City of
SACRAMENTO

COMMUNITY DEVELOPMENT
DEPARTMENT

ENVIRONMENTAL PLANNING
SERVICES

300 Richards Boulevard
Third Floor
Sacramento, CA 95811

MITIGATED NEGATIVE DECLARATION

The City of Sacramento, California, a municipal corporation, does hereby prepare, declare, and publish this Negative Declaration for the following described project:

Leisure Lane/Expo Parkway Gas Station and Retail Project (P22-037) The proposed project consists of a request for a Conditional Use Permit for a gas station, drive-through restaurant, tobacco sales, and alcoholic beverage sales (ABC Type 21) ; and Site Plan and Design Review for construction of a 3,930 square foot convenience store/drive through restaurant and 6 fuel islands (12 nozzles) on two vacant parcels of approximately 0.93 acres in the General Commercial (C-2-LI) Zone and within the Labor Intensive Overlay Zone. Site improvements would include parking stalls (including ADA and EV charging parking), trash enclosure, site lighting and landscaping.

The Lead Agency is the City of Sacramento. The City of Sacramento, Community Development Department, has reviewed the proposed project and, on the basis of the whole record before it, has determined that there is no substantial evidence that the project, as identified in the attached Initial Study, will have a significant effect on the environment. This Mitigated Negative Declaration reflects the lead agency's independent judgment and analysis. An Environmental Impact Report is not required pursuant to the Environmental Quality Act of 1970 (Sections 21000, et seq., Public Resources Code of the State of California).

This Mitigated Negative Declaration has been prepared pursuant to the California Environmental Quality Act (Public Resources Code Sections 21000 et seq.), CEQA Guidelines (Title 14, Sections 15000 et seq. of the California Code of Regulations), the Sacramento Local Environmental Regulations (Resolution 91-892) adopted by the City of Sacramento, and the Sacramento City Code.

A copy of this document and all supportive is available on the City's EIR Webpage at:
http://www.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports

Environmental Services Manager, City of Sacramento, California, a municipal corporation

By: Scott Johnson for Tom Buford

Date: May 1, 2023

City of SACRAMENTO

LEISURE LANE/EXPO PARKWAY GAS STATION AND RETAIL PROJECT (P22-037)

INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION FOR ANTICIPATED SUBSEQUENT PROJECTS UNDER THE 2035 GENERAL PLAN MASTER EIR

This Initial Study has been prepared by the City of Sacramento (City), Community Development Department, 300 Richards Boulevard, Third Floor, Sacramento, CA 95811, pursuant to the California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000 *et seq.*), CEQA Guidelines (Title 14, Section 15000 *et seq.* of the California Code of Regulations) and the Sacramento Local Environmental Regulations (Resolution 91-892) adopted by the City of Sacramento.

ORGANIZATION OF THE INITIAL STUDY

This Initial Study is organized into the following sections:

SECTION I - BACKGROUND: Provides summary background information about the project name, location, sponsor, and the date this Initial Study was completed.

SECTION II - PROJECT DESCRIPTION: Includes a detailed description of the proposed project.

SECTION III - ENVIRONMENTAL CHECKLIST AND DISCUSSION: Reviews proposed project and states whether the project would have additional significant environmental effects (project-specific effects) that were not evaluated in the Master EIR for the 2035 General Plan.

SECTION IV - ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: Identifies which environmental factors were determined to have additional significant environmental effects.

SECTION V - DETERMINATION: States whether environmental effects associated with development of the proposed project are significant, and what, if any, added environmental documentation may be required.

REFERENCES CITED: Identifies source materials that have been consulted in the preparation of the Initial Study.

SECTION I - BACKGROUND

Project Name and File Number: Leisure Lane/Expo Parkway Gas Station and Retail Project (P22-037)

Project Location: Leisure Lane and Expo Parkway
Sacramento, CA 95815
APN: 275-0260-030

Project Applicant: Qais Naderi, Business Development Manager
Boulevard Construction
4080 Truxel Road, Suite 100
Sacramento, CA 95834

Project Planner: Deja Harris, Assistant Planner
Community Development Department
City of Sacramento
300 Richards Blvd, 3rd Floor
Sacramento, CA 95811

Environmental Planner: Ron Bess, Associate Planner
Community Development Department
City of Sacramento
300 Richards Blvd, 3rd Floor
Sacramento, CA 95811

Date Initial Study Completed:

This Initial Study was prepared in accordance with CEQA (Public Resources Code Sections 1500 *et seq*.). The Lead Agency is the City of Sacramento.

The City, Community Development Department, has reviewed the proposed project and, on the basis of the whole record before it, has determined that the proposed project is an anticipated subsequent project identified and described in the 2035 General Plan Master Environmental Impact Report (EIR) and is consistent with the land use designation and the permissible densities and intensities of use for the project site as set forth in the 2035 General Plan. See CEQA Guidelines Section 15176 (b) and (d). It should be noted that the City is currently in the process of drafting the 2040 General Plan Update. Since a final plan has not been adopted, this Initial Study will reference the 2035 General Plan and Master EIR.

The City has prepared the attached Initial Study to review the discussions of cumulative impacts, growth inducing impacts, and irreversible significant effects in the 2035 General Plan Master EIR to determine their adequacy for the project (see CEQA Guidelines Section 15178(b),(c)) and identify any potential new or additional project-specific significant environmental effects that were not analyzed in the Master EIR and any mitigation measures or alternatives that may avoid or mitigate the identified effects to a level of insignificance, if any.

As part of the Master EIR process, the City is required to incorporate all feasible mitigation measures or feasible alternatives appropriate to the project as set forth in the Master EIR (CEQA Guidelines Section 15177(d)) Policies included in the 2035 General Plan that reduce significant impacts identified in the Master EIR are identified and discussed. See also the Master EIR for the 2035 General Plan. The mitigation monitoring plan for the 2035 General Plan, which provides references to applicable general plan policies that reduce the environmental effects of development that may occur consistent with the general plan, is

included in the adopting resolution for the Master EIR. See City Council Resolution No. 2015-0060, beginning on page 60. The resolution is available at

http://portal.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports.aspx.

This analysis incorporates by reference the general discussion portions of the 2035 General Plan Master EIR. (CEQA Guidelines Section 15150(a)). The Master EIR is available for public review at the City of Sacramento's web site at:

http://www.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports.aspx

The City is soliciting views of interested persons and agencies on the content of the environmental information presented in this document. Written comments should be sent at the earliest possible date, but no later than the 30-day review period ending June 5, 2023.

Please send written responses to:

Ron Bess, Associate Planner
Community Development Department
City of Sacramento
300 Richards Blvd, 3rd Floor
Sacramento, CA 95811
Direct Line: (916) 808-8272
rbess@cityofsacramento.org

SECTION II - PROJECT DESCRIPTION

INTRODUCTION

This section of the IS/MND provides project location and description of the Leisure Lane/Expo Parkway Gas Station and Retail Project (project).

PROJECT LOCATION

The project is located on a vacant parcel (APN: 275-0260-030) approximately 0.1 miles east of the intersection of Leisure Lane and Expo Parkway in Sacramento, California (Figure 1. Project Vicinity).

The project site is located within the North Sacramento Community Plan Area. The 2035 General Plan identifies the land use designation within the project area as Suburban Center and the project is zoned as C-2 – General Commercial (Figure 2. Land Use Designation and Figure 3. Zoning).

PROJECT DESCRIPTION

Boulevard Construction proposes to construct a new gas station and retail building on an undeveloped parcel located approximately 0.1 miles east of the Leisure Lane and Expo Parkway intersection (Figure 4. Project Features). The proposed retail building will include a 2,280 square foot (sf) convenience store building and 1,650 sf restaurant building. The proposed gas station will include six MPDs (multiple product dispensers). Site improvements would include parking stalls (including ADA and EV charging parking), trash enclosure, site lighting and landscaping.

Items to be sold at this facility

The gas station will sell gasoline fuel. The items to be sold at the retail tenant are to be determined by the future retail tenant, but would most likely be typical for sale items at a convenience market.

Hours of Operation

The hours of operation for the gas station are 24 hours per day, 7 days per week, 365 days per year. The hours of operation for the retail building will be determined by future retail tenant.

Site Lighting

The exterior lighting levels will be enough to ensure the safety of the facility, but to not provide glare or excessive light spillage onto adjacent properties or the public right-of-way.

FIGURES AND MAPS

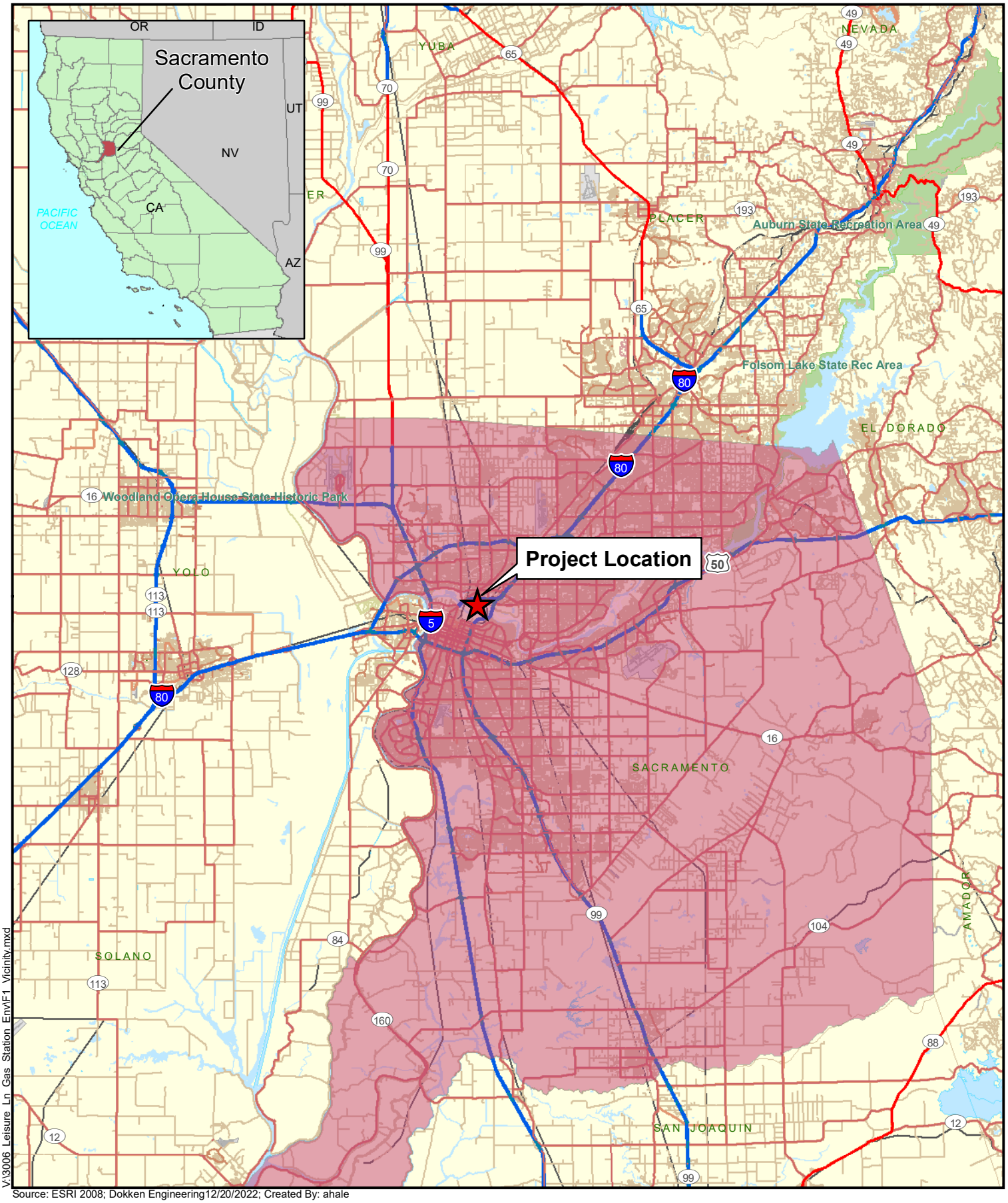
Figure 1. Project Vicinity Map

Figure 2. Land Use Designation Map

Figure 3. Zoning Map

Figure 4. Site Plan

Figure 5. Noise Measurement and Receiver Locations



Source: ESRI 2008; Dokken Engineering12/20/2022; Created By: ahale

0 5 10 15 Miles

FIGURE 1
Project Vicinity

Leisure Lane/Expo Parkway Gas Station and Retail Project
City of Sacramento, Sacramento County, California

