school district is responsible for providing transportation between home and schools for students living outside the established radius zone. The established radius zone for students in grades K-6, is 1 mile from the school where the student is assigned and the established radius zone for students in grades 7-12 (intermediate and high school students), is 2.5 miles from the school where the student is assigned. Additionally, if a community is inside the established radius zone, a Community Funded Bus Run (CFBR) program can be established, per CUSD Board Policy and Administrative Regulation #8301. If sufficient funds are raised by the CFBR program, the CUSD will provide transportation to the community. CAPCOA transportation measure T-40: Implement School Bus Program was deemed applicable to potentially reduce VMT and associated GHG emissions due to the reduction in number of private vehicles trips to drop-off or pickup students.

Provide Electric Vehicle Parking and EV Charging Infrastructure. Accessible electric vehicle (EV) parking and provision of charging for electric vehicles in the residential units would encourage the use of EVs. The latest California Green Building Standards Code (CALGreen Code) and California Building Code require provision of infrastructure to accommodate EV chargers for new single-family and attached dwelling units/townhouses. For new construction projects such as apartments, condominiums, hotels, and motels, CALGreen Code requires the project to provide EV charging stations as a percentage of total project parking. While it is understood that provision of electric charging infrastructure/stations might not reduce VMT, it will reduce GHG, which can be considered equivalent to reduction in VMT. According to CAPCOA, provision of additional electric charging stations, in addition to CALGreen Code requirements, can be

considered as a GHG/VMT mitigation. Provision of EV charging infrastructure has the potential to achieve a maximum VMT reduction of up to 11.9 percent. Currently, pursuant to CALGreen Code requirements, the project would provide EV charging capabilities in proposed residential units as part of the final project designs. However, the project would not provide additional EV charging points and stations. As such, while this project design feature has the potential to reduce GHG emissions, no direct VMT reduction has been accounted for this project design feature.

In conclusion, project design features aim to promote overall mobility with the goal of reducing VMT and reducing GHG emissions. The project would implement Mitigation Measure TRA-2, which would require implementation of project design features discussed above, pursuant to CAPCOA's "Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity". Implementation of Mitigation Measure TRA-2 may possibly reduce the project's VMT by up to 1.69 percent and help offset some of the VMT impacts of the project but will not reduce the impact to a less than significant level. Therefore, the project will have a significant and unavoidable transportation impact under CEQA.

Impact TRA-2 The proposed project would conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3, subdivision (b).

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measure TRA-2 Pursuant to the California Air Pollution Control Officers Association (CAPCOA) "Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity," the following design elements shall be implemented:

- The project would provide an internal circulation network in the project site to increase street connectivity.
- The project would provide pedestrian improvements like sidewalks both internally in the project site and along the project frontage to improve pedestrian access to the site.
- The project would provide a 25-foot-wide easement for bicycle and pedestrian infrastructure for the construction of a Class I Bike Path on East McKinley Avenue, pursuant to the City of Fresno's Active Transportation Plan (ATP).
- In coordination with the Clovis Unified School District (CUSD), the Project Applicant would aid the establishment of a Community Funded Bus Run program in the project site per Clovis Unified Board Policy and Administrative Regulation #8301.

Level of Significance With Mitigation: Significant and Unavoidable.

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The proposed project would consist of the development of 326 residential lots within the 31.29-acre project site. The project site is bounded by North Armstrong Avenue to the west, by Mill No. 36 Canal and TM 6201 to the south, by rural residential uses to the east, and by residential development to the north. Implementation of the proposed project would increase the amount of vehicle traffic, which would require the improvement and expansion of the roadway network in the project area. Implementation of the proposed project would not conflict with the planned extension of existing and construction of new roadways, bikeways, and sidewalks in the study area; additionally, the project would construct sidewalks pursuant to City standards along the project frontage on Armstrong Avenue and McKinley Avenue and would increase pedestrian access and safety in the study area. The proposed project would also include the installation of traffic signals where recommended as study intersection improvements, as detailed in Table 4.3.C, above, to meet the City's LOS standards. These improvements would improve safety and reduce traffic conflicts at study intersections.

Site Access and Circulation Analysis. Vehicular access to the project site would be provided by two driveways, one on Armstrong Avenue and the other on McKinley Avenue.

A sight distance analysis was conducted at the project driveways along Armstrong Avenue and McKinley Avenue to evaluate safe access in and out of the project. Sight distance is the length of the visible roadway a driver can see approaching vehicles before their line of sight is blocked by any object. For purposes of this analysis, both the stopping sight distance and corner sight distance have been evaluated.

According to the Caltrans Highway Design Manual[5] (HDM) (dated July 2020), the stopping sight distance is the minimum sight distance along a roadway required to allow a driver to decrease their speed from the design speed to a complete stop. The corner sight distance is the minimum sight distance in which a driver at a stop-controlled approach can see oncoming traffic on the major street to safely maneuver onto the roadway.

The posted speed limit on Armstrong Avenue is 45 mph. Although McKinley Avenue is yet to be constructed along the project frontage, the speed limit was estimated at 35 mph along the project frontage. For purposes of this analysis, the posted or estimated speed limits have been considered as the design speed. As stated in Table 201.1 of the HDM, the minimum stopping sight distance is 360 feet for a design speed of 45 mph and 250 feet for a design speed of 35 mph. Therefore, the minimum stopping sight distance has been considered as 360 feet and 250 feet for Project Driveway 1 (along Armstrong Avenue) and Project Driveway 2 (along McKinley Avenue), respectively.

As for corner sight distance, Section 405.1 of the HDM states that corner sight distance requirements are not applicable for urban driveways unless signalized. However, as a conservative approach, corner sight distances were also evaluated for the project driveways. The minimum corner sight

[5] California Department of Transportation (Caltrans). 2020. Highway Design Manual – Seventh Edition. July 1. Website: https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm (April 2023).

distance was based on design speed, time gap, and type of vehicles from the minor roads (project driveways) to enter the major roads (Armstrong Avenue and McKinley Avenue). Based on these design speeds and the requirements established in the HDM, it was determined that a minimum corner sight distance of 500 feet and 390 feet would be required for left-turn maneuvers coming out of Project Driveway 1 and Project Driveway 2, respectively. Furthermore, a minimum corner sight distance of 430 feet and 335 feet would be required for right-turn maneuvers coming out of Project Driveway 1 and Project Driveway 2, respectively. Based on the sight distance analysis in the TIS, the proposed project driveways would achieve adequate sight distances and would have clear sight triangles for drivers. Furthermore, Project Driveway 1 on Armstrong Avenue would be approximately 450 feet north from the intersection of Armstrong Avenue/McKinley Avenue. Similarly, Project Driveway 2 on McKinley Avenue would be approximately 650 feet east of this intersection. As such, none of the project driveways would be too close to any existing and future intersections, and there would be sufficient spacing between all existing and future intersections including the project driveway intersections for safe traffic circulation.

Safe Routes to School Evaluation. The project site would be under the jurisdiction of the CUSD. The schools in the vicinity of the project site currently include Temperance-Kutner Elementary School (0.55 mile from the site), Reyburn Intermediate (2.65 miles from the site), and Clovis East High School (2.8 miles from the site). The proposed project would result in the construction of sidewalks along the project frontage, as well as contribute fair share percentages for improvements at intersections within the project study area, which would include the installation of signals at intersections with marked crosswalks and other safety improvements. As such, the project would contribute safe walking routes from the project to nearby schools.

In addition, the proposed project would not include any sharp curves or other roadway design elements that would create dangerous conditions. The project design features would be required to comply with standards set by the City's General Plan and City Engineer. The proposed project would also be required to submit plans to the Fresno Fire Department (FFD) for review and approval prior to the issuance of building permits to ensure there are no substantial hazards associated with the project design.

Collision Analysis. Analysis in the TIS determined that accident ratio within the study area is lower than the corresponding county-wide and state-wide average and no improvement is necessary to enhance safety within the study area. Within 1 mile of the SR-180 and Fowler Avenue interchange, the accident rates are higher than the average for similar facilities. It is not estimated that project traffic would significantly change the traffic flow pattern within the study area or increase the current collision frequency. Therefore, the proposed project would not increase hazards due to design features or incompatible uses, and a less than significant impact would occur.