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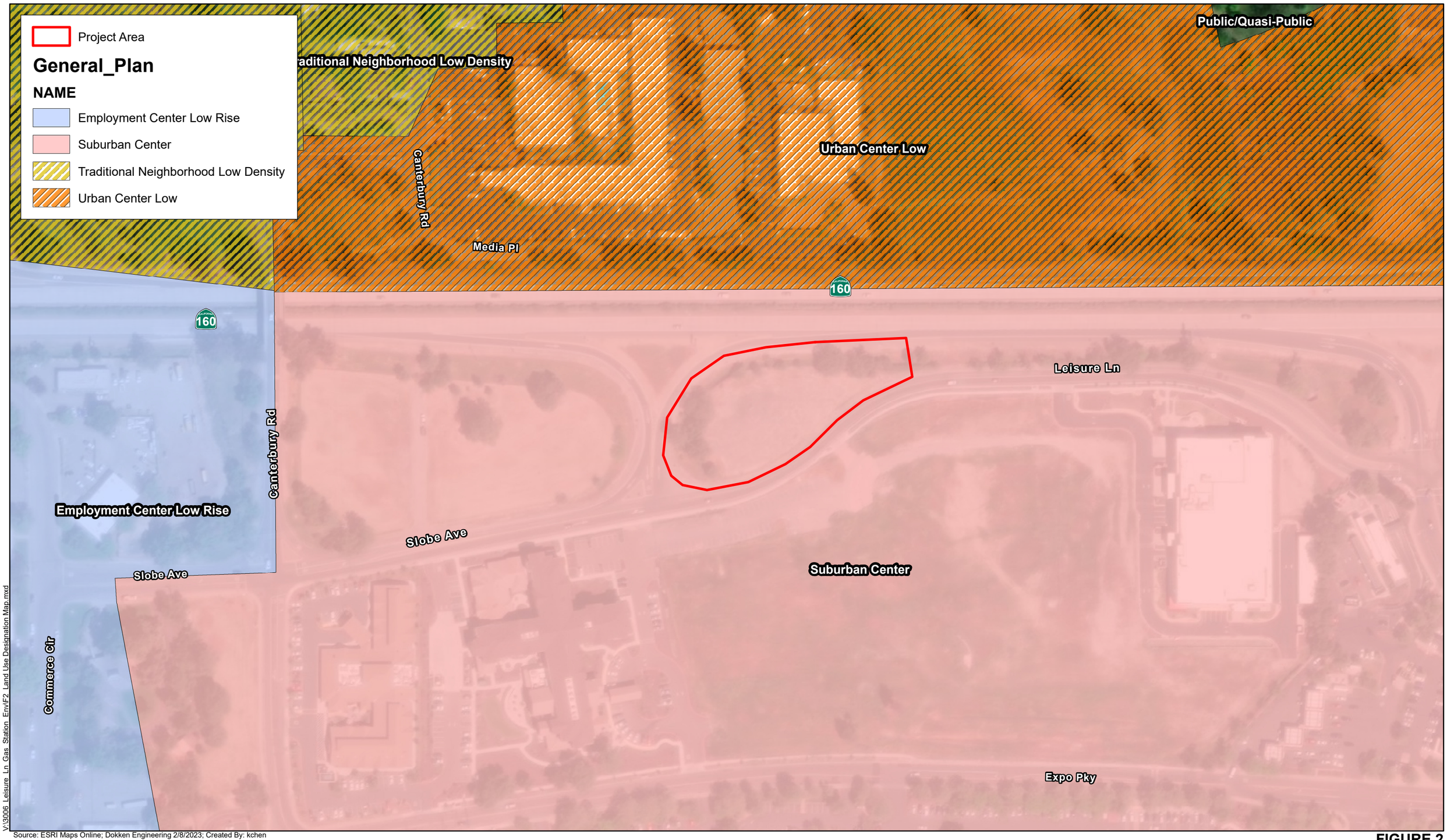


V:\3006_Leisure_Ln_Gas_Station_Env\F2_Land Use Designation Map.mxd

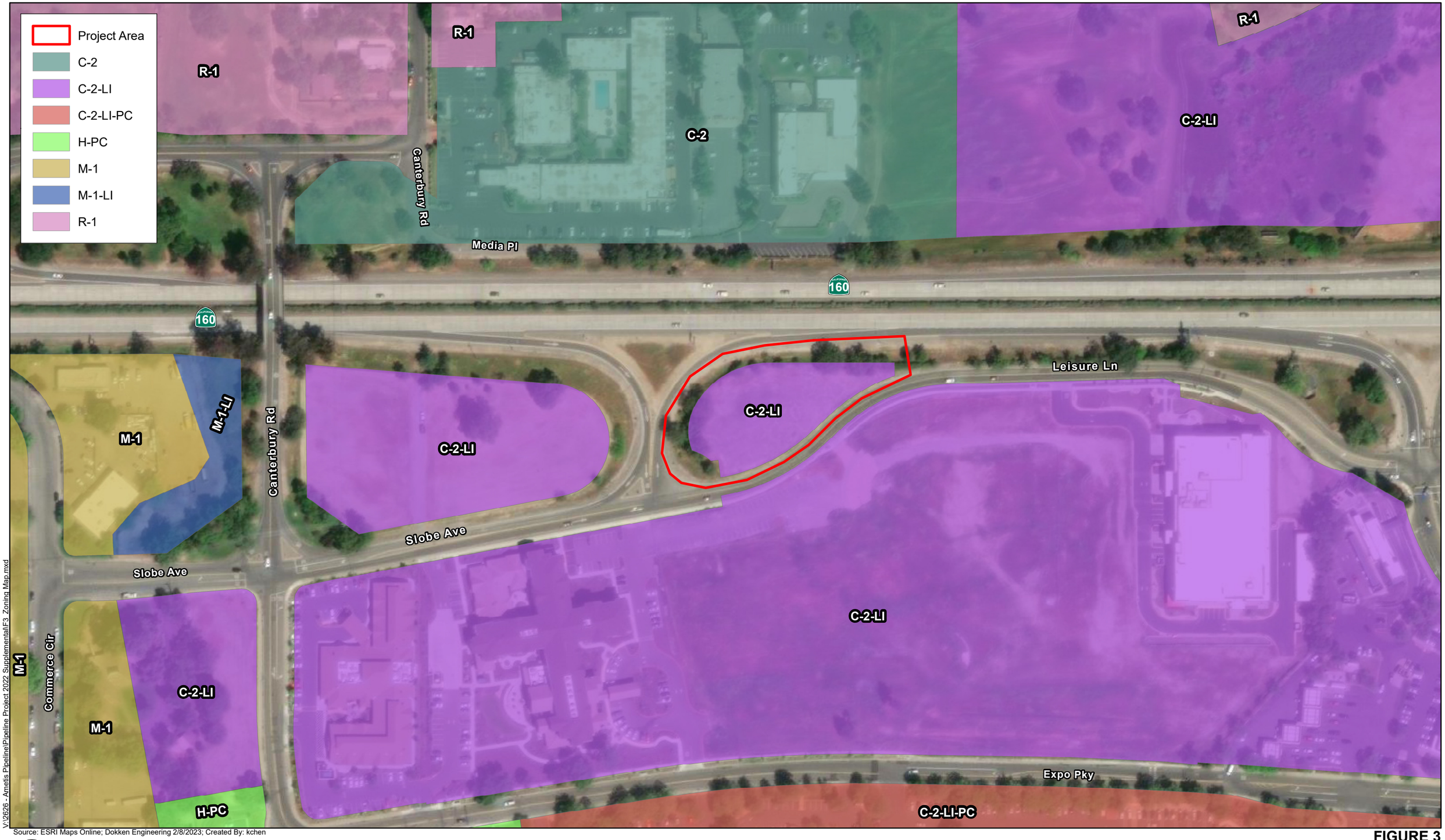
Source: ESRI Maps Online; Dokken Engineering 2/8/2023; Created By: kchen

1 inch = 150 feet

0 150 300 450 600 750 Feet

FIGURE 2
General Plan Land Use Designation Map

Leisure Lane/Expo Parkway Gas Station and Retail Project
City of Sacramento, Sacramento County, California



V:\2626 - Ametis Pipeline\Pipeline Project 2022 Supplemental\F3_Zoning Map.mxd

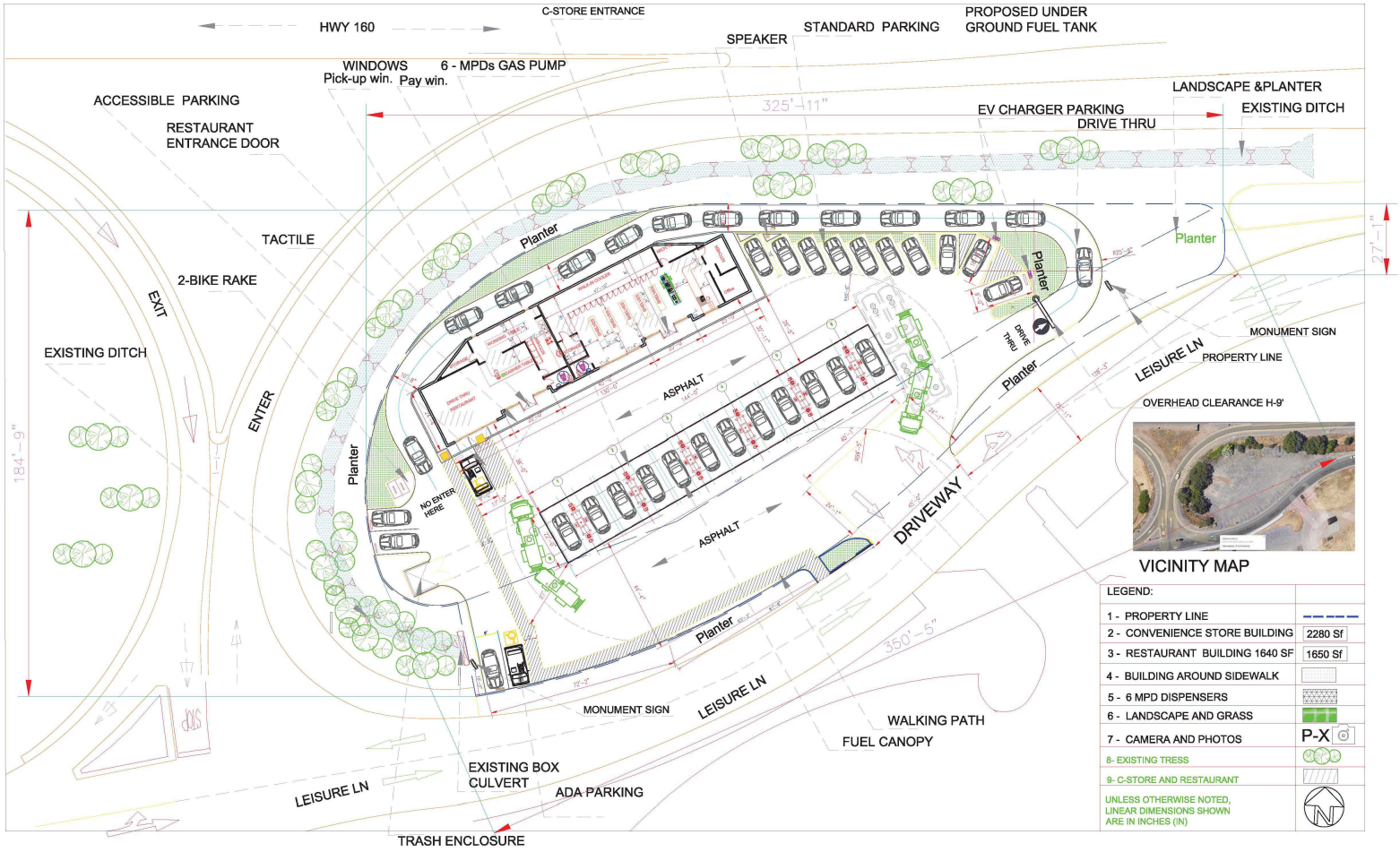
Source: ESRI Maps Online; Dokken Engineering 2/8/2023; Created By: kchen

1 inch = 150 feet

0 150 300 450 600 750 Feet

FIGURE 3
Zoning Map

Leisure Lane/Expo Parkway Gas Station and Retail Project
City of Sacramento, Sacramento County, California



1 PORPOSED SITE PLAN
Scale: 1"=20'-0"

PROJECT MANAGER:
Zaman Hamim
4080 Truxel Road
Sacramento, Ca. 95834
(916) 529-3982
zaman_hamim@yahoo.com

ARCHITECT OF RECORD :
BOULEVARD Construction
4080 TRUXEL ROAD
SACRAMENTO,CA 95834
PHONE: (916) 892-9949
FAX: (916) 283-7501
pm@theboulevard.us
www.boulevard.com

PROJECT:
LEISURE LN. EXPO PARKWAY
SACRAMENTO, CA95815

REVISIONS: BY: DESCRIPTION: DATE:

CURRENT ISSUE DATE: 07-13-22
ISSUED FOR :
CONTROL NUMBER:

DRAWN BY: BOULEVARD
CHECKED:
APPROVED:

SHEET TITLE: PROPOSED SITE PLAN

SHEET # C-2.0

SECTION III – ENVIRONMENTAL CHECKLIST AND DISCUSSION

Land Use, Population and Housing, Agricultural Resources, and Wildfire

Introduction

CEQA requires the Lead Agency to examine the effects of a project on the physical conditions that exist within the area that would be affected by the project. CEQA also requires a discussion of any inconsistency between the proposed project and applicable general plans and regional plans.