Impact TRA-3 The project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Level of Significance Without Mitigation: Less than significant impact. No mitigation is required.

d. Would the project result in inadequate emergency access?

Vehicular access to the project site would be provided by two driveways: one on Armstrong Avenue and the other on McKinley Avenue. All driveways would operate as full-access driveways that would provide exclusive access for emergency response vehicles to the project site. An enhanced roadway network that accommodates forecasted travel demand, through improvements identified in the TIS, would also provide adequate emergency access. Additionally, the proposed project's site plan would be subject to review and approval by the FFD and the City's Engineering Division to ensure the project includes adequate emergency access.

As a result, implementation of the proposed project would result in a less than significant impact related to emergency access. No mitigation is required.

Impact TRA-4 The project would not result in inadequate emergency access.

Level of Significance Without Mitigation: Less than significant. No mitigation is required.

4.3.3.3 Cumulative Impacts

A proposed project would have a significant effect on the environment if it – in combination with other projects – would contribute to a significant cumulative impact related to transportation. The cumulative impact analysis for transportation considers the larger context of future development of the Fresno as envisioned by the General Plan and relied upon the projections of the General Plan and General Plan Programmatic Environmental Impact Report. Cumulative impacts on transportation would be those impacts that result from continued buildout of the General Plan.

The proposed project would be consistent with applicable regulations, including the City's General Plan policies and ATP guidelines as it relates to transit, bicycles, and pedestrian facilities, as described in Section 4.3.2. The proposed project would not conflict with existing and planned transit facilities in Fresno and would construct pedestrian facilities that would increase the connectivity of the city and further implement the City's General Plan policies and meet ATP multimodal transportation goals.

The proposed project would not include the construction of hazardous or incompatible design features in the project site. The proposed project's plans would be subject to review and approval by the FFD and the City's Engineering Division to ensure the project includes adequate emergency access. The TIS identified that study intersections and roadway segments that are forecast to operate at unsatisfactory LOS conditions under Existing, Near-Term Approved and Cumulative Year (2046) scenarios. The implementation of the recommended improvements for the affected intersections and roadway segments would address existing and forecasted traffic deficiencies. As such, the proposed project would not conflict with policies related to LOS standards and would not contribute to cumulative impacts related to LOS deficiencies in the roadway system, and a less than significant cumulative impact would occur.

The proposed project's VMT per capita was determined to be 15.3, 9.1 percent higher than the City's VMT per capita threshold 14.0. Although the project would implement design features through

Mitigation Measure TRA-2 that would reduce project's VMT by up to 1.69 percent, this potential reduction would not help the project meet the required threshold of 14.0 VMT per capita. As a result, a significant and unavoidable VMT impact would occur.

Impact TRA-5 The proposed project, in combination with past, present, and reasonably foreseeable projects, would contribute to a significant cumulative impact with respect to transportation.

Level of Significance Without Mitigation: Potentially Significant Impact.

Mitigation Measure: Refer to Mitigation Measure TRA-2.

Level of Significance With Mitigation: Significant and unavoidable.

5.0 ALTERNATIVES

In accordance with the California Environmental Quality Act (CEQA) and the *State CEQA Guidelines* (Section 15126.6), an Environmental Impact Report (EIR) must describe a range of reasonable alternatives to the project, or to the location of the project, that would "feasibly attain most of the project's basic objectives, while avoiding or substantially lessening any of the significantly adverse environmental effects of the project." An EIR does not need to consider every conceivable alternative to a project; rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation. The range of alternatives required in an EIR is governed by a "rule of reason."

The proposed project would consist of the development of 326 single-family residential units in Fresno over a period of 36 months. The proposed project has been described and analyzed in Chapter 4.0 with an emphasis on determining and evaluating potential significant impacts resulting from the project and identifying mitigation measures to avoid or reduce these impacts to a less than significant level. The following identifies and discusses three feasible alternatives to the proposed project, compares the impacts of each alternative to the impacts of the project, and determines whether the alternatives meet the basic project objectives and avoid or reduce project-related significant impacts.

5.1 SELECTION OF ALTERNATIVES

Section 21100 of the Public Resources Code and Section 15126.6 of the *State CEQA Guidelines* require an EIR to identify and discuss a No Project Alternative and a reasonable range of alternatives to the proposed project that would feasibly attain most of the basic objectives of the proposed project and that would avoid or substantially lessen any of the significant environmental impacts. When selecting a set of alternatives to analyze, Section 15126.6(f) of the *State CEQA Guidelines* also discusses the consideration of alternative locations and determining whether any of the significant effects of a proposed project would be avoided or substantially lessened by putting the project in another location.

Based on the criteria listed above, three alternatives have been selected to avoid or substantially lessen the significant impacts of the proposed project. Therefore, the alternatives considered in this Draft Environmental Impact Report include:

- **No Project Alternative:** Under the No Project Alternative, the project site would not be developed, and existing land uses would remain. No modifications to existing site access or infrastructure would occur.

- **Reduced Project Alternative:** Under the Reduced Project Alternative, the proposed project would reduce the proposed density of 10.4 dwelling units per acre for (du/ac) for the proposed project to 5.2 du/ac, for a total of 163 residential units. Proposed site access and infrastructure improvements would remain the same as those identified for the proposed project.

- **Increased Phase Density Alternative:** Under the Increased Phase Density Alternative, 326 residential units would be constructed within the 31.29-acre project site, but the residential units would be constructed on approximately 11 acres on the western portion of the project site and 11 acres on the northeastern portion of the project site to reduce the overall construction period. The remaining approximately 9 acres of the project would be developed as public open space. Overall density of the project site would remain the same as the proposed project (10.4 du/ac), but each 11-acre development area would have density of 14.8 du/ac. Proposed site access and infrastructure improvements would remain the same as those identified for the proposed project.

5.2 PROPOSED PROJECT

5.2.1 Project Characteristics

As described earlier in Chapter 3.0, Project Description, the proposed project would consist of the development of 326 residential lots into single-family residences ranging in size between 1,979 square feet and 8,474 square feet. The proposed project would also include 35 outlot spaces for private landscaping, private pool, private road, private park, private parking, public pedestrian, and public utility uses. The proposed project would be constructed over a period of 36 months and would include infrastructure improvements including roadways and utilities.

5.2.2 Project Objectives

Each alternative is analyzed to determine whether it achieves the basic objectives of the proposed project. As stated in Chapter 3.0, Project Description, the City of Fresno (City) has established the following intended specific objectives for the proposed project that would serve to aid decision-makers in their review of the proposed project and its associated environmental impacts:

- Address the City's current and projected housing needs by providing a range of single-family residences.
- Provide residential housing opportunities that are visually attractive and accommodate the future housing demand in Fresno.
- Establish a mixture of housing types, sizes and densities that collectively provide for local and regional housing demand.
- Provide infrastructure that meets the City standards and is integrated with existing and planned facilities and connections.
- Develop a project that meets City standards by implementing a logical phasing plan for development of public infrastructure improvements.

5.2.3 Significant Unavoidable Impacts of the Proposed Project

As described in Chapter 4.0, Evaluation of Environmental Impacts, impacts in the following areas would be potentially significant without the implementation of mitigation measures but would be reduced to a less than significant level if the mitigation measures recommended in this report are

implemented: Section 4.1, Air Quality. Impacts in the following areas would be significant and unavoidable impacts: Section 4.2, Greenhouse Gas Emissions, and Section 4.3 Transportation.

For the purpose of this analysis, it is assumed that all of the alternatives would comply with applicable federal, State, and local regulations, policies, and ordinances. It is also assumed that all mitigation measures required for implementation of the proposed project would apply to the project alternatives and similar corresponding reductions in impacts would be achieved through such mitigation. Therefore, the following discussion focuses on the ability of the alternatives to reduce project impacts and the potential impacts of the project alternatives related to these issues.

5.3 ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL

State CEQA Guidelines Section 15126.6(c) provides that an EIR "should also identify any alternatives that were considered by the lead agency but rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts."

The following provides a description of potential alternatives that were identified and considered by the City, and the reasons why they were ultimately not selected for further evaluation in this EIR. In dismissing these alternatives from detailed evaluation in this EIR, primary considerations were whether the alternatives would meet *most* of the project objectives, or whether the alternatives were *feasible*, or whether they would *reduce the significant impacts* of the proposed project. The following alternatives were considered but were dismissed from further consideration as explained below.

- **Off-Site Alternative:** This alternative was not considered feasible because there were no other feasible locations for the proposed project to be located due to ownership. Additionally, although relocation of the proposed project could serve to fulfill the project objectives, relocation of the project site to other areas near Fresno would have an increased possibility of impacting special-status animal species.

- **Increased Density Alternative:** This alternative was not considered feasible because increasing the density and the overall number of residential units within the project site would result in design limitations and potential on-site safety impacts due to an increased population relative to the proposed project. Although increasing the density of proposed project could serve to fulfill the project objectives, the potential on-site and off-site operational impacts are anticipated to increase significantly with increased density.

5.4 ALTERNATIVE 1: NO PROJECT ALTERNATIVE

The following provides a description of the No Project Alternative and its anticipated environmental impacts. The emphasis of the analysis is on comparing the anticipated environmental impacts of the No Project Alternative to the environmental impacts associated with the proposed project. The discussion includes a determination of whether or not the No Project Alternative would reduce,

eliminate, or create new significant environmental impacts and would or would not meet the objectives of the proposed project.

5.4.1 No Project Alternative Description

The No Project Alternative assumes that the proposed project would not be developed and that the project site would generally remain in its current condition. The project site would continue to be in agriculture use. No modifications to existing site access or infrastructure would occur.

5.4.2 Analysis of the No Project Alternative

The potential impacts associated with the No Project Alternative are described below.

5.4.2.1 Aesthetics

Under the No Project Alternative, no construction activities would take place, and the project site would remain undeveloped. The proposed project would result in less than significant impacts related to change in views of an around the project, character of the site, and lighting. As a result, with implementation of the No Project Alternative, no impacts to aesthetics would occur and, therefore, this alternative would result in fewer impacts compared to the proposed project.

5.4.2.2 Agriculture Resources

Under the No Project Alternative, no construction activities would occur, and the project site would remain undeveloped. The project site is classified a Prime Farmland, and implementation of the proposed project would result in the conversion of Prime Farmland to a non-agricultural use. The proposed project would result in a less than significant impact to agriculture. With implementation of the No Project Alternative, impacts to agriculture would not occur and, therefore, this alternative would result in fewer impacts compared to the proposed project.

5.4.2.3 Air Quality

Under the No Project Alternative, no construction activities would occur, and the site would remain undeveloped. Therefore, the proposed project's construction and operational less than significant criteria pollutant impacts would be avoided under this alternative; therefore, implementation of Mitigation Measures AIR-2 and AIR-3 would not be required. With implementation of the No Project Alternative, impacts to air quality would not occur and, therefore, this alternative would result in fewer impacts compared to the proposed project.

5.4.2.4 Biological Resources

Under the No Project Alternative, no construction or grading activities would take place on the project site. In addition, under the No Project Alternative, no construction activities would occur that would impact a sensitive natural community, interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. The proposed project would result in a less than significant impact to biological resources. With implementation of the No Project Alternative, impacts to biological resources would not occur and, therefore, this alternative would result in fewer impacts compared to the proposed project.

5.4.2.5 Cultural Resources

No construction or grading activities would occur on the project site under the No Project Alternative. Therefore, the proposed project's potential impacts that would result from construction at the project site, including potentially significant impacts related to disturbance of previously unknown historical and archaeological resources and human remains would be avoided under this alternative and implementation of Mitigation Measures CUL-1, CUL-2 and CUL-3 would not be required. With implementation of the No Project Alternative, impacts to cultural resources would not occur and, therefore, this alternative would result in fewer impacts compared to the proposed project.

5.4.2.6 Energy

Under the No Project Alternative, no construction activities would occur, and the site would remain undeveloped. There would be no energy usage associated with construction or operation of the No Project Alternative, therefore, no impacts to energy would occur. Compared to the proposed project, this alternative would result in fewer impacts to energy.

5.4.2.7 Geology and Soils

Under the No Project Alternative, no construction or grading activities would occur on the project site. As a result, the proposed project's potential impacts that would result from construction at the project site, including potentially significant impacts unknown unique paleontological resources or unique geologic features would be avoided under this alternative, and implementation of Mitigation Measure GEO-1 would not be required. Additionally, under this alternative, no construction activities that would expose people working or residing in the project site to geologic hazards, or result in soil erosion would occur. With implementation of the No Project Alternative, impacts to geology would not occur; therefore, this alternative would result in fewer impacts compared to the proposed project.

5.4.2.8 Greenhouse Gas Emissions

Under the No Project Alternative, no construction activities would take place, and the site would remain undeveloped. Therefore, there would be no construction and operational greenhouse gas (GHG) emissions associated with this alternative, and the proposed project's significant operational GHG emission impacts would be avoided under this alternative. Therefore, implementation of the No Project Alternative would avoid the significant and unavoidable GHG impact associated with the proposed project, and, as such, this alternative would result in fewer impacts compared to the proposed project.

5.4.2.9 Hazards and Hazardous Materials

Under this alternative, changes in land use would not occur and the existing conditions related to the accidental release of, or exposure to, hazardous materials would remain the same. Although the existing agricultural operations could continue to operate, the use of paint, solvents or fuels related to maintenance of operations as proposed by the project would not occur. Therefore, this alternative would result in fewer impacts compared to the proposed project.

5.4.2.10 Hydrology and Water Quality

Under this alternative, the existing pervious surfaces and agricultural land would not be altered. With no physical changes occurring within the project site, the existing drainage patterns of the project site would not be altered. In addition, this alternative would not create a potential to violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality, because this alternative would not change the existing conditions within the project site. As a result, this alternative would result in fewer impacts related to hydrology and water quality compared to the proposed project.

5.4.2.11 Land Use and Planning

Under this alternative, the land uses within project site would not change. Similar to the proposed project, this alternative would not divide an existing community or conflict with an existing land use plan. As a result, this alternative would result in similar impacts compared to the proposed project.

5.4.2.12 Mineral Resources

There are no mineral resources located within the project site, and no mineral resources would be adversely affected under this alternative or the proposed project. As a result, this alternative would similarly result in no impacts to mineral resources.

5.4.2.13 Noise

Under the No Project Alternative, no construction activities would occur, and the site would remain undeveloped. There would be no noise associated with the construction and operation of the proposed project. The proposed project's potentially significant construction noise impacts would be avoided under this alternative and implementation of Mitigation Measures NOI-1 would not be required. In addition, the proposed project's less than significant operational noise impact, and less than significant construction and operational vibration impacts would be avoided under this alternative. With implementation of the No Project Alternative, there would be no impacts related to noise and, therefore, this alternative would result in fewer impacts compared to the proposed project.

5.4.2.14 Population and Housing

Under this alternative population and housing would not be affected, as this alternative would not result in new residential units being added to the project site. As a result, this alternative would result in fewer impacts related to population and housing compared to the proposed project.

5.4.2.15 Public Services

Under this alternative, the population of the project site would not change and there would be no increased demand for public services, including fire protection, police protection, public schools, parks and recreational facilities. The proposed project would increase the population of the project site, but a less than significant impact would occur. Compared to the proposed project, this alternative would result in fewer impacts because the population within the project site would not increase.

5.4.2.16 Recreation

Under this alternative, the land uses within the project site would not change and would not affect recreational facilities and open space. As a result, compared to the proposed project, this alternative would result in fewer impacts related to construction and/or expansion of the recreational facilities.

5.4.2.17 Transportation

Under the No Project Alternative, no uses would be developed on the project site that would generate higher traffic levels that create and contribute to unsatisfactory level of service (LOS) conditions in roadways and contribute to cumulative vehicle miles traveled (VMT) impacts in Fresno and Fresno County. Therefore, implementation of the No Project Alternative would avoid the significant and unavoidable VMT impacts associated with the proposed project. Therefore, this alternative would result in fewer impacts compared to the proposed project.

5.4.2.18 Tribal Cultural Resources

No construction or grading activities would occur on the project site under the No Project Alternative. Therefore, the proposed project's potential impacts that would result from construction at the project site, including potentially significant impacts related to disturbance of previously unknown tribal cultural resources would be avoided under this alternative and implementation of Mitigation Measures CUL-1, CUL-2 and CUL-3, which address impacts to previously unknown tribal cultural resources, would not be required. With implementation of the No Project Alternative, there would be no impacts to tribal cultural resources and, therefore, this alternative would result in fewer impacts compared to the proposed project.