An inconsistency between the proposed project and an adopted plan for land use development in a community would not constitute a physical change in the environment. When a project diverges from an adopted plan, however, it may affect planning in the community regarding infrastructure and services, and the new demands generated by the project may result in later physical changes in response to the project.

In the same manner, the fact that a project brings new people or demand for housing to a community does not, by itself, change the physical conditions. An increase in population may, however, generate changes in retail demand or demand for governmental services, and the demand for housing may generate new activity in residential development. Physical environmental impacts that could result from implementing the proposed project are discussed in the appropriate technical sections.

This section of the initial study identifies the applicable land use designations, plans and policies, and permissible densities and intensities of use, and discusses any inconsistencies between these plans and the proposed project. This section also discusses agricultural resources and wildfire, and the effect of the project on these resources.

Discussion

Land Use

The project site is located within the North Sacramento Community Plan Area. The 2035 General Plan identifies the land use designation within the project area as Suburban Center and the project is zoned as C-2 – General Commercial (Figure 2. Land Use Designation and Figure 3. Zoning). The surrounding land uses within the project vicinity are designated as Suburban Center and Urban Center Low.

The project site is located in the central portion of the City of Sacramento on a vacant, paved lot directly south of State Route 160 (SR 160). The site can be accessed from SR 160 via Leisure Lane. The site is bounded by SR 160 to the north, with a commercial hotel and residential neighborhoods further north beyond SR 160, Leisure Lane and commercial land uses to the east, Leisure Lane and vacant land uses to the south, and vacant land to the west. The nearest residences to the project site are located approximately 665 feet to the north. Additionally, there is an assisted living facility approximately 275 feet to the southwest of the Project site. The Project site is relatively flat with no structures. Although development of the site would alter the existing landscape, the project site has been designated for urban development in the 2035 General Plan and the Planning and Development Code, and the proposed development is consistent with these planning designations.

As outlined in the Sacramento City Code Title 17.216 of the Planning and Development Code Division II Zoning Districts and Land Use Regulations, C-2 Zone – General Commercial Zone is used to provide for the sale of goods, the performance of services, and limited processing and packaging. The project is consistent with C-2 zoning designation since the retail building and other amenities, such as the gasoline station, will be used for commercial purposes. The project does not impact the City's land use and planning objectives.

Population and Housing

The project site is located in a developed area and would not include the extension of major infrastructure. Given the nature and scale of the development proposed, the project would not be anticipated to create a large number of jobs or result in a large influx of new residents to the project area. Rather, the project is intended to serve the needs of the existing residences in the site vicinity. In addition, the proposed project site does not contain any existing residences. As such, the proposed project would not displace a substantial number of existing housing or people and would not necessitate the construction of replacement housing elsewhere. The proposed project would not result in impacts related to population and housing.

Agricultural Resources

The Master EIR discussed the potential impact of development under the 2035 General Plan on agricultural resources. See Master EIR, Chapter 4.1. In addition to evaluating the effect of the general plan on sites within the City, the Master EIR noted that to the extent the 2035 General Plan accommodates future growth within the City limits, the conversion of farmland outside the City limits is minimized. The Master EIR concluded that the impact of the 2035 General Plan on agricultural resources within the City was less than significant.

According to the California Important Farmland Finder, soils within the project site contains are designated as Urban Land (California Department of Conservation 2022). The project does not contain soils designated as Important Farmland (i.e., Prime Farmland, Unique Farmland or Farmland of Statewide Importance). The site is not zoned for agricultural uses, and there are no Williamson Act contracts that affect the project site. No existing agricultural or timber-harvest uses are located on or in the vicinity of the project site. Development of the site would result in no impacts on agricultural resources.

Wildfire

The Master EIR does not identify any significant impacts related to wildfire risk. Per the CAL FIRE Fire and Resources Assessment Program (FRAP), the City is located within a Local Responsibility Area (LRA). The City is not located within or adjacent to a State Responsibility Area (SRA) or a designated Very High Fire Hazard Severity Zone (VHFHSZ). Furthermore, the project site is located within a developed area where a substantial wildland-urban interface does not exist. Thus, the risk of wildfire at the project site is minimal. Based on the above, the proposed project would not create a substantial fire risk for existing development in the project vicinity.

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
1. AESTHETICS Would the proposal: A) Create a source of glare that would cause a public hazard or annoyance?			X
B) Create a new source of light that would be cast onto oncoming traffic or residential uses?			X
C) Substantially degrade the existing visual character of the site or its surroundings?			X

ENVIRONMENTAL SETTING

The project is located on a vacant parcel east of the intersection of Leisure Lane and Expo Parkway (Figure 1. Project Vicinity). Land use in the vicinity is characterized as Suburban Center (Figure 2). Local topography is relatively flat.

Existing conditions include roads, sidewalks, streetlamps, and the presence of various commercial uses. Some existing vegetation and landscaping is present along the roadways within the project vicinity. Public views of the project site include views from motorists, bicyclists, and pedestrians travelling on Leisure Lane and Lincoln Highway 160 and local residents and customers traveling through the area.

The project site does not contain any scenic resources and is not contained within an area designated as a scenic resource or vista. Additionally, no scenic roadways are within or adjacent to the project site. Although the American River Parkway and American River are located less than a mile to the south of the project, they are not visible from the project area due to other visual obstructions.

STANDARDS OF SIGNIFICANCE

The significance criteria used to evaluate the project impacts to aesthetics are based on Appendix G of CEQA Guidelines, thresholds of significance adopted by the City in applicable general plans and previous environmental documents, and professional judgment. A significant impact related to aesthetics would occur if the project would:

- substantially interfere with an important scenic resource or substantially degrade the view of an existing scenic resource; or
- create a new source of substantial light or glare that is substantially greater than typical urban sources and could cause sustained annoyance or hazard for nearby sensitive receptors.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

The Master EIR described the existing visual conditions in the City, and the potential changes to those conditions that could result from development consistent with the 2035 General Plan. See Master EIR, Chapter 4.13, Visual Resources.

The Master EIR identified potential impacts for light and glare (Impact 4.13-1) and concluded that impacts would be less than significant.

ANSWERS TO CHECKLIST QUESTIONS

A. Would the project create a source of glare that would cause a public hazard or annoyance?

No additional significant environmental effect. The project is located in an urbanized area and is adjacent to Sacramento Lincoln Highway, where lighting already exists throughout the area. The project proposes new site lighting but would be designed to not provide glare or excessive light spillage onto adjacent properties or the public right-of-way. As such, the project would not create a source of glare that would cause a public hazard or annoyance.

B. Would the project create a new source of light that would be cast onto oncoming traffic or residential uses?

No additional significant environmental effect. As mentioned above, lighting already exists throughout the project vicinity due to existing development and roadways in the area. Therefore, the project would not create a new source of light that would be cast onto oncoming traffic or residential uses.

C. Would the project substantially degrade the existing visual character of the site or its surroundings?

No additional significant environmental effect. Visually sensitive public locations include vantage points where a change affecting a scenic resource or the visibility of a scenic resource would affect the general public. Visually sensitive public locations within the City include major natural open space features such as the American River and Sacramento River, as well as important scenic resources including the State Capitol and historic landmarks such as the Old Sacramento Waterfront. Although the American River is south of the project site, it is not within sight and therefore not considered a visually sensitive vantage point.

The proposed project consists of the construction of a new retail building and a gas station, along with various site improvements. The project area is in a developed area located on a small plot of undeveloped land that contains little vegetation. Additionally, the project is consistent with the 2035 General Plan land use designation and existing zoning. Because the proposed project is consistent with the General Plan, impacts related to aesthetics have been evaluated within the General Plan EIR. With adherence to General Plan policies, the development of the project is not anticipated to substantially alter the existing visual character of the landscape.

MITIGATION MEASURES

None.

FINDINGS

The project would have no additional project-specific environmental effects relating to Aesthetics.

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
2. AIR QUALITY *Would the proposal:* A) Result in construction emissions of NO_x above 85 pounds per day?			X
B) Result in operational emissions of NO_x or ROG above 65 pounds per day?			X
C) Violate any air quality standard or have a cumulatively considerable contribution to an existing or projected air quality violation?			X
D) Result in PM_{10} and $PM_{2.5}$ concentrations that exceed SAMQMD requirements?		X	
E) Result in CO concentrations that exceed the 1-hour state ambient air quality standard (i.e., 20.0 ppm) or the 8-hour state ambient standard (i.e., 9.0 ppm)?			X
F) Result in exposure of sensitive receptors to substantial pollutant concentrations?			X
G) Result in TAC exposures create a risk of 10 in 1 million for stationary sources, or substantially increase the risk of exposure to TACs from mobile sources?			X

ENVIRONMENTAL SETTING

The City is located within the Sacramento Valley Air Basin (SVAB), which is a valley bounded by the North Coast Mountain Ranges to the west and the Northern Sierra Nevada Mountains to the east. The terrain in the valley is flat and approximately 25 feet above sea level.

Hot, dry summers and mild, rainy winters characterize the Mediterranean climate of the Sacramento Valley. Throughout the year, daily temperatures may range by 20 degrees Fahrenheit with summer highs often exceeding 100 degrees and winter lows occasionally below freezing. Average annual rainfall is about 20 inches and snowfall is very rare. Summertime temperatures are normally moderated by the presence of the "Delta breeze" that arrives through the Carquinez Strait in the evening hours.

The mountains surrounding the SVAB create a barrier to airflow, which can trap air pollutants in the valley. The highest frequency of air stagnation occurs in the autumn and early winter when large high-pressure cells lie over the valley. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduces the influx of outside air and allows air pollutants to become concentrated in a stable volume of air. The surface concentrations of pollutants are highest when these conditions are combined with temperature inversions that trap cooler air and pollutants near the ground.

The warmer months in the SVAB (May through October) are characterized by stagnant morning air or light winds, and the Delta breeze that arrives in the evening out of the southwest. Usually, the evening breeze transports a portion of airborne pollutants to the north and out of the Sacramento Valley during about half of the day from July to September, however, a phenomenon called the "Schultz Eddy" prevents this from occurring. Instead of allowing the prevailing wind patterns to move north carrying the pollutants out of the valley, the Schultz Eddy causes the wind pattern to circle back south. This phenomenon exacerbates the pollution levels in the area and increases the likelihood of violating Federal or State standards. The Schultz Eddy normally dissipates around noon when the Delta breeze begins.

Criteria Air Pollutants

Concentrations of emissions from criteria air pollutants (the most prevalent air pollutants known to be harmful to human health) are used to indicate the quality of the ambient air. Criteria air pollutants include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable and fine particulate matter (PM_{10} and $PM_{2.5}$), and lead. The sources of criteria air pollutants and their respective acute and chronic health impacts are described in Table 1.