5.4.2.19 Utilities and Service Systems

Under this alternative, no land uses or physical changes would occur within the project site, and therefore, no increased demand for utilities and service systems, including water supply, wastewater, stormwater, and electricity, natural gas, and telecommunications would occur. The proposed project would require water and wastewater services through connections to the City's systems to accommodate population increase in the project site. As a result, this alternative would result in fewer impacts to utilities compared to the proposed project.

5.4.2.20 Wildfire

The project site is in an area mapped by the California Department of Forestry and Fire Protection (CAL FIRE) as Local Responsibility Area (LRA) Unzoned, indicating that the area is urbanized and not susceptible to wildland conflagrations, and is not within a Very High Fire Hazard Severity Zone (VHFHSZ). Under this alternative, no changes to the existing uses within the project site would occur. Similar to the proposed project, this alternative would not exacerbate wildfire risks. Because the proposed project would result in physical changes to the project site and this alternative would not, this alternative would result in fewer impacts related to wildfire compared to the proposed project.

5.4.3 Comparison to Project Objectives

As discussed above, the No Project Alternative would avoid all of the less than significant and significant unavoidable impacts of the proposed project. However, the No Project Alternative would

also not achieve any of the objectives of the proposed project. The No Project Alternative would not (a) address the City of Fresno's current and projected housing needs by providing a range of single-family residences; (b) provide residential housing opportunities that are visually attractive and accommodate the future housing demand in Fresno; (c) establish a mixture of housing types, sizes and densities that collectively provide for local and regional housing demand; (d) provide infrastructure that meets the City standards and is integrated with existing and planned facilities and connections; and (e) develop a project that meets City standards by implementing a logical phasing plan for development of public infrastructure improvements. As a result, this alternative would not meet any of the objectives of the proposed project.

5.5 ALTERNATIVE 2: REDUCED PROJECT ALTERNATIVE

The Reduced Project Alternative is being considered by the Project Applicant and would involve reducing the size of the proposed project by reducing the proposed residential density of 10.4 du/ac in the site to a density of 5.2 du/ac. The Reduced Project Alternative would reduce the total proposed residential units from 326 to 163. Proposed site access and infrastructure improvements would be the same as the proposed project.

5.5.1 Analysis of the Reduced Project Alternative

The potential impacts associated with the Reduced Project Alternative are described below.

5.5.1.1 Aesthetics

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. However, due to the reduced number of residential units proposed under this alternative, this alternative would result in less density within the project site. Similar to the proposed project, this alternative would change the land use within the project site and would result in changes to views, site character, and lighting. Although this alternative would not result in the same number of residential units as the proposed project, this alternative would result in similar, less than significant impacts to aesthetics.

5.5.1.2 Agricultural Resources

Similar to the proposed project, this alternative would result in the conversion of agricultural land to residential land use. Because this alternative would develop the entire site, similar to the proposed project, this project would result in a similar, less than significant impact to agricultural resources.

5.5.1.3 Air Quality

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. However, due to the reduced number of residential units proposed under this alternative, this alternative may result in reduced construction and operational emissions, including those due to vehicle trips, compared to those under the proposed project. However, construction of the proposed project would still require implementation of San Joaquin Valley Air Pollution Control District (SJVAPCD) Regulation VIII dust control measures to reduce short-term construction period air quality impacts, and would still require usage of off-site construction equipment meeting California Air Resources Board (CARB) Tier 2 emissions standards. Thus, this

alternative would still require the implementation of Mitigation Measures AIR-2 and AIR-3 to reduce the impact to less than significant level. All other air quality impacts would be reduced compared to those of the proposed project and would be less than significant. As a result, this alternative would result in fewer impacts compared to the proposed project.

5.5.1.4 Biological Resources

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. The reduced development from this alternative could potentially reduce the development footprint on the project site. Like the proposed project, this alternative would result in less than significant impacts to special-status species, federally protected wetlands and nesting birds. Therefore, this alternative would result in similar impacts compared to the proposed project.

5.5.1.5 Cultural Resources

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. Due to the reduced number of residential units proposed under this alternative, the development footprint would also be reduced. However, construction of the proposed project would still result in ground-disturbing activities that could impact previously unknown historical and archaeological resources, and human remains. This alternative would still require implementation of Mitigation Measures CUL-1, CUL-2 and CUL-3 to reduce potential impacts to less than significant levels. Therefore, this alternative would result in similar impacts compared to the proposed project.

5.5.1.6 Energy

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. However, due to the reduced number of residential units proposed under this alternative, this alternative would result in reduced construction energy usage due to the reduced development footprint, and reduced operational energy usage as a result of fewer mobile sources (e.g., cars, trucks, and buses). As a result, this project would result in less energy consumption and fewer impacts compared to the proposed project.

5.5.1.7 Geology and Soils

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. Due to the reduced number of residential units proposed under this alternative, this alternative would result in a reduced development footprint on the site. However, construction of the proposed project would still result in ground-disturbing activities that could impact previously unknown unique paleontological resources or unique geologic features. This alternative would still require implementation of Mitigation Measure GEO-1 to reduce potential impacts to less than significant levels. As such, this alternative would result in similar impacts compared to the proposed project.

5.5.1.8 Greenhouse Gas Emissions

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. However, due to the reduced number of residential units proposed under this alternative, this alternative would result in reduced construction and operational GHG emissions, including those due to mobile sources (e.g., cars, trucks, and buses), 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). However, the Reduced Project Alternative would still require consistency with the City's GHG Reduction Plan Update. Under this alternative, residential density would be 5.2 du/ac, which would result in GHG emissions greater that estimated emissions under existing designation of the project site [designated Low-Density Residential in the General Plan and zoned within the Residential Single-Family District (RS-3); permitted density of 3.5 du/ac]. As such, this alternative would still require implementation of Mitigation Measure TRA-2 to ensure consistency with the City's GHG Reduction Plan Update, **but a significant and unavoidable impact would still occur as a result of an increase in VMT.** All other GHG impacts would be fewer compared to those of the proposed project and would be less than significant.

5.5.1.9 Hazards and Hazardous Materials

Similar to the proposed project, this alternative would include changes in land use that could result in the accidental release of, or exposure to, hazardous materials. Although the number of residential units would be less than the proposed project, potential impacts related to the use of paint, solvents or fuels related to maintenance of operations would also occur. Therefore, this alternative would result in similar impacts compared to the proposed project.

5.5.1.10 Hydrology and Water Quality

Under this alternative, the existing pervious surfaces and agricultural land would be altered with construction of residential units. Similar to the proposed project, the existing drainage patterns of the project site would be altered over the entire project site. In addition, this alternative, like the proposed project, would require compliance with water quality standards and waste discharge requirements to avoid impacts related to degradation of surface or ground water quality. As a result, this alternative would result in similar impacts related to hydrology and water quality compared to the proposed project.

5.5.1.11 Land Use and Planning

Under this alternative, the agricultural land use of the project site would change to a residential use. Similar to the proposed project, this alterative would not divide an existing community or conflict with an existing land use plan. As a result, this alternative would result in similar, less than significant, impacts compared to the proposed project.

5.5.1.12 Mineral Resources

There are no mineral resources located within the project site, and no mineral resources would be adversely affected under this alternative or the proposed project. As a result, this alternative would similarly result in no impacts to mineral resources.

5.5.1.13 Noise

Construction activities under the Reduced Project Alternative would involve the use of generally the same types of construction equipment and vehicles as the proposed project, and construction activities would occur at the same distances from the nearest receptors as under the proposed project. As a result, the daily construction noise levels generated under this alternative would be comparable to that generated by the construction of the proposed project, and this alternative would also result in a potentially significant construction noise impacts at the nearby sensitive receptors. As such, Mitigation Measure NOI-1 would be required. However, because the number of total units included under this alternative would be smaller than the proposed project, the duration of construction would be reduced, and the duration of exposure to noise impacts would be slightly shorter. Additionally, the Reduced Project Alternative would reduce project-generated traffic noise compared to the proposed project, which results in less than significant traffic noise impacts. With implementation of this alternative, potential noise impacts would be fewer compared to the proposed project, due to the reduced number of residential units proposed.

5.5.1.14 Population and Housing

Under this alternative population and housing at the project site would increase over existing conditions; however this alternative would result in fewer residential units and less population, compared to the proposed project. The proposed project would result in less than significant impacts to population increase and displacement of existing residents. As a result, this alternative would result in similar, less than significant, impacts related to population and housing compared to the proposed project.

5.5.1.15 Public Services

Under this alternative, the population of the project site would increase; however the population within the project site would not increase to the level of the proposed project, due to fewer residential units. The proposed project would result in less than significant impacts resulting from increased demand for public services, including fire protection, police protection, public schools, parks and recreational facilities. Compared to the proposed project, this alternative would result in fewer impacts because the population within the project site would be less than that of the proposed project.

5.5.1.16 Recreation

Under this alternative, fewer residential units would be constructed compared to the proposed project. As a result, demand for recreational facilities and open space would increase over existing conditions but would result in less demand compared to the proposed project. As a result, compared to the proposed project, this alternative would result in fewer impacts related to construction and/or expansion of the recreational facilities.

5.5.1.17 Transportation

Under the Reduced Project Alternative, the project site would be developed at a lower residential density than what was proposed in the proposed project. As such, this alternative would generate lower traffic levels than those of the proposed project. However, this alternative would still increase

traffic levels in the nearby circulation system, which could potentially create and contribute to unsatisfactory LOS conditions in roadways in Fresno. Additionally, although the Reduced Project Alternative would lower total VMT compared to the proposed project due to reduced vehicle traffic, the VMT per capita under this alternative would remain the same and would not meet the City's VMT per capita threshold. As such, the Reduced Project Alternative would still contribute to cumulative VMT impacts in Fresno and Fresno County. With implementation of the Reduced Project Alternative, **the significant unavoidable VMT impacts that would result from the proposed project could still occur**, despite the reduction in overall project-related VMT. With implementation of this alternative, potential transportation impacts would be fewer compared to the proposed project.

5.5.1.18 Tribal Cultural Resources

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. Due to the reduced number of residential units proposed under this alternative, a reduced development footprint would occur on the project site. However, construction of the proposed project would still result in ground-disturbing activities that could impact previously unknown tribal cultural resources, and this alternative would still require implementation of Mitigation Measures CUL-1, CUL-2 and CUL-3 to reduce potential impacts to less than significant levels. Therefore, this alternative would result in similar impacts compared to the proposed project.

5.5.1.19 Utilities and Service Systems

Under this alternative, changes in land uses and physical changes would occur within the project site and would increase the demand for utilities and service systems. However, because this alternative would include half as many residential units as the proposed project, the demand for utilities and service systems for water supply, wastewater, stormwater, and electricity, and telecommunications would be less than the proposed project. As a result, this alternative would result in fewer impacts to utilities and service systems compared to the proposed project.

5.5.1.20 Wildfire

The project site is located in an area mapped by CAL FIRE as LRA Unzoned, indicating that the area is urbanized and not susceptible to wildland conflagrations, and is not located within a VHFHSZ. Because this alternative would result in physical changes to the project site that would be similar to the proposed project, this alternative would not exacerbate wildfire risk, and would result in similar, less than significant, impacts to wildfire compared to the proposed project.

5.5.2 Comparison to Project Objectives

As discussed above, the Reduced Project Alternative would reduce the overall size of the project by reducing the density of residential uses in the project site. The Reduced Project Alternative would partially address the city's current and projected housing needs by providing single-family residences. However, because this alternative would provide half of the residential units and minimize mixture of housing types of the proposed project, this project would partially meet the objectives of the project.

5.6 ALTERNATIVE 3: INCREASED PHASE DENSITY ALTERNATIVE

The Increased Phase Density Alternative would involve focusing development of the proposed 326 single-family residences, but the development would occur in two, approximately 11-acre areas located in the western and northeastern portions of the project site. The southeastern portion of the project site, approximately 9 acres in size, would be developed as open space. Location and design of vehicle access and infrastructure improvements to facilitate development in the two development areas would be similar to the proposed project.

5.6.1 Analysis of the Increased Phase Density Alternative

The potential impacts associated with Increased Phase Density Alternative are described below.

5.6.1.1 Aesthetics

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. This alternative would result in the massing of buildings on the northern and southern portions of the project site, but similarly to the proposed project, this alternative would change the land use within the project site and would result in changes to views, site character, and lighting. As a result, this alternative would result in similar, less than significant impacts to aesthetics.

5.6.1.2 Agricultural Resources

Similar to the proposed project, this alternative would result in the conversion of agricultural land to residential land use. Because this alternative would develop the entire site with residential and open space uses, similar to the proposed project, this alternative would result in a similar less than significant impact to agriculture resources.

5.6.1.3 Air Quality

Similar to the proposed project, the Increased Phase Density Alternative would involve construction and operational activities on the project site. This alternative would concentrate construction activities in specific locations of the project site, which would limit the spread of construction emissions. The Increased Phase Density Alternative would require constructing more houses per construction phase, but would limit the overall construction period for each phase compared to the proposed project. Operational emissions under this alternative, including those due to vehicle trips, would be similar to emissions under the proposed project as the number of proposed units under this alternative has not been reduced. Construction of the proposed project would still require implementation of SJVAPCD Regulation VIII dust control measures through implementation of Mitigation Measure AIR-2, and would still require usage of off-site construction equipment meeting CARB Tier 2 emissions standards through implementation of Mitigation Measure AIR-3 to reduce construction period air quality impacts. With implementation of this alternative, potential impacts resulting from construction would be reduced due to the reduction in the overall construction period. Therefore, this alternative would result in similar impacts compared to the proposed project.

5.6.1.4 Biological Resources

Similar to the proposed project, the Increased Phase Density Alternative would involve construction and operational activities on the project site. Although this alternative would focus development on the western and northeastern portions of the project site, construction of this alternative would still result in ground-disturbing activities. However, like the proposed project, this alternative would result in less than significant impacts to special-status species, federally protected wetlands and nesting birds. Therefore, this alternative would result in similar impacts compared to the proposed project.

5.6.1.5 Cultural Resources

Similar to the proposed project, the Reduced Project Alternative would involve construction and operational activities on the project site. Although this alternative would focus development on the northeastern and western portions of the project site, construction of this alternative would still result in ground-disturbing activities that could impact previously unknown historical and archaeological resources and human remains. This alternative would still require implementation of Mitigation Measures CUL-1, CUL-2 and CUL-3 to reduce potential impacts to less than significant levels. With implementation of this alternative, potential impacts to cultural resources would occur and, therefore, this alternative would result in similar impacts compared to the proposed project.

5.6.1.6 Energy

Similar to the proposed project, this alternative would involve construction and operational activities on the project site that would result in the same number of residential units. This alternative would result in a reduced construction duration due to increased density on the western and northeastern portions of the project site. However, construction and operational energy consumption would be similar to the proposed project as this alternative includes the same number of single family residences as the proposed project. As such, this alternative would result in similar impacts compared to the proposed project.

5.6.1.7 Geology and Soils

Similar to the proposed project, the Increased Phase Density Alternative would involve construction and operational activities on the project site. Although this alternative would focus development on the western and northeastern portions of the project site, construction of this alternative would still result in ground-disturbing activities that could impact previously unknown unique paleontological resources or unique geologic features. This alternative would still require implementation of Mitigation Measure GEO-1 to reduce potential impacts to less than significant levels. With implementation of this alternative, potential impacts to geology and soils would occur and, therefore, this alternative would result in similar impacts compared to the proposed project.

5.6.1.8 Greenhouse Gas Emissions

Similar to the proposed project, the Increased Phase Density Alternative would involve construction and operational activities on the project site. However, the higher density of development proposed in this alternative would result in reduced operational GHG emissions, particularly those due to indirect emissions from sources associated with energy consumption, given that concentrating the

proposed 328 residential units in smaller areas would result in smaller residential units that would be more energy-efficient than those in the proposed project. However, the Increased Phase Density Alternative would still require consistency with the City's GHG Reduction Plan Update. Under this alternative, residential density would remain 10.4 du/ac like the proposed project, would result in GHG emissions greater that estimated emissions under existing designation of the project site (designated Low-Density Residential in the General Plan and zoned within the Residential Single-Family District [RS-3]; permitted density of 3.5 du/ac).