Table 1. Sources and Health Effects of Criteria Air Pollutants

Pollutant	Sources	Acute[1] Health Effects	Chronic[2] Health Effects
Ozone	Secondary pollutant resulting from reaction of ROG and NO_X in presence of sunlight. ROG emissions result from incomplete combustion and evaporation of chemical solvents and fuels; NO_X results from the combustion of fuels	Increased respiration and pulmonary resistance; cough, pain, shortness of breath, lung inflammation	Permeability of respiratory epithelia, possibility of permanent lung impairment
CO	Incomplete combustion of fuels; motor vehicle exhaust	Headache, dizziness, fatigue, nausea, vomiting, death	Permanent heart and brain damage
NO_2	Combustion devices; e.g., boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines	Coughing, difficulty breathing, vomiting, headache, eye irritation, chemical pneumonitis or pulmonary edema; breathing abnormalities, cough, cyanosis, chest pain, rapid heartbeat, death	Chronic bronchitis, decreased lung function
SO_2	Coal and oil combustion, steel mills, refineries, and pulp and paper mills	Irritation of upper respiratory tract, increased asthma symptoms	Insufficient evidence linking SO_2 exposure to chronic health impacts
PM_{10}, $PM_{2.5}$	Fugitive dust, soot, smoke, mobile and stationary sources, construction, fires and natural windblown dust, and formation in the Atmosphere by condensation and/or transformation of SO_2 and ROG	Breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, Premature death	Alterations to the immune system, carcinogenesis
Lead	Metal processing	Reproductive/developmental effects (fetuses and children)	Numerous effects including neurological, endocrine, and cardiovascular effects

Notes: NO_X = oxides of nitrogen; ROG = reactive organic gases.
1. "Acute" refers to effects of short-term exposures to criteria air pollutants, usually at fairly high concentrations.
2. "Chronic" refers to effects of long-term exposures to criteria air pollutants, usually at lower, ambient concentrations.
Source: EPA 2018

Existing Air Quality

The U.S. Environmental Protection Agency (EPA) has been charged with implementing national air quality programs. EPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was enacted in 1970 and most recently amended by Congress in 1990. The CAA required EPA to establish the

National Ambient Air Quality Standards (NAAQS) for the following criteria air pollutants: ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. CAA also requires each State to prepare a State implementation plan (SIP) for attaining and maintaining the NAAQS. The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. Individual SIPs are modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies.

The California Air Resources Board (CARB) is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA, which was adopted in 1988, required CARB to establish its own California Ambient Air Quality Standards (CAAQS). CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. In most cases the CAAQS are more stringent than the NAAQS.

The SVAB is currently designated as nonattainment for the NAAQS 8-hour ozone standard and the CAAQS for both 1-hour and 8-hour O_3 standard. The SVAB is also currently designated as nonattainment for both NAAQS and CAAQS 24-hour PM_{10} standards. In addition, the SVAB is currently designated as nonattainment for the NAAQS 24-hour $PM_{2.5}$ standard. The air basin is designated as unclassified or in attainment for the remaining criteria air pollutants (SMAQMD 2019).

Toxic Air Contaminants

According to the California Almanac of Emissions and Air Quality (CARB 2013), the majority of the estimated health risks from toxic air contaminants (TACs) can be attributed to relatively few compounds, the most important being diesel particulate matter (diesel PM). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emissions control system is being used. In addition to diesel PM, the TACs for which data are available that pose the greatest existing ambient risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene.

SMAQMD Health Risk Assessment Thresholds of Significance

Stationary sources having the potential to emit TACs, including gas stations, are required to obtain permits from the SMAQMD. Permits may be granted to these operations provided they are operated in accordance with applicable SMAQMD rules and regulations. SMAQMD's gasoline station permitting process provides for the review of gasoline TAC emissions to evaluate potential public exposure and health risk, to mitigate potentially significant health risks resulting from these exposures, and to provide net health risk benefits by improving the level of control when existing sources are modified or replaced. SMAQMD's permitting procedures require substantial control of emissions, and permits are not issued unless TAC risk screening or TAC risk assessment can show that risks are not significant.

Table 2 below shoes the SMAQMD health risk thresholds of significance:

Table 2. SMAQMD Health Risk Assessment Thresholds of Significance

Land Use	Value	Units
Elevated Cancer Risk	10	In One Million
Chronic Hazard Quotient	1	Health Hazard Index
Acute Hazard Quotient	1	Health Hazard Index

Sensitive Receptors

Sensitive receptors are generally considered to include those land uses where exposure to pollutants could result in health-related risks to sensitive individuals, such as children or the elderly. Residential dwellings, schools, hospitals, playgrounds, and similar facilities are of primary concern because of the presence of individuals particularly sensitive to pollutants and/or the potential for increased and prolonged exposure of individuals to pollutants. The closest sensitive receptors to the project site include residential dwellings and a high school.

STANDARDS OF SIGNIFICANCE

For purposes of this Initial Study, air quality impacts may be considered significant if construction and/or implementation of the proposed project would result in the following impacts that remain significant after implementation of 2035 General Plan policies:

- Construction emissions of NO_x above 85 pounds per day;
- Operational emissions of NO_x or ROG above 65 pounds per day;
- Violation of any air quality standard or contribute substantially to an existing or projected air quality violation;
- Any increase in PM10 concentrations, unless all feasible Best Available Control Technology (BACT) and Best Management Practices (BMPs) have been applied, then increases above 80 pounds per day or 14.6 tons per year;
- CO concentrations that exceed the 1-hour State ambient air quality standard (i.e., 20.0 ppm) or the 8-hour State ambient standard (i.e., 9.0 ppm); or
- Exposure of sensitive receptors to substantial pollutant concentrations.

Ambient air quality standards have not been established for TAC. TAC exposure is deemed to be significant if:

- TAC exposures create a risk of 10 in 1 million for stationary sources, or substantially increase the risk of exposure to TACs from mobile sources.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

The Master EIR addressed the potential effects of the 2035 General Plan on ambient air quality and the potential for exposure of people, especially sensitive receptors such as children or the elderly, to unhealthful pollutant concentrations. See Master EIR, Chapter 4.2.

Policies in the 2035 General Plan in Environmental Resources were identified as mitigating potential effects of development that could occur under the 2035 General Plan. For example, Policy ER 6.1.1 calls for the City to work with the California Air Resources Board and the Sacramento Metropolitan Air Quality Management District (SMAQMD) to meet state and federal air quality standards; Policy ER 6.1.2 requires the City to review proposed development projects to ensure that the projects incorporate feasible measures that reduce construction and operational emissions; Policy ER 6.1.4 and ER 6.1.11 calls for coordination of City efforts with SMAQMD; and Policy ER 6.1.15 requires the City to give preference to contractors using reduced-emission equipment.

The Master EIR identified exposure to sources of TAC as a potential effect. Policies in the 2035 General Plan would reduce the effect to a less-than-significant level. The policies include ER 6.1.4, requiring

coordination with SMAQMD in evaluating exposure of sensitive receptors to TACs, and impose appropriate conditions on projects to protect public health and safety; as well as Policy LU 2.7.5 requiring extensive landscaping and trees along freeways fronting elevation and design elements that provide proper filtering, ventilation, and exhaust of vehicle air emissions from buildings.

ANSWERS TO CHECKLIST QUESTIONS

A. Result in construction emissions of NOx above 85 pounds per day?

No significant additional environmental effect. Construction emissions for the proposed project were estimated using CalEEMod version 2022.1.15. The modelling assumptions, inputs, and output file can be found in Appendix A of this document. The results of the modelling show that construction of the project would result in up to 0.18 tons of NOx annually (or 0.97 pounds of NOx per day on average). Therefore, construction of the proposed project would not result in excess of 85 pounds of NOx per day. The project would have no additional significant effects that were not evaluated in the Master EIR.

B. Result in operational emissions of NOx or ROG above 65 pounds per day?

No significant additional environmental effect. Operational emissions for the proposed project were estimated using CalEEMod version 2022.1.15. The modelling assumptions, inputs, and output file can be found in Appendix A. The results of the modelling show that operational emissions resulting from the project would result in up to 2.73 tons of NOx annually (15 pounds per day on average), and 3.37 tons of ROG annually (18.5 pounds per day on average). Therefore, operational emissions as a result of the proposed project would not result in excess of 65 pounds per day. The project would have no additional significant effects that were not evaluated in the Master EIR.

C. Violate any air quality standard or have a cumulatively considerable contribution to an existing or projected air quality violation?

No significant additional environmental effect. The proposed project's daily and annual emissions of criteria air pollutants during construction and operation are shown in Appendix A. All of these projected emissions are within the SMAQMD thresholds of significance. Accordingly, the proposed project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation, and the project would have no additional significant effects that were not evaluated in the Master EIR.

D. Result in PM10 and PM2.5 concentrations that exceed SMAQMD requirements?

Effect can be mitigated to less than significant. The SMAQMD thresholds of significance for PM includes the following and apply to both construction and operational emissions:

- PM10: Zero (0). IF all feasible BACT/BMPs are implemented, then 80 lbs/day and 14.6 tons/year

- PM2.5: Zero (0). IF all feasible BACT/BMPs are implemented, then 82 lbs/day and 15 tons/year

Construction emissions for the proposed project were estimated using CalEEMod version 2022.1.15, soft release. The modelling assumptions, inputs, and output file can be found in Appendix A. The results of the modelling show that construction of the proposed project would result in 0.02 tons annually (0.08 pounds per day on average) of PM10 emissions and 0.01 tons annually (0.06 pounds per day on average) of PM2.5 emissions. Operational emissions of the proposed project would result in 1.29 tons annually (7.09 pounds per day on average) of PM10

emissions and 0.26 tons annually (1.41 pounds per day on average) of PM2.5 emissions. With adherence to standard BMPs required with SMAQMD, as described in measure **AQ-1**, the proposed project would not result in PM10 or PM2.5 concentrations that exceed SMAQMD requirements.

E. Result in CO concentrations that exceed the 1-hour state ambient air quality standard (i.e., 20.0 ppm) or the 8-hour state ambient standard (i.e., 9.0 ppm)?

No significant additional environmental effect. Localized concentrations of CO, or "hot spots," are primarily of concern for heavily congested roadways with stop-and-go traffic, particularly in areas with limited vertical mixing such as tunnels, long underpasses, or below-grade roadways. The proposed project would result in the construction of a new retail building and gas station on an undeveloped parcel in an urban area that may generate additional traffic on adjacent roadways. However, the impact would not be to a significant degree such that roadways would congest and cause an exceedance of the state's 1-hour state ambient air quality standard for CO concentrations. The project would have no additional significant effects that were not evaluated in the Master EIR.

F. Result in exposure of sensitive receptors to substantial pollutant concentrations?

No significant additional environmental effect. Although construction of the project would result in associated air pollutants, these increases are not concentrated and are well below significance thresholds as shown in the discussion above. Construction activities would be short-term and intermittent in nature and would not expose sensitive receptors to substantial pollutant concentrations. In addition, adherence to standard dust control and construction BMPs would be required as part of the project's Construction Management Plan.

The structures and amenities built by this project will be consistent with current safety code and would not result in operational emissions that would expose sensitive receptors to long-term substantial pollutant concentrations as shown in the discussion above. The project would have no additional significant effects that were not evaluated in the Master EIR.

G. Result in TAC exposures create a risk of 10 in 1 million for stationary sources, or substantially increase the risk of exposure to TACs from mobile sources?

No significant additional environmental effect. Sources of TACs include commercial operations such as gasoline stations and motor vehicle exhaust. Public exposure to TACs can result from emissions from normal operations, as well as accidental releases of hazardous materials such as gasoline vapors during upset conditions.

The project would result in the construction of a gasoline dispensing station consisting of 12 fueling positions, which would allow for fueling operations with an expected throughput of 100,000 gallons per year. According to the Health Risk Assessment prepared for the project by ECORP Consulting, Inc. in January 2023, the existing residents and workers in the surrounding area would not experience a significant amount of TAC exposure exceeding 10 in 1 million due to fueling operations at the project site. The project would have no additional significant effects that were not evaluated in the Master EIR.

MITIGATION MEASURES

AQ-1: Implement SMAQMD Basic and Enhanced Construction Emission Control Practices to Reduce Fugitive Dust.

The implementing agency will require, as a standard or specification of their contract, the construction contractor(s) to implement basic and enhanced control measures to reduce

construction-related fugitive dust. Although the following measures are outlined in the SMAQMD's CEQA guidelines, they are required for the entirety of the construction area. The implementing agency will ensure through contract provisions and specifications that the contractor adheres to the mitigation measures before and during construction and documents compliance with the adopted mitigation measures.

- Water all exposed surfaces two times daily. Exposed surfaces include (but are not limited to) soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least 2 feet of freeboard space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour.
- All roadway, driveway, sidewalk, and parking lot paving should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

AQ-2: In accordance with the SMAQMD's CEQA Guidance, all projects undergoing environmental review should implement the Tier 1 BMPs – even if they do not exceed the operational screening table in Chapter 4 of the CEQA guide.