As such, this alternative would still require implementation of Mitigation Measure TRA-2 to ensure consistency with the City's GHG Reduction Plan Update, **but a significant and unavoidable impact would still occur as a result of an increase in VMT**. All other GHG impacts would be fewer compared to those of the proposed project and would be less than significant.

5.6.1.9 Hazards and Hazardous Materials

Similar to the proposed project, this alternative would include changes in land use that could result in the accidental release of, or exposure to, hazardous materials. Because the number of residential units would be the same as the proposed project, potential impacts related to the use of paint, solvents or fuels related to maintenance of operations would also occur. Therefore, this alternative would result in similar impacts compared to the proposed project.

5.6.1.10 Hydrology and Water Quality

Under this alternative, the existing pervious surfaces and agricultural land would be altered with construction of residential units. Similar to the proposed project, the existing drainage patterns of the project site would be altered over the entire project site. In addition, this alternative, like the proposed project, would require compliance with water quality standards and waste discharge requirements to avoid impacts related to degradation of surface or groundwater quality. As a result, this alternative would result in similar impacts related to hydrology and water quality compared to the proposed project.

5.6.1.11 Land Use and Planning

Under this alternative, the existing agricultural land uses within project site would change to residential uses. However, similar to the proposed project this alterative would not divide an existing community or conflict with an existing land use plan. As a result, this alternative would result in similar impacts compared to the proposed project.

5.6.1.12 Mineral Resources

There are no mineral resources located within the project site, and no mineral resources would be adversely affected under this alternative or the proposed project. As a result, this alternative would similarly result in no impacts to mineral resources.

5.6.1.13 Noise

Construction activities under the Increased Phase Density Alternative would involve the use of generally the same types of construction equipment and vehicles as the proposed project, and

construction activities would occur at the same distances from the nearest receptors as under the proposed project. Although, the daily construction noise levels generated under this alternative would be comparable to that generated by the construction of the proposed project, this alternative would result in a shorter overall construction period, which would reduce the duration of noise-generating construction. Although Mitigation Measure NOI-1 would be required, construction would not require as much time to be completed. The Increased Phase Density Alternative would have similar levels of project-generated traffic compared to the proposed project but concentrated in smaller areas, and operational noise levels would be less than significant. In addition, as with the proposed project, construction and operational vibration impacts would be less than significant under this alternative. With implementation of this alternative, potential noise impacts would be similar compared to the proposed project.

5.6.1.14 Population and Housing

Under this alternative population and housing would increase over the existing conditions of the project site, and would result in the same number of residential units as the proposed project. The proposed project would result in less than significant impacts to population and displacement of existing residents. As a result, this alternative would result in similar impacts related to population and housing compared to the proposed project.

5.6.1.15 Public Services

Under this alternative, the population of the project site would be similar to the proposed project. The proposed project would result in less than significant impacts resulting from increased demand for public services, including fire protection, police protection, public schools, parks and recreational facilities. Compared to the proposed project, this alternative would result in similar less than significant impacts to population and housing.

5.6.1.16 Recreation

Compared to the proposed project, this alternative would result in the same number of residential units and comparable population increase. As a result, demand for recreational facilities and open space would increase over existing conditions and would be similar to the proposed project. As a result, compared to the proposed project, this alternative would result in similar impacts related to construction and/or expansion of the recreational facilities.

5.6.1.17 Transportation

Under the Increased Phase Density Alternative, portions of the project site would be developed at a higher residential density than what was proposed in the proposed project, but the same number of residential units would be constructed. As a result, the proposed project would increase traffic levels in the nearby circulation system, which could potentially create and contribute to unsatisfactory LOS conditions on roadways in Fresno. Therefore, with implementation of the Increased Phase Density Alternative, the less than significant LOS impact that would result from the proposed project would still occur. In addition, compared to the proposed project, this alternative would result in **similar significant and unavoidable VMT impacts** given the proposed land uses and location relative to other land uses. Impacts related to incompatible uses, geometric design features and emergency access would be less than significant similar to the proposed project. With implementation of this

alternative, potential impacts to transportation would occur; therefore, this alternative would result in similar impacts compared to the proposed project.

5.6.1.18 Tribal Cultural Resources

Similar to the proposed project, the Increased Phase Density Alternative would involve construction and operational activities on the project site. Although this alternative would focus development on the western and northeastern portions of the project site, construction of the proposed project would still result in ground-disturbing activities that could impact previously unknown tribal cultural resources. This alternative would still require implementation of Mitigation Measures CUL-1, CUL-2, and CUL-3 to reduce potential impacts to less than significant levels. With implementation of this alternative, potential impacts to tribal cultural resources would occur and, therefore, this alternative would result in similar impacts compared to the proposed project.

5.6.1.19 Utilities and Service Systems

Under this alternative, the changes in land uses and physical changes that would take place within the project site would be similar to the proposed project, and would increase the demand for utilities and service systems. As a result, demand for utilities and service systems related to water supply, wastewater, stormwater, and electricity, natural gas, and telecommunications, would be similar to the proposed project. As a result, this alternative would result in similar impacts to utilities and service systems compared to the proposed project.

5.6.1.20 Wildfire

The project site is in an area mapped by CAL FIRE as LRA Unzoned, indicating that the area is urbanized and not susceptible to wildland conflagrations, and is not within a VHFHSZ. Similar to the proposed project, this alternative would not exacerbate wildfire risks. Because this alternative would result in physical changes that would be similar to the proposed project, this alternative would result in similar impacts.

5.6.2 Comparison to Project Objectives

As discussed above, the Increased Phase Density Alternative would build 326 single-family residential units in a smaller area within the project site that what is proposed in the proposed project, increasing residential density in the site. The Increased Phase Density Alternative would address current and projected housing needs in Fresno by providing single-family residences; however, to accommodate the increase in density, the product would be limited to one product versus the mixture of housing types of the proposed project. Because this alternative would provide half of the residential units and minimize mixture of housing types of the proposed project, this project would partially meet the objectives of the project.

5.7 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Based on the alternatives analysis, of the alternatives analyzed, the No Project Alternative would have the fewest impacts and would be the environmentally superior alternative. Under CEQA, if the No Project Alternative is the environmentally superior alternative, the EIR must identify an environmentally superior alternative from among the other alternatives (*State CEQA Guidelines*

Section 15126.6(e)(2)). Table 5.A provides, in summary format, a comparison of the level of impacts for each alternative to the proposed project.

Table 5.A: Comparison of the Environmental Impacts of the Proposed Project to the Project Alternatives

Environmental Topic	Proposed Project Level of Impact After Mitigation	Alternative 1: No Project Alternative	Alternative 2: Reduced Project Alternative	Alternative 3: Increased Phase Density Alternative
Aesthetics	Less than Significant	Fewer	Similar	Similar
Agricultural Resources	Significant Unavoidable	Fewer	Similar	Similar
Air Quality	Less than Significant	Fewer	Fewer	Similar
Biological Resources	Less than Significant	Fewer	Similar	Similar
Cultural Resources	Less than Significant	Fewer	Similar	Similar
Energy	Less than Significant	Fewer	Fewer	Similar
Geology and Soils	Less than Significant	Fewer	Similar	Similar
Greenhouse Gas Emissions	Significant Unavoidable	Fewer	Fewer, Significant Unavoidable	Fewer, Significant Unavoidable
Hazards and Hazardous Materials	Less than Significant	Fewer	Similar	Similar
Hydrology and Water Quality	Less than Significant	Fewer	Similar	Similar
Land Use and Planning	Less than Significant	Similar	Similar	Similar
Mineral Resources	Less than Significant	Similar	Similar	Similar
Noise	Less than Significant	Fewer	Fewer	Similar
Population and Housing	Less than Significant	Fewer	Similar	Similar
Public Services	Less than Significant	Fewer	Fewer	Similar
Recreation	Less than Significant	Fewer	Fewer	Similar
Transportation	Significant Unavoidable	Fewer	Fewer, Significant Unavoidable	Similar, Significant Unavoidable
Tribal Cultural Resources	Less than Significant	Fewer	Similar	Similar
Utilities and Service Systems	Less than Significant	Fewer	Fewer	Similar
Wildfire	Less than Significant	Fewer	Similar	Similar
Attainment of Project Objectives	Meets all of the Project Objectives	Meets none of the Project Objectives	Partially Meets the Project Objectives	Partially Meets the Project Objectives

Source: Compiled by LSA (April 2023).
Fewer = Fewer impacts than the proposed project
Similar = Similar impacts as the proposed project

The Reduced Project Alternative would have less than significant impacts in most resource topics that would be comparable to the proposed project. The alternative would have potentially reduced construction-phase air quality and reduced operational-phase air quality, noise, GHG impacts, and transportation due to reduced development on the project site. Therefore, the Reduced Project Alternative is considered the environmentally superior alternative.