- BMP 1 – Projects shall be designed and constructed without natural gas infrastructure. For the area of the building with cooking equipment, the building official shall grant the exemption only for fuel gas piping, fixtures, or infrastructure necessary for cooking equipment within the designated food service area.

If project greenhouse gas emissions are over the 1,100 metric tons CO2e/year after the project applied Tier 1 BMPs, Tier 2 BMPs should be implemented.

- BMP 2 – Projects shall meet the current CalGreen Tier 2 standards, except all electric vehicle capable spaces shall instead be electric vehicle nearby.

FINDINGS

All additional significant environmental effects of the project relating to Air Quality can be mitigated to a less-than-significant level.

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
3. BIOLOGICAL RESOURCES Would the proposal: A) Create a potential health hazard, or use, production or disposal of materials that would pose a hazard to plant or animal populations in the area affected?			X
B) Result in substantial degradation of the quality of the environment, reduction of the habitat, reduction of population below self-sustaining levels of threatened or endangered species of plant or animal species?			X
C) Affect other species of special concern to agencies or natural resource organizations (such as regulatory waters and wetlands)?			X

ENVIRONMENTAL SETTING

Prior to human development, the natural habitats within the region included perennial grasslands, riparian woodlands, oak woodlands, and a variety of wetlands including vernal pools, seasonal wetlands, freshwater marshes, ponds, streams, and rivers. Over the last 150 years, agriculture, irrigation, flood control, and urbanization have resulted in the loss or alteration of much of the natural habitat within the City limits. Non-native annual grasses have replaced the native perennial grasslands, many of the natural streams have been channelized, much of the riparian and oak woodlands have been cleared, and most of the marshes have been drained and converted to agricultural or urban uses.

The majority of the City is developed with residential, commercial, and other urban development, in which valuable plant and wildlife habitat still exists. These natural habitats are located primarily outside the city boundaries in the northern, southern and eastern portions of the City, but also occur along river and stream corridors and on a number of undeveloped parcels. Habitats that are present in the City include annual grasslands, riparian woodlands, oak woodlands, riverine, ponds, freshwater marshes, seasonal wetlands, and vernal pools

The project site is a vacant paved undeveloped parcel located approximately 0.6 miles north of the American River that consists of paved concrete, barren land, and scarce, ruderal vegetation. Decorative ornamental shade trees occur in thin margins adjacent to the roadway along the eastern edges of the project area. The proposed project is surrounded by existing commercial development, paved parking areas, and other built landscapes. None of the habitat types listed above are found on-site. In addition, the site does not contain any jurisdictional waters. The project is located within the Sacramento Valley floristic region and USFS ecological subsection 262Ai (Yolo-American Basins).

Literature research was conducted through the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC), California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB), the California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Plants, and the National Marine Fisheries Service (NMFS) to identify habitats and special-status species having the potential to occur within the project area. A shapefile of the project area was used to generate an official species list through the IPaC operated by USFWS. A four-quadrangle search of the

USGS 7.5-minute quadrangles Sacramento East (3812154), Sacramento West (3812155), Rio Linda (3812164), and Taylor Monument (3812165) was used to obtain lists from the CNDDB, CNPS, and NMFS. CNDDB, USFWS, CNPS, and NMFS database results can be found in Appendix B.

Sensitive Habitats

Sensitive habitats include sensitive natural plant communities and other habitats designated and/or regulated by CDFW, USFWS, and U.S. Army Corps of Engineers (USACE). Under Section 404 of the Clean Water Act (CWA), wetlands and other waters of the U.S. are subject to the jurisdiction of USACE. Aquatic habitats may also receive protection under California statutes including Section 1602 of the California Fish and Wildlife Code and the California Porter-Cologne Water Quality Control Act.

Special-status Species

Special-status species are plants and animals in the following categories:

- Species that are listed under the federal Endangered Species Act (ESA) and/or California Endangered Species Act (CESA) as rare, threatened, or endangered;
- Species considered as candidates and proposed for state or federal listing
- Wildlife designated by CDFW as species of special concern; and
- Plants ranked by CDFW as “rare, threatened, or endangered” in California.
- The CNDDB, maintained by the CDFW, is considered as the most current and reliable tool for tracking occurrences of special-status species in California.

Special Status Species Evaluation

The special status species evaluation considers those species identified as having relative scarcity and/or declining populations by the USFWS or CDFW. Special status species include those formally listed as threatened or endangered, those proposed for formal listing, candidates for federal listing, and those classified as Species of Concern by USFWS or Species of Special Concern by CDFW. Species considered to be “special animals” or “fully protected” by the CDFW or rare, threatened, or endangered in California by the CNPS were also included in the evaluation.

Regulatory Setting

The following City, State, and federal statutes pertain to the proposed project:

- National Environmental Policy Act (42 USC 4321 et seq.)
- Federal Endangered Species Act (16 USC 1531-1543)
- Fish and Wildlife Coordination Act (16 USC 661-6660)
- Migratory Bird Treaty Act of 1918 (USC 703-711)
- California Environmental Quality Act (PRC 21000 et seq.)
- California Endangered Species Act (CDFW Code 2050 et seq.)
- Native Plant Protection Act (CDFW Code 1900-1913)
- City of Sacramento Heritage Tree Ordinance (SCC Section 12.56)
- City of Sacramento Street Tree Ordinance (SCC Section 12.56.10-12.56.110)

Federal Endangered Species Act

The Federal Endangered Species Act defines 'take' (Section 9) and prohibits 'taking' of a listed endangered or threatened species (16 USC 1532, 50 CFR 17.30. If a federally listed species could be harmed by a project, Section 7 or 10 consultations must be initiated, and an Incidental Take Permit must be obtained (16 USC 1539, 50 CFR 13).

Federal Migratory Bird Treaty Act

Migratory birds are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10 including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). All migratory bird species are protected by the MBTA. Any removal of active nests during the breeding season or any disturbance that results in the abandonment of nestlings is considered a 'take' of the species under federal law.

Setting and Methods

Queries of the USFWS IPaC, the CNDDB, the CNPS Electronic Inventory of Rare and Endangered Plants, and NMFS species database identified a list of regional special status wildlife species with potential to occur within the project vicinity. The potential for each species to occur within the BSA was determined by analyzing the habitat requirements of each species and comparing the habitat requirements to available habitat within the project area (Table 3. Special Status Species Potential Table). In addition, a desktop review of the project area was conducted to identify the presence of sensitive and/or jurisdictional habitat features within the project area.

Table 3. Special Status Species Potential Table

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Amphibian Species						
California tiger salamander	*Ambystoma californiese*	Fed: State: CDFW:	T -- --	The species inhabits annual grasslands, oak savanna, mixed woodland edges, and lower elevation coniferous forest habitats. Requires underground refuges, especially ground squirrel burrows, vernal pools, or other seasonal water sources for breeding. Breeding occurs December through February in fish-free ephemeral ponds.	A	**Presumed Absent:** The BSA is characterized by a small field with sparse vegetation among a highly urban-developed environment, which may pose a threat to the species. It lacks water sources and moist underground burrows required by the species to persist. Lastly, in addition to the lack of suitable habitat, no occurrences have been reported within a 10 miles radius from the BSA, indicating the likelihood for the species to be absent from the region of interest.
Western pond turtle	*Emys marmorata*	Fed: State: CDFW:	-- -- SSC	A fully aquatic turtle of ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with aquatic vegetation. Suitable habitat includes woodland, forests, and grasslands. Requires logs, rocks, cattail mats, and exposed banks for basking. Suitable upland habitat (sandy banks or grassy open field) is required for reproduction, which begins in April and ends with egg laying as late as August (sea level to 4,700 feet).	A	**Presumed Absent:** The only CNDDB occurrence reported within a 10 miles radius around the BSA was recorded in 1992 about 7.5 miles from the BSA. The BSA lacks the habitat features and water sources required by the species to occur and persist. Due to such reasons, the species is presumed
Bird Species						
Bank swallow	*Riparia riparia*	Fed: State: CDFW:	-- T --	A migratory colonial nester inhabiting lowland and riparian habitats west of the deserts from spring to fall. Majority of current breeding populations occur along the Sacramento and Feather Rivers in the north Central Valley. Forages in grassland, brushland, wetlands, and	A	**Presumed Absent:** Despite the BSA is in proximity of the American River, it lacks the riparian communities required to support large colonies. The BSA is comprised of anthropogenic features (roads, parking lots, buildings) and only a relatively small plot of land with sparse vegetation. Furthermore, the only

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				cropland during migration. Requires vertical banks or cliffs with fine textured/sandy soils for nesting (tunnel and burrow excavations). Nests exclusively near streams, rivers, lakes, or the ocean. Breeds from May through July.		recorded CNDDB occurrence was reported about 9 miles from the BSA in 1995. Hence, the lack of suitable habitat and recent occurrences lead to presume the species is absent from the BSA.
Burrowing owl	*Athene cunicularia*	Fed: State: CDFW:	-- -- SSC	The species inhabits arid, open areas with sparse vegetation cover such as deserts, abandoned agricultural areas, grasslands, and disturbed open habitats. Can be associated with open shrub stages of pinyon-juniper and ponderosa pine habitats. Nests in old small mammal burrows but may dig own burrow in soft soil. Nests are lined with excrement, pellets, debris, grass, and feathers. The species may use pipes, culverts, and nest boxes, and even buildings where burrows are scarce. Breeding occurs March through August (below 5,300 feet). Urban development has been recognized as a threat for the species.	A	**Presumed Absent:** The BSA is comprised of a small field amidst a highly urban-developed landscape. The field presents sparse vegetation, but its proximity to roads may increase challenges and threats for the species. but it is highly fragmented by major roads as well as buildings. In addition, the nearest CNDDB occurrence was recorded in 1901 less than a mile from the BSA, whereas in 2003 the species was recorded in proximity of Dry Creek (about 4 miles from the BSA). Thus, due to the lack of more recent nearby occurrences and the lack of suitable habitat, the species is presumed absent from the BSA.
California black rail	*Laterallus jamaicensis coturniculus*	Fed: State: CDFW:	-- T FP	A rare, yearlong California resident of brackish and freshwater emergent wetlands in delta and coastal locations including the San Francisco Bay area, Sacramento-San Joaquin Delta, Morro Bay, the Salton Sea, and lower Colorado River. More than 90% of the species are found in the tidal salt marshes of the northern San Francisco Bay region, predominantly in San Pablo and Suisun Bays. Smaller populations occur in the San	A	**Presumed Absent:** Although the species may occur in the neighboring American River, the BSA lacks the vegetation community and landscape features required by the species. Furthermore, the most recent CNDDB occurrence was recorded almost 8 miles from the BSA along the Sacramento River Deep Water Ship Channel (2017). Hence, the lack of suitable habitat and recent nearby occurrences lead to

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				Francisco Bay, the Outer Coast of Marin County, and freshwater marshes in the foothills of the Sierra Nevada. The species is extirpated from San Diego County and the majority of coastal southern California. Occurs in tidal emergent wetlands dominated by pickleweed, in brackish marshes dominated by bulrushes with pickleweed, and in freshwater wetlands dominated by bulrushes, cattails, and saltgrass. Species prefers high wetland areas, away from areas experiencing fluctuating water levels. Requires vegetation providing adequate overhead cover for nesting. Eggs are laid from March through June.		presume the species is absent from the BSA.
Cooper's hawk	*Accipiter cooperii*	Fed: State: CDFW:	-- -- WL	Species most often occurs in open, interrupted or marginal woodlands throughout California. Nests in forest habitats, usually near open water in conifer or deciduous riparian areas. Most frequently uses dense stands of live oak, riparian deciduous, and other forest habitats. Breeds from March through August. Occurs from elevations near sea level to 9,000 feet.	A	**Presumed Absent:** The BSA lacks woodland and coniferous forest habitats preferred by the species as it only presents sparse, low vegetation in between major roadways. Furthermore, there is only one report of CNDDB occurrence within a 10 miles radium from the BSA recorded in 1988 (>7 miles from the BSA). Hence, due to the lack of suitable habitat and nearby recent occurrences, the species is presumed absent from the BSA.
Least Bell's vireo	*Vireo bellii pusillus*	Fed: State: CDFW:	E E --	Summer resident of southern California inhabiting low elevation riparian habitats in the vicinity of water and dry river bottoms. Prefers willows, baccharis, mesquite and other low, dense vegetation as nesting site. Forages in dense brush	A	**Presumed Absent:** The BSA is in the proximity of the American River (a habitat that may suite the species), however it lacks the riparian habitats required by the species. The BSA is mainly characterized by urban development, an arid field, and no water

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				and occasionally treetops. The species is known to occur in all four southern California national forests, with the largest population in the Los Padres National Forest (below 2,000 feet). Urban development and water diversion have been recognized as ongoing threats to the species.		sources. Furthermore, species' occurrences are absent from the CNDDB database as the species is presumed to be absent from Northern California. For these reasons the species is presumed absent from the BSA.
Purple martin	*Progne subis*	Fed: State: CDFW:	-- -- SSC	Present in California as a summer migrant, arriving in March and departing by late September. Inhabits valley foothill and montane hardwood/hardwood-conifer, coniferous habitats, and riparian habitats. The species is often associated with closed-cone pine-cypress, ponderosa pine, Douglas-fir, and redwood forests. Nesting sites include tall, old, isolated trees or snags in open forest or woodland and in proximity to a body of water. Frequently nests within former woodpecker cavities; may nest in human-made structures such as nesting boxes, under bridges and in culverts. Needs abundant aerial insect prey. Breeds April through August.	A	**Presumed Absent:** Although the BSA lacks hardwood coniferous forests which may be a more suitable habitat for the species of interest, in the proximity of the BSA sparse trees and anthropogenic structures could provide suitable nesting sites or corridors. Furthermore, less than a mile from the BSA, the American River, a potential suitable habitat for the species, crosses the southern portion of the city of Sacramento. The nearest CNDDB occurrence was recorded just a mile north of the BSA in 2003, and the species is still presumed extant within the regions nearby the BSA. However, the species has suffered a decline, and the lack of occurrences near the BSA leads to presume the species is absent from the area of interest.
Song sparrow ("Modesto" population)	*Melospiza melodia pop. 1*	Fed: State: CDFW:	-- -- SSC	An endemic bird found exclusively in the north-central portion of the Central Valley, with highest densities in the Butte Sink and Sacramento-San Joaquin River Delta. The species is usually found in open brushy habitats, along the borders of ponds or streams, abandoned pastures, desert washes, thickets, or woodland	A	**Presumed Absent:** The BSA is characterized by high density development, which includes building, roads, small plant communities, and barren terrains, which may hinder the likelihood of the species to occur and persist in the region. The closest suitable habitat is found less than a mile south of the BSA, where the American River

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				edges. In addition, there is a strong affinity for emergent freshwater marshes dominated by tules and cattails, riparian willow thickets, and valley oak forests with a blackberry understory. Nests found in base of shrubs or clumps of grass, requiring low, dense vegetation for cover, usually near water. Breeds from March through August.		flows, but its habitats and water do not affect the BSA. The species has historically occurred in the region, however, due to the urban development of the last century, as well as the lack of recent occurrences nearby, the species is now presumed absent from the BSA.
Swainson's hawk	*Buteo swainsoni*	Fed: State: CDFW:	-- T --	Species commonly found in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, alfalfa or grain fields that support a stable rodent prey base. Breeding occurs through March to late August.	A	**Presumed Absent:** The BSA lacks nesting trees, thus hindering the likelihood of the species to occur, nest, and persist within the BSA. Although the species occurred historically in the Sacramento Valley, the growing urban development of the City poses a threat to the species, which has been declared sensitive to disturbances. Thus, due to the lack of suitable habitat and recent occurrences, the species is presumed absent from the BSA.
Tricolored blackbird	*Agelaius tricolor*	Fed: State: CDFW:	-- T SSC	Inhabits freshwater marsh, swamp and wetland communities, but may utilize agricultural or upland habitats that can support large colonies, often in the Central Valley area. Requires dense nesting habitat that is protected from predators, is within 3-5 miles from a suitable foraging area containing insect prey, and is within 0.3 miles of open water. Habitat needs to support colonies with up to 50 pairs. Suitable foraging includes wetland, pastureland, rangeland, at dairy farms, and some irrigated croplands (silage, alfalfa, etc.). Nests	A	**Presumed Absent:** The species may inhabit the region proximal to the American River, but it is unlikely to occupy the BSA. The latter, in fact, lacks water sources and riparian communities that can support larger colonies and nesting. The BSA is characterized by sparse vegetation and is highly influenced by urban development. The species is considered extant across the agricultural and urbanized areas surrounding Sacramento, and the most recent (2014) CNDDB occurrence was recorded less than 4 miles from the BSA. The species has been recorded several

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				in dense cattails, tules, willow, blackberry, wild rose, or tall herbs. Nests mid-March to early August, but may extend until October or November in the Sacramento Valley region.		times for extended periods of time all around the Sacramento borders. Due to the lack of suitable habitat that could support large colonies as well as the lack of recent nearby occurrences, the species is presumed absent from the BSA.
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	Fed: State: CDFW:	T E --	Species inhabits riparian forests, along broad, lower flood bottoms of larger river systems. Nests in large blocks of riparian jungles often mixed with cottonwoods. Nesting appears to be preferred in riparian forest habitats with a dense understory; requires water near nesting site. Breeds June to August.	A	**Presumed Absent:** The last CNDDB occurrence of this species was recorded 2 miles from the BSA in 1877, and the species has since been determined extirpated from the area of interest. Furthermore, the BSA lacks the riparian habitats required by the species. Due to the species' status, and the overall lack of suitable habitat, the species is presumed to be absent from the BSA.
White tailed kite	*Elanus leucurus*	Fed: State: CDFW:	-- -- FP	Inhabits rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Prefers open grasslands, meadows or marshes for foraging close to isolated, dense-topped trees for nesting and perching. In southern California, will roost in saltgrass and Bermuda grass. Often found near agricultural lands. Nests are placed near the tops of dense oak, willow, or other tree stands. Breeds February through October.	A	**Presumed Absent:** The BSA is located in a highly urbanized area that lacks the agricultural landscape preferred by the species. In addition, the BSA lacks the habitat requirements for nesting efforts. Few CNDDB occurrences have been recorded along the bordering regions of Sacramento, such as across the agricultural fields 4 miles north of the BSA (1995-2002), or 8 miles south of the BSA (2008). Due to the lack of suitable habitat and nearby recent occurrences, the species is presumed absent from the BSA.
Fish Species						
Chinook salmon –	*Onorhynchus tshawtscha pop. 11*	Fed: State: CDFW:	T T --	Spring-run Chinook enter the Sacramento-San Joaquin River system to spawn, requiring larger	EFH	**Presumed Absent:** The BSA lacks stream and water sources required by the species to persist, as it is

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Central Valley spring-run ESU				gravel particle size and more water flow through their redds than other salmonids. Remaining runs occur in Butte, Mill, Deer, Antelope, and Beegum Creeks, tributaries to the Sacramento River. Known to occur in Siskiyou and Trinity counties.		characterized by urban development and an arid open area with sparse vegetation. Although the BSA is relatively near to the American River, there is no occurrences of the species in these waters. The most recent and nearest CNDDB occurrence, instead, was recorded along the Sacramento River Deep Water Ship Channel about 5 miles from the BSA (2004). Hence, due to the lack of recent nearby occurrences and the lack of required water features, the species is presumed absent from the BSA.
Chinook salmon – Sacramento River winter-run ESU	*Onorhynchus tshawtscha pop. 7*	Fed: State: CDFW:	E E --	Winter-run Chinook are currently restricted within the Sacramento River below Keswick dam; species does not spawn in tributaries. Species requires cold water over gravel beds to spawn.	EFH	**Presumed Absent:** The most recent CNNDB occurrence was recorded in the Sacramento River Deep Water Ship Channel about 5 miles from the BSA in 2004. The BSA lacks the habitat features required by the species to occur as no permanent water source is present. The species is presumed absent from the BSA.
Delta smelt	*Hypomesus transpacificus*	Fed: State: CDFW:	T -- --	This species is endemic to California and can tolerate a wide range of salinity and temperatures but is most commonly found in brackish waters. Juveniles require shallow waters with food rich sources. Adults require adequate flow and suitable water quality for spawning in winter and spring. Occurs within the Sacramento-San Joaquin Delta and seasonally within the Suisun Bay, Carquinez Strait and San Pablo Bay. Most often occurs in partially saline waters.	A	**Presumed Absent:** No CNDDB occurrences have been recorded of the species within a 10 miles radius from the BSA. Furthermore, the latter lacks any body of water in which the species may be able to occur and persist. Hence, the species is presumed absent from the BSA and neighboring regions.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Green sturgeon – southern DPS	*Acipenser medirostris pop. 1*	Fed: State: CDFW:	T -- --	Most marine of the sturgeon species. Predominately spawns in the upper Sacramento River, with some recorded in the Rogue River, Klamath and Trinity Rivers (Klamath River basin). In the Sacramento River, green sturgeon spawn above Hamilton City up to Keswick Dam. Known to occupy other river bodies including the lower Feather River; spawning not recorded; no green sturgeon has ever been documented in the San Joaquin River or its tributaries. Large cobbles preferred for spawning, but may utilize a range of substrates from bedrock to sand. Spawning occurs March-July.	CH	**Presumed Absent:** Although the BSA is located not too far from the Sacramento River, where the species may be found, there is no CNDDB record of the species occurring in these waters. Furthermore, the BSA lacks any water component that may suit the species. For these reasons, the species is presumed absent from the BSA.
Longfin smelt	*Spirinchus thaleichthys*	Fed: State: CDFW:	C T --	Within California, occurs slightly upstream from Rio Vista (on the Sacramento River in the Delta) including the Cache Slough region and Medford Island (on the San Joaquin River in the Delta) through Suisun Bay and Suisun Marsh, the San Pablo Bay, the main San Francisco Bay, South San Francisco Bay,the Gulf of the Farallones, Humboldt Bay, and the Eel river estuary & local coastal areas. Resides in California and are primarily an anadromous estuarine species that can tolerate salinities ranging from freshwater to nearly pure seawater. Prefers temperatures in the range of 16-18°C and salinities ranging from 15-30 ppt. Their spatial distribution within a bay or estuary is	A	**Presumed Absent:** The species is considered extant across the Sacramento River, with the last CNDDB occurrences recorded 3 miles from the BSA. Although the region of interest is relatively close to the American River – which merges into the Sacramento River -, the BSA does not present any water sources and riparian habitats. Hence, the BSA does not include suitable habitat for the species to occur and persist leading to classified the species as absent from the BSA.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				seasonally variable. Longfin smelt may also make daily migrations; remaining deep during the day and rising to the surface at night.		
Sacramento perch	*Archoplites interruptus*	Fed: State: CDFW:	-- -- SSC	Inhabits sloughs, lakes, and slow moving rivers of the Central Valley. Prefers turbid lakes, reservoirs and ponds warmed by summer heat and absent of plants; may occasionally occur in clear water among beds of aquatic vegetation. Species tolerates high temperatures, high salinities, high turbidity, and low water clarity. Young require aquatic and overhanging vegetation for cover. Spawns March-August in water temperatures between 64-84°F	A	**Presumed Absent:** The BSA lacks lakes and other slow moving water sources which could host the species. Furthermore, although the species is presumed extant within the borders of the city of Sacramento, the last CNDDB occurrence was recorded in 1973 in Lake Greenhaven, more than 7 miles from the BSA. Hence, due to the lack of required water features and recent occurrences, the species is presumed absent from the BSA.
Sacramento splittail	*Pogonichthys macrolepidotus*	Fed: State: CDFW:	-- -- SSC	Historically inhabited low moving rivers, sloughs, and alkaline lakes of the Central Valley; now restricted to the Delta, Suisun Bay and associated marshes. Species is adapted to fluctuating environments with tolerance to water salinities from 10-18 ppt., low oxygen levels (< 1.0 mg/L) and temperatures of 41-75°F. Spawns late February- early July, with a peak in March-April; requires flooded vegetation for spawning activity and protective cover for young.	A	**Presumed Absent:** The BSA lacks permanent water sources and habitats required by the species. The species is listed as extant in the Sacramento River, but the nearest CNDDB occurrence to the BSA was recorded in 1995 at a 3 miles distance. Due to the lack of suitable habitat and water sources, the species is presumed absent from the BSA.
Steelhead – Central Valley DPS	*Oncorhynchus mykiss irideus pop. 11*	Fed: State: CDFW:	T -- --	This species is known to occur along most of the California coastline and inhabits freshwater streams and tributaries in northern and central California. The preferred habitat consists of estuaries, freshwater	CH	**Presumed Absent:** Although the BSA is located in proximity to the American River, which could be a suitable habitat for the species of interest, it is unlikely for the latter to be found within the BSA. The BSA, in fact, lacks permanent water