6.0 CEQA-REQUIRED ASSESSMENT CONCLUSIONS

Section 15126 of the *State CEQA Guidelines* requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. This chapter provides an overview of the potential impacts resulting from the implementation of the proposed project based on the analyses presented in the Initial Study prepared for the proposed project, and Chapter 4.0, Evaluation of Environmental Impacts, of this Draft Environmental Impact Report (Draft EIR). The topics covered in this chapter include impacts found not to be significant, growth inducement, significant and unavoidable impacts, and significant irreversible changes. A more detailed analysis of the effects the proposed project would have on the environment and proposed mitigation measures to minimize significant impacts are provided in Sections 4.1 through 4.3 of this Draft EIR, as well as in the Initial Study document prepared for this Draft EIR.

6.1 GROWTH INDUCEMENT

Section 15126.2(d) of the *State CEQA Guidelines* requires that an Environmental Impact Report (EIR) discuss the ways in which a proposed project or the construction of additional housing, either directly or indirectly, could foster economic or population growth in the surrounding environment. Examples of projects likely to have significant growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand, and development of new residential subdivisions or industrial parks in areas that are only sparsely developed or are underdeveloped. Typically, development projects on sites that are designated for development and surrounded by existing suburban uses are not considered adversely growth-inducing because growth in areas that already have development and infrastructure available to serve new development are generally considered environmentally beneficial. This section evaluates the potential of the proposed project to create such growth inducements. Not all aspects of growth inducement are negative; rather, negative impacts associated with growth inducement occur only where the growth associated with the proposed project would cause adverse environmental impacts.

As described in Section XVI, Population and Housing, of the Initial Study prepared for this Draft EIR, implementation of the proposed project would not exceed the City of Fresno's (City's) projections for population growth in the project site after the Project Applicant completes a General Plan Amendment and Rezone process with the City of Fresno, pays required processing fees, and implements associated City's recommendations.

As discussed in Section XV, Public Services, and Section XIX, Utilities and Service Systems, of the Initial Study, the project site would be served by the City's public service or utility providers, including police protection services, fire prevention services, water, wastewater, telecommunications, electricity, and natural gas. The proposed project includes physical improvements to accommodate growth which would create an increased demand for public services and utilities within the project site. To address impacts to public services and utilities, the Project Applicant would be required to pay applicable impact fees in effect at the time the development

application for the proposed project is submitted. City staff would review the site plan for the project to ensure the adequate provision of public services and utilities.

Once the Project Applicant completes the General Plan Amendment and Rezone process and pays applicable service fees, the proposed project's direct or indirect growth inducement due to additional housing units and population, as well as associated service demand resulting from implementation of the proposed project would have been accounted for and confirmed by the City, and impacts would be less than significant.

Development of the proposed project would involve construction activities that could generate some temporary employment opportunities. However, given the temporary nature of such opportunities, it is unlikely that construction workers would need to relocate to the city as a result of the proposed project. Thus, the proposed project would not be considered growth-inducing from an employment perspective.

6.2 SIGNIFICANT IRREVERSIBLE CHANGES

Section 15126.2(d) of the *State CEQA Guidelines* requires an EIR to discuss the extent to which the proposed project would commit nonrenewable resources to uses that future generations would probably be unable to reverse. The three California Environmental Quality Act (CEQA) required categories of irreversible changes are discussed below.

6.2.1 Changes in Land Use Which Commit Future Generations

The proposed project would involve the development of land in the project site currently used for agricultural production. Although the proposed development would commit future generations to using the project site for developed uses rather than agricultural purposes, such a commitment is consistent with planned residential uses for the project site, as identified in the City's General Plan. The General Plan has anticipated development in the project site that commits future generations, which was assessed under the General Plan EIR; the proposed project merely implements and carries out the vision of the General Plan.

6.2.2 Irreversible Damage from Environmental Accidents

Demolition and construction activities associated with implementation of the proposed project would involve some risk for environmental accidents. However, as discussed in Section IX, Hazards and Hazardous Materials, of the Initial Study, the accidental spills and soil contamination would be addressed by City, State, and federal agencies, and would follow professional industry standards for safety and construction. Although there is a possibility for contaminated soil to be encountered during grading, excavation, and/or ground disturbance associated with implementation of the proposed project, it is likely that such contamination may have resulted from agricultural operations within the project site. However, the risks of accidental contamination from handling construction materials or transport of these materials off site would be reduced to a less-than-significant level through compliance with the many federal, State, and local regulations regarding the handling and disposal of such construction materials. Additionally, the residential land use proposed by the proposed project would not include any uses or activities that are likely to contribute to or be the

cause of a significant environmental accident, such as industrial-related spills or leaks. As a result, the proposed project would not pose a substantial risk of environmental accidents.

6.2.3 Consumption of Non-Renewable Resources

Consumption of non-renewable resources includes issues related to increased energy consumption, conversion of agricultural lands, and lost access to mining reserves. The proposed project would require water, and electric, as well as additional resources for construction. Construction and ongoing maintenance would irreversibly commit some materials and non-renewable energy resources. Materials and resources used during implementation of the proposed project would include, but are not limited to, non-renewable and limited resources such as oil, gasoline, sand, gravel, asphalt, and steel. These materials and energy resources would be used for infrastructure development, transportation of people and goods, and utilities. During the operational phase of the proposed project, energy sources including oil and gasoline would be used for lighting, heating, and cooling of residences, as well as transportation of people to and from the project site.

As discussed in Section VI, Energy, of the Initial Study, the projected electricity demand of the proposed project would be consistent with typical usage rates for residential uses in Fresno and would not result in a significant adverse impact related to the provision of electricity. In addition, the proposed project would exceed standards of Title 24 of the California Code of Regulations (CCR), which requires conservation practices that would limit the amount of energy (California Energy Code Building Energy Efficiency Standards [Title 24, Part 6]) consumed through implementation of the proposed project through incorporation of the following energy reduction strategies: third party independent inspections would be conducted to assure energy efficiency compliance; heating, ventilation, and air conditioning (HVAC) equipment would be rated 14 seasonal energy efficiency ratio (SEER), 12 energy efficiency ratio (EER) and 92 percent ultra efficient; solar panels would be provided ranging from 3.71 kilowatts (kW) to 3.98 kW; and windows would be argon-filled vinyl low-e, double strength glass to reduce energy and increase ultraviolet (UV) blockage.

With the development of more cost-effective and accessible technologies, pursuant to the Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608), dependence on non-renewable resources used in association with future development envisioned under the proposed project may also be reduced. Furthermore, the proposed project would be required to undergo project-specific analysis (as required by CEQA) and comply with all California Green Building Standards Code (CALGreen Code) building efficiency standards (Title 24, Part 11) and mandatory residential building requirements in the California Energy Code Building Energy Efficiency Standards (Title 24, Part 6) (as required by State law). Additionally, resources that would be used during the operation of the proposed project would be similar to those currently consumed within the city. Nevertheless, the use of such resources would continue to represent a long-term commitment of essentially non-renewable or slowly renewable resources.

Implementation of the proposed project would also result in an increased demand for potable water and generation of wastewater. As discussed in Section X, Hydrology and Water Quality, and Section XIX, Utilities and Service Systems, after completing the General Plan Amendment and Rezone process, the project would be covered under water supply allocations for residential development, pursuant to the City's 2020 Urban Water Management Plan. The proposed project would have

sufficient water supplies available to meet future demand during normal, dry and multiple dry years. The adequacy of the water supply for the project is thus consistent with the basis of the analysis of Fresno's water supply in the adopted 2020 Urban Water Management Plan

Although the construction and ongoing operation of the proposed project would involve the use of non-renewable resources, through the inclusion of energy-conserving features of the proposed project, and compliance with applicable standards and regulations, the proposed project would not represent an unjustified use of such non-renewable resources.