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				streams and near shore habitat with productive costal oceans. Spawning occurs in small freshwater streams and tributaries occurs from January through March and could extend into spring. Spawning occurs where cool, well oxygenated water is available year-round. Approximately 550-1,300 eggs are deposited in an area with good intergravel flow. The fry emerge from the gravel about 4-6 six weeks after hatching and remain in shallow protected areas associated with stream margin. Juveniles may remain in freshwater for the rest of their life cycle or return to the ocean. The principal remaining wild populations spawn annually in Deer and Mill Creeks in Tehama County, in the lower Yuba River, and a small population in the lower Stanislaus River.		sources and streams, and is an urban area with a small open field and sparse vegetation. The species is listed as extant within the borders of the city of Sacramento, with the last CNDDB occurrence recorded about 2 miles from the BSA along the Sacramento River (2012), which is connected to the American River. Due to the lack of water sources within the BSA, the species is presumed to be absent.
Invertebrate Species						
Monarch butterfly	*Danaus plexippus*	Fed: State: CDFW:	C -- --	Winter roosts along the coast from northern Mendocino to Baja California. Utilizes wind protected tree groves in proximity to nectar and water sources. Host plants include milkweed species such as Asclepias syriaca, A. incarnara, and A. speciosa. Suitable habitat includes fields, meadows, weedy areas, marshes, and roadsides. Mass adult migrations occur from August to October.	A	**Presumed Absent:** Although there is a field within the BSA, it lacks the vegetation community required to support the species. Furthermore, no CNDDB occurrences have been reported of the species within the borders of the City of Sacramento, thus indicating the presumed absence of the species from the BSA.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	Fed: State: CDFW:	T -- --	Species requires red or blue elderberry (Sambucus sp.) as host plants. Typically occurs in moist valley oak woodlands associated with riparian corridors in the lower Sacramento River and upper San Joaquin River drainages. Adults are active, feeding, and breeding from March until June (sea level-3,000 feet).	A	**Presumed Absent:** The BSA lacks riparian landscapes which may be suitable to host the species. Furthermore, intense urban development – which characterizes the BSA – has been hypothesized to be a main threat to the species. The most recent CNDDB occurrence was recorded 9 miles from the BSA (2011), however, multiple CNDDB occurrences are recorded nearby water sources at the edge of the Sacramento city. Thus, due the lack of suitable habitat and nearby recorded occupancy, the species is presumed to be absent from the BSA.
Vernal pool fairy shrimp	*Branchinecta lynchi*	Fed: State: CDFW:	T -- --	In California, species inhabits portions of Tehama county, south through the Central Valley, and scattered locations in Riverside County and the Coast Ranges. Species is associated with smaller and shallower cool-water vernal pools approximately 6 inches deep and short periods of inundation. In the southernmost extremes of the range, the species occurs in large, deep cool-water pools. Inhabited pools have low to moderate levels of alkalinity and total dissolved solids. The shrimp are temperature sensitive, requiring pools below 50 F to hatch and dying within pools reaching 75 F. Young emerge during cold-weather winter storms.	A	**Presumed Absent:** There are few CNDDB occurrences 3 to 4 miles north of the BSA recorded in 2007, however, in those regions there is now medium to high density development. Most recent (2011) CNDDB occurrences have been recorded about 7 miles from the BSA. Although the species is listed as still extant within the regions where its occupancy was recorded, the BSA lacks the water sources required by the species to survive. Thus, due to the lack of suitable habitat, the species is presumed absent from the BSA.
Vernal pool tadpole shrimp	*Lepidurus packardi*	Fed: State: CDFW:	E -- --	Inhabits vernal pools and swales containing clear to highly turbid waters such as pools located in grass	A	**Presumed Absent:** The BSA lacks water sources, and the closest body of water is the American River located a

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				bottomed swales of unplowed grasslands, old alluvial soils underlain by hardpan, and mud-bottomed pools with highly turbid water.		mile south of the BSA. The BSA is a urban region with an an open area and sparse vegetation. The species is considered extant within the vernal pools and streams that surround Sacramento, however, the most recent CNDDB occurrence was recorded about 4 miles from the BSA in 1983. Due to the lack of suitable habitat and water sources, as well as the lack of recent nearby occurrences, the species is presumed absent from the BSA.
Mammal Species						
American badger	*Taxidae taxus*	Fed: State: CDFW:	-- -- SSC	Prefers treeless, dry, open stages of most shrub and herbaceous habitats with friable soils and a supply of rodent prey. Species also inhabits forest glades, meadows, marshes, brushy areas, hot deserts, and mountain meadows. Species maintains burrows within home ranges estimated between 338-1,700 acres, dependent on seasonal activity. Burrows are frequently re-used, but new burrows may be created nightly. Young are born in March and April within burrows dug in relatively dry, often sandy, soil, usually in areas with sparse overstory cover. Species is somewhat tolerant of human activity, but is sensitive to automobile mortality, trapping, and persistent poisons (up to 12,000 feet).	HP	**Presumed Absent:** The only CNDDB occurrences recorded in proximity of the region of interest occurred at a range from 4 to 7 miles from the BSA (1991) in relatively highly developed areas and agricultural fields. Although the species is tolerant of human disturbance, the presence of roads within the BSA can pose a threat to the persistence of the species in the region of interest. Hence, due to the lack of recent occurrences and a high mortality risk given by the landscape of interest, the species is presumed absent from the BSA.
Reptile Species						
Giant gartersnake	*Thamnophis gigas*	Fed: State: CDFW:	T T --	A highly aquatic species that inhabits marsh, swamp, wetland (including agricultural wetlands), sloughs,	A	**Presumed Absent:** The BSA lacks the water requirements needed by the species to persist: although the

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				ponds, rice fields, low gradient streams and irrigation/drainage canals adjacent to uplands. Ideal habitat contains both shallow and deep water with variations in topography. Species requires adequate water during the active season (April-November), emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat and mammal burrows estivation. Requires grassy banks and openings in waterside vegetation for basking and higher elevation uplands for cover and refuge from flood waters during winter dormant season. Mating occurs in the spring and females bear live young.		American River is relatively near the BSA, neither its waters or habitats interfere with the region of interest. Furthermore, the most recent (2016) CNDDB occurrences were recorded between 5-9 miles from the BSA. Hence, due to the lack of suitable habitat and nearby recent occurrences, the species is presumed absent from the BSA.
Plant Species						
Boggs Lake hedge-hyssop	*Gratiola heterosepala*	Fed: State: CNPS:	-- E 1B.2	An annual herb inhabiting clay soils and shallow waters of marshes, swamps, lake margins, and vernal pools. Flowers April-August (30-7,800 feet).	A	**Presumed Absent:** The species has been listed as extirpated since its last recorded CNDDB occurrence in 1997 about 7 miles from the BSA. Furthermore, the BSA lacks the habitat requirements needed for the species to persist (i.e., water sources), and is characterized by high-density urban development – an identified threat for the species of interest. Hence, the lack of the suitable habitat and the species' current status lead to presume the BSA is free from the species of interest.
Dwarf downingia	*Downingia pusilla*	Fed: State: CNPS:	-- -- 2B.2	An annual herb inhabiting vernal pools and mesic soils in valley and foothill grassland communities. Flowers March-May (0-1,500 feet).	A	**Presumed Absent:** The species is presumed extant in the surrounding regions of Sacramento, with the most recent (2006) CNDDB occurrence

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						recorded more than 7 miles from the BSA. The species, however, is presumed absent from the BSA due to the lack of suitable habitat (e.g., vernal pools and mesic soil) due to the BSA's sandy and clay loam soils (Web Soil Survey) and urban development. Lastly, no occurrence has been recorded in proximity of the BSA either.
Ferris' milk-vetch	*Astragalus tener var. ferrisiae*	Fed: State: CNPS:	-- -- 1B.1	An annual herb inhabiting vernally mesic meadows and seeps and subalkaline flats within valley and foothill grassland communities. Known only from six extant occurrences. Flowers April-May (0-250 feet).	A	**Presumed Absent:** The BSA is characterized by urban development with sparse vegetation sandy to clay loam soils (Web Soil Survey), thus it lacks the biological and environmental conditions needed by the species to occur and persist. In addition, although the species is considered extant in the surrounding fields bordering the City of Sacramento, the only CNDDB occurrence recorded relevant to the BSA happened 7 miles from the region of interest in 1954. Hence, due to the lack of recent occurrences and suitable habitat, the species is presumed absent from the BSA.
Legenere	*Legenere limosa*	Fed: State: CNPS:	-- -- 1B.1	An annual herb inhabiting wet areas, vernal pools, and ponds. Flowers April-June (0-2,900 feet).	A	**Presumed Absent:** The species require wetland habitats, which are absent from the BSA. Furthermore, the only CNDDB occurrences recorded are either 4 miles (1997) or 10 miles (2002) from the BSA. The species appears to be sensitve to urban development and loss of water sources, thus it is presumed absent from the BSA.
Sanford's arrowhead	*Sagittaria sanfordii*	Fed: State: CNPS:	-- -- 1B.2	A perennial rhizomatous herb inhabiting freshwater marshes,	A	**Presumed Absent:** The BSA lacks the habitat required by the species to persist. Although there might be a slight chance

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				swamps, ponds, and ditches. Flowers May-October (0-2,130 feet).		to encounter the species along the American River banks, it is unlikely for the species to occur proximal or within the BSA. Furthermore, the most recent CNDDB occurrence was recorded more than a mile north of the BSA in 2011. Thus, due to the lack of suitable habitat and nearby recent occupancy, the species is presumed absent from the BSA.
Suisun Marsh aster	*Symphyotrichum lentum*	Fed: State: CNPS:	-- -- 1B.2	A perennial rhizomatous herb inhabiting wetlands, freshwater marsh, and brackish-marsh communities. Flowers May-November (0-10 feet).	A	**Presumed Absent:** Although the species may be encountered across the American River banks, which neighbor with the BSA, the latter lacks wetland and riparian habitats required by the species to occur. In addition, the nearest CNDDB occurrence was recorded more than 8 miles from the BSA (2013). The lack of suitable habitat and nearby recent occurrences lead to presume the species is absent from the BSA.
Wooly rose-mallow	*Hibiscus lasiocarpos var. occidentalis*	Fed: State: CNPS:	-- -- 1B.2	A perennial rhizomatous herb inhabiting freshwater wetlands, wet banks, and marsh communities. Often found in-between riprap on levees. Flowers June-September (0-400 feet).	A	**Presumed Absent:** Although the species may inhabit the banks of the neighboring American River, the BSA lacks the water sources and respective wetland communities. Additionally, there is no CNDDB occurrence recorded across a 10-mile radius from the BSA. This indicates the species is likely absent from the BSA.

Federal Designations (Fed): (FESA, USFWS) **E:** Federally listed, endangered **T:** Federally listed, threatened **DL**: Federally listed, delisted **C**: Federally listed, Candidate	**State Designations (CA):** (CESA, CDFW) **E:** State-listed, endangered **T:** State-listed, threatened **R:** Rare

Other Designations
CDFW_SSC: CDFW Species of Special Concern
CDFW_FP: CDFW Fully Protected
CDFW_WL: Watch List

California Native Plant Society (CNPS) Designations*:*
Note: according to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code. This interpretation is inconsistent with other definitions.
1A: Plants presumed extinct in California.
1B: Plants rare and endangered in California and throughout their range.
2: Plants rare, threatened, or endangered in California but more common elsewhere in their range.
3: Plants about which need more information; a review list.

Plants 1B, 2, and 4 extension meanings:
_**.1 Seriously** endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
_**.2 Fairly** endangered in California (20-80% occurrences threatened)
_**.3** Not very endangered in California (<20% of occurrences threatened or no current threats known)

Habitat Potential
Absent [A] - No habitat present and no further work needed.
Habitat Present [HP] - Habitat is or may be present. The species may be present.
Critical Habitat [CH] – Project is within designated Critical Habitat.

Potential for Occurrence Criteria:
Present: Species was observed on site during a site visit or focused survey.
High: Habitat (including soils and elevation factors) for the species occurs on site and a known occurrence has been recorded within 5 miles of the site.
Low-Moderate: Either low quality habitat (including soils and elevation factors) for the species occurs on site and a known occurrence exists within 5 miles of the site; or suitable habitat strongly associated with the species occurs on site, but no records were found within the database search.
Presumed Absent: Focused surveys were conducted, and the species was not found, or species was found within the database search but habitat (including soils and elevation factors) do not exist on site, or the known geographic range of the species does not include the survey area.

Source: (CDFW 2022b), (CNPS 2022), (Calflora 2022), (Jepson 2022), (USFWS 2022).

STANDARDS OF SIGNIFICANCE

For purposes of this environmental document, an impact would be significant if any of the following conditions or potential thereof, would result with implementation of the proposed project:

- Creation of a potential health hazard, or use, production or disposal of materials that would pose a hazard to plant or animal populations in the area affected;
- Substantial degradation of the quality of the environment, reduction of the habitat, reduction of population below self-sustaining levels of threatened or endangered species of plant or animal; or
- Affect other species of special concern to agencies or natural resource organizations (such as regulatory waters and wetlands).

For the purposes of this document, "special-status" has been defined to include those species, which are:

- Listed as endangered or threatened under the federal Endangered Species Act (or formally proposed for, or candidates for, listing);
- Listed as endangered or threatened under the California Endangered Species Act (or proposed for listing);
- Designated as endangered or rare, pursuant to California Fish and Game Code (Section 1901);
- Designated as fully protected, pursuant to California Fish and Game Code (Section 3511, 4700, or 5050);
- Designated as species of concern by U.S. Fish and Wildlife Service (USFWS), or as species of special concern to California Department of Fish and Game (CDFG);
- Plants or animals that meet the definition of rare or endangered under CEQA.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

Chapter 4.3 of the Master EIR evaluated the effects of the 2035 General Plan on biological resources within the City. The Master EIR identified potential impacts in terms of degradation of the quality of the environment or reduction of habitat or population below self-sustaining levels of special-status birds, through the loss of both nesting and foraging habitat.

Policies in the 2035 General Plan were identified as mitigating the effects of development that could occur under the provisions of the 2035 General Plan. Policy ER 2.1.5 calls for the City to preserve the ecological integrity of creek corridors and other riparian resources; Policy ER 2.1.10 requires the City to consider the potential impact on sensitive plants for each project and to require pre-construction surveys when appropriate; and Policy ER 2.1.11 requires the City to coordinate its actions with those of the California Department Fish and Wildlife, U.S. Fish and Wildlife Service, and other agencies in the protection of resources.

The Master EIR discussed biological resources in Chapter 4.3. The Master EIR concluded that policies in the general plan, combined with compliance with the California Endangered Species Act, Natomas Basin HCP (when applicable) and CEQA would minimize the impacts on special-status species to a less-than-significant level (see Impact 4.3-1), and that the general plan policies, along with similar compliance with local, state and federal regulation would reduce impacts to a less-than-significant level for habitat for special-status invertebrates, birds, amphibians and reptiles, mammals and fish (Impacts 4.3-3-6).

Given the prevalence of rivers and streams in the incorporated area, impacts to riparian habitat is a common concern. Riparian habitats are known to exist throughout the City, especially along the Sacramento and American rivers and their tributaries. The Master EIR discussed impacts of development adjacent to riparian habitat that could disturb wildlife species that rely on these areas for shelter and food, and could also result in the degradation of these areas through the introduction of feral animals and contaminants that are typical of urban uses. The California Department of Fish and Wildlife (CDFW) regulates potential impacts on lakes, streams, and associated riparian (streamside or lakeside) vegetation through the issuance of Lake or Streambed Alteration Agreements (SAA) (per Fish and Game Code Section 1602), and provides guidance to the City as a resource agency. While there are no federal regulations that specifically mandate the protection of riparian vegetation, federal regulations set forth in Section 404 of the Clean Water Act address areas that potentially contain riparian-type vegetation, such as wetlands.

The general plan calls for the City to preserve the ecological integrity of creek corridors, canals and drainage ditches that support riparian resources (Policy ER 2.1.5) and wetlands (Policy ER 2.1.6) and requires habitat assessments and impact compensation for projects (Policy ER 2.1.10). has adopted a standard that requires coordination with state and federal agencies if a project has the potential to affect other species of special concern or habitats (including regulatory waters and wetlands) protected by agencies or natural resource organizations (Policy 2.1.11).

Implementation of 2035 General Plan Policy ER 2.1.5 would reduce the magnitude of potential impacts by requiring a 1:1 replacement of riparian habitat lost to development. Given the extent of urban development designated in the General Plan, the preservation and/or restoration of riparian habitat would likely occur outside of the City limits. The Master EIR concluded that the permanent loss of riparian habitat would be a less-than-significant impact (Impact 4.3-7).

ANSWERS TO CHECKLIST QUESTIONS

A) Result a potential health hazard, or use, production or disposal of materials that would pose a hazard to plant or animal populations in the area affected?

No additional significant environmental effect. Development of the project area would result in a gasoline station and retail building. Based on background research and site observations conducted on February 6th, 2023, there are no sensitive animal or plant populations or habitats in the vicinity of the project site that would be subject to significant hazardous risk as a result of operation of the gasoline station or retail building.

B) Result in substantial degradation of the quality of the environment, reduction of the habitat, reduction of population below self-sustaining levels of threatened or endangered species of plant or animal species?

No significant additional environmental effect. A list of regional special status wildlife species with potential to occur within the project vicinity was compiled from database searches of the USFWS IPaC, the CNDDB, the CNPS Electronic Inventory of Rare and Endangered Plants, and the NMFS species database. The potential for each species to occur within the project area was determined by analyzing the habitat requirements of each species and comparing the habitat requirements to available habitat within the project area. After a careful comparison between habitat requirements and the habitat available within the project area, no species were determined to have the potential to occur within the project area. Hence, the project is not anticipated to result in the substantial degradation of the quality of the environment, reduction of the habitat, or reduction of population below self-sustaining levels of threatened or endangered species. For more information, refer to Table 3. Special Status Species Potential Table.

C) Affect other species of special concern to agencies or natural resource organizations (such as regulatory waters and wetlands)?

No significant additional environmental effect. The project site is a vacant undeveloped parcel that consists of paved concrete, barren land, and scarce, ruderal vegetation. In addition, the proposed

project is surrounded by existing commercial development, paved parking areas, and other built landscapes. No jurisdictional habitat occurs within the project area; as such, the project is not anticipated to affect regulatory waters or wetlands.

FINDINGS

The project would have no additional project-specific environmental effects relating to Biological Resources

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
4. CULTURAL RESOURCES Would the project: A) Cause a substantial adverse change in the significance of a historical or archaeological resource as defined in § 15064.5?		X	
B) Directly or indirectly destroy a unique paleontological resource?			X
C) Disturb any human remains?		X	

ENVIRONMENTAL SETTING

The City and the surrounding area are known to have been occupied by Native American groups for thousands of years prior to settlement by non-Native peoples. Archaeological materials, including human burials, have been found throughout the City. Human burials outside of formal cemeteries often occur in prehistoric contexts. Areas of high sensitivity for archaeological resources, as identified in the 2035 General Plan Background Report, are located within close proximity to the Sacramento and American Rivers and other watercourses.

For thousands of years Sacramento and the surrounding area has been known to be occupied by Native American groups. Sacramento's indigenous people, include the Nisenan people, The Southern Maidu, Valley and Plains Miwok, Patwin Wintun peoples, and the people of the Wilton Rancheria. Tribal cultural resource and archaeological materials, including human burials, have been found throughout the City. Human burials outside of formal cemeteries often occur in prehistoric contexts. Areas of high sensitivity for tribal cultural resources are located within close proximity to the Sacramento and American rivers and other watercourses.

The proposed project area is situated within the lands traditionally occupied by the Valley Nisenan, or Southern Maidu. The language of the Nisenan includes several dialects and is classified within the Maiduan family of the Penutian linguistic stock (Kroeber 1925). Valley Nisenan territory was divided into politically autonomous "triblet" areas, each including several large villages (Moratto 1984). Two important villages were located near the project area, on the east bank of the Sacramento River, Sama, to the north of the project area, and Yalisumni, to the northeast (Wilson and Towne 1978:388).

Nisenan houses were domed structures covered with earth and tule or grass that measured 10–15 feet in diameter. Brush shelters were used in the summer and at temporary camps during food-gathering rounds. Larger villages often had semi-subterranean dance houses that were covered in earth and tule or brush and had a central smoke hole at the top and an east-facing entrance. Another common village structure was a granary, which was used for storing acorns (Wilson and Towne 1978).

Valley Nisenan people followed a seasonal round of food gathering, as did most California Indians. Food staples included acorns, buckeyes, pine nuts, hazelnuts, various roots, seeds, mushrooms, greens, berries, and herbs. Game was roasted, baked, or dried and included mule deer, elk, antelope, black bear, beaver, squirrels, rabbits, and other small animals and insects. Salmon, whitefish, sturgeon, and suckers, as well as freshwater shellfish, were all caught and eaten (Wilson and Towne 1978).

Euro-American contact with the Nisenan began with infrequent excursions by Spanish explorers and Hudson's Bay Company trappers traveling through the Sacramento-San Joaquin Valley in the early 1800s (Wilson and Towne 1978). With the coming of Russian trappers, Spanish missionaries, and Euro-American

settlers, traditional lifeways were threatened by competition for land and resources, and by the introduction of new diseases. The malaria epidemic of 1833 decimated the Valley Nisenan population, killing an estimated 75 percent of the population. The influx of Euro-Americans during the Gold Rush-era further reduced the population due to forced relocations and violent retribution from the miners for real or imagined affronts.

Despite these major and devastating historical setbacks, today many Native Americans in the proposed project area are maintaining traditional cultural practices. Sometimes supported by thriving business enterprises, Tribal groups maintain governments, historic preservation programs, education programs, cultural events, and numerous other programs that sustain a vibrant culture.

The 2035 General Plan land use diagram designates a wide swath of land along the American River as Parks, which limits development and impacts on sensitive prehistoric resources. High sensitivity areas may be found in other areas related to the ancient flows of the rivers, with differing meanders than found today. Recent discoveries during infill construction in downtown Sacramento have shown that the downtown area is highly sensitive for both historic- and prehistoric-period archaeological resources. Native American burials and artifacts were found in 2005 during construction of the New City Hall and historic period archaeological resources are abundant downtown due to the evolving development of the area and, in part, to the raising of the surface street level in the 1860s and 1870s, which created basements out of the first floors of many buildings.

STANDARDS OF SIGNIFICANCE

For purposes of this Initial Study, cultural resource impacts may be considered significant if construction and/or implementation of the proposed project would result in one or more of the following:

- Cause a substantial change in the significance of a historical or archaeological resource as defined in CEQA Guidelines Section 15064.5; or
- Directly or indirectly destroy a unique paleontological resource; or
- A substantial adverse change in the significance of such resources.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

The Master EIR evaluated the potential effects of development under the 2035 General Plan on prehistoric and historic resources. See Chapter 4.4.

General plan policies identified as reducing such effects call for identification of resources on project sites (Policy HCR 2.1.1), implementation of applicable laws and regulations (Policy HCR 2.1.2), early consultation with owners and land developers to minimize effects (Policy HCR 2.1.10) and encouragement of adaptive reuse of historic resources (Policy HCR 2.1.14). Demolition of historic resources is deemed a last resort. (Policy HCR 2.1.15)

The Master EIR concluded that implementation of the 2035 General Plan would have a significant and unavoidable effect on historic resources and archaeological resources. (Impacts 4.4-1, 2)

ANSWERS TO CHECKLIST QUESTIONS

A) Cause a substantial adverse change in the significance of a historical or archaeological resource as defined in § 15064.5?

Effects can be mitigated to less than significant. To identify any known cultural resources, a records search of project area was conducted via the North Central Information Center (NCIC). Additional research included searches of the National Register of Historic Places, the California Register of

Historical Resources (California Register), the Directory of Properties in the Historic Property Data File, California Historic Landmarks (1996), the California Inventory of Historic Resources (1976), and the California Points of Historical Interest listing (May 1992 and updates). Map research included a review of historic USGS topographic maps and aerial photography. Using this data, previously recorded sites and previous surveys within a one-mile radius of the project area were reviewed.

The NCIC did not identify previous cultural resources or cultural resource investigations conducted within the project area. The proposed project site is currently a vacant paved lot and is surrounded by paved and developed area within a highly urbanized area. The 1911 topo map depicts the project area as "Deadman's Lake". The area remains wet and is surrounded by agricultural use in the 1947 aerial. Development begins in the 1957 aerial where the lot appears in its current condition, although dirt, bounded by CA-160 to the north, loop ramps and Leisure Lane on the sides, and building construction to the south. The lot appears paved by the 1993 aerial and remains unchanged. An archaeological survey was conducted on February 13, 2023 by Michelle Campbell. No