6.3 SIGNIFICANT UNAVOIDABLE IMPACTS

The environmental effects of the proposed project, along with recommended mitigation measures, are discussed in detail in Chapter 4.0, Evaluation of Environmental Impacts, and summarized in the Executive Summary. The following environmental issues were determined to result in less-than-significant impacts, or can be reduced to less-than-significant levels with the incorporation of mitigation measures:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality (mitigation required)
- Biological Resources
- Cultural Resources (mitigation required)
- Energy
- Geology and Soils (mitigation required)
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise (mitigation required)
- Population and Housing
- Public Services
- Recreation
- Tribal Cultural Resources (mitigation required)
- Utilities and Service Systems
- Wildfire

Section 15126.2(c) of the *State CEQA Guidelines* requires that an EIR describe any significant impacts, including those that can be mitigated but not reduced to less than significant levels, as a result of implementation of the project. The following environmental issues were determined to result in potential significant and unavoidable impacts, even after implementation of feasible mitigation.

- **Greenhouse Gas (GHG) Emissions:** Potentially inconsistent with the Fresno GHG Consistency Checklist and project attributes in the 2022 Scoping Plan GHG emission thresholds due to increase in vehicle miles traveled (VMT); and

- **Transportation:** Potentially exceeds the City's VMT thresholds in conflict with *State CEQA Guidelines* Section 15064.3, subdivision (b).

This page intentionally left blank

7.0 REPORT PREPARATION

7.1 REPORT PREPARERS

7.1.1 City of Fresno

2600 Fresno Street
Fresno, CA 93721

Chris Lang, Planner III
Harmanjit Dhaliwal, PE, Supervising Professional Engineer

7.1.2 LSA Associates Inc.

Project Management and Report Production, Air Quality/Greenhouse Gas Emissions

2565 Alluvial Avenue, Suite 172
Clovis, CA 93611

Amy Fischer, President, Principal in Charge
Kyle Simpson, Principal/Project Manager
Cara Carlucci, Associate
Nathaly Granda Bustamante, Environmental Planner
Patty Linder, Graphics/Document Production

Transportation

1500 Iowa Avenue, Suite 200
Riverside, CA 92507

Ambarish Mukherjee, AICP, PE, Principal
Ravi Palakurthy, Senior Transportation Planner/Engineer
Debmalya Sinha, Senior Transportation Planner
Kimberly Cervantes, Transportation Engineer

7.2 REFERENCES

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.

California Air Pollution Control Officers Association (CAPCOA). 2010. *Quantifying Greenhouse Gas Mitigation Measures – A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures*. August.

_____. 2021. *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity – Designed for Local Governments, Communities, and Project Developers.* December.

California Air Resources Board (CARB). 2000a. Fact Sheet – California's Plan to Reduce Diesel Particulate Matter Emissions. October. Website: www.arb.ca.gov/diesel/factsheets/rrpfactsheet.pdf (accessed April 2023).

_____. 2000b. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October. Prepared by the Stationary Source Division and Mobile Source Control Division. Website: www.arb.ca.gov/diesel/documents/rrpFinal.pdf (accessed April 2023).

_____. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April.

_____. 2007a. "ARB approves tripling of early action measures required under AB 32" News Release 07-46. October 25.

_____. 2007b. *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration*. October.

_____. 2014. Cap-and-Trade Program. Website: www.arb.ca.gov/cc/capandtrade/capandtrade.htm (accessed April 2023).

_____. 2016. Ambient Air Quality Standards. Website: https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf

_____. 2017a. *California's 2017 Climate Change Scoping Plan*. November.

_____. 2017b. *Second Update to the Climate Change Scoping Plan: Building on the Framework*. Website: www.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2017-scoping-plan-documents (accessed April 2023).

_____. 2017c. Short-Lived Climate Pollutant Reduction Strategy. March. Website: https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf (accessed April 2023).

_____. 2018. SB 375 Regional Greenhouse Gas Emissions Reduction Targets. Website: https://ww2.arb.ca.gov/sites/default/files/2020-06/SB375_Final_Targets_2018.pdf

_____. 2020. Inhalable Particulate Matter and Health ($PM_{2.5}$ and PM_{10}). Website: ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health (accessed April 2023).

_____. 2022a. *California Greenhouse Gas Emissions for 2000 to 2020, Trends of Emissions and Other Indicators Report*. Website: https://ww2.arb.ca.gov/sites/default/files/classic/cc/inventory/2000-2020_ghg_inventory_trends.pdf (accessed April 2023).

_____. 2022b. GHGs Descriptions and Sources in California. Website: ww2.arb.ca.gov/ghg-descriptions-sources (accessed April 2023).

_____. 2022c. *2022 Scoping Plan Update*. December. Website: https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf (accessed January 2024).

_____. n.d.-a. Common Air Pollutants. Website: https://ww2.arb.ca.gov/resources/common-air-pollutants (accessed December 2023)

_____. n.d.-b. Sources of Air Pollution. Website: https://ww2.arb.ca.gov/resources/sources-air-pollution (accessed December 2023).

California Department of Transportation (Caltrans). 2002. Guide for the Preparation of Traffic Impact Studies. December.

_____. 2020. Highway Design Manual – Seventh Edition. July 1. Website: https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm (April 2023).

City of Fresno. 2014. City of Fresno General Plan.

_____. 2016. Fresno Municipal Code Chapter 15: Citywide Development Code. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/Complete_Code_March_2017.pdf (accessed February 2023).

_____. 2021. Greenhouse Gas Reduction Plan Update. March. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2021/03/Link4AppendixGGHGRPUpdate.pdf (accessed April 2023).

Fresno Metropolitan Flood Control District (FMFCD). 2019. Storm Drainage and Flood Control Master Plan. Website: http://www.fresnofloodcontrol.org/wp-content/uploads/2022/09/District-Wall-Map.png (accessed February 2023).

LSA Associates, Inc. 2023. Traffic Impact Study, Tract Map 6360 Project, City of Fresno, Fresno County, California. June.

Propper, Ralph, Patrick Wong, Son Bui, Jeff Austin, William Vance, Álvaro Alvarado, Bart Croes, and Dongmin Luo. 2015. Ambient and Emission Trends of Toxic Air Contaminants in California. American Chemical Society: Environmental Science & Technology. Website: pubs.acs.org/doi/full/10.1021/acs.est. 5b02766 (accessed April 2023).

San Joaquin Valley Air Pollution Control District (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 April 2023).

_____. 2015a. Final Staff Report. Update to District's Risk Management Policy to Address OEHHA's Revised Risk Assessment Guidance Document. May 28. Website: https://www.valleyair.org/busind/pto/staff-report-5-28-15.pdf (accessed April 2023).

_____. 2015b. Guidance for Assessing and Mitigating Air Quality Impacts. March. Website: https://www.valleyair.org/transportation/GAMAQI.pdf (accessed October 2023).

_____. 2018. 2018 Plan for the 1997, 2006, and 2012 PM2.5 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 April 2023).

_____. 2022. 2022 Plan for the 2015 8-Hour Ozone Standard. December 15. Website: https://ww2.valleyair.org/media/q55posm0/0000-2022-plan-for-the-2015-8-hour-ozone-standard.pdf (accessed April 2023).

_____. n.d. Ambient Air Quality Standards & Attainment Status - San Joaquin Valley Attainment Status. Website: https://ww2.valleyair.org/air-quality-information/ambient-air-quality-standards-valley-attainmnet-status/ (accessed December 2023)

United Nations Framework Convention on Climate Change (UNFCCC). 2022. GHG Data from UNFCCC. Website: https://di.unfccc.int/time_series (accessed April 2023).

United States Department of Agriculture (USDA) National Agriculture Statistics Service (NASS). 2022. CroplandCROS. Website: https://croplandcros.scinet.usda.gov/ (accessed February 2023).

United States Environmental Protection Agency (EPA). 2017. Black Carbon, Basic Information. February 14, 2017. Website: 19january2017snapshot.epa.gov/www3/airquality/blackcarbon/basic.html (accessed April 2023).

_____. 2021. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019. Website: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019 (accessed April 2023).

Western Regional Climate Center. n.d. Fresno Yosemite International Airport (043257), Period of Record Monthly Climate Summary. Website: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3257 (accessed April 2023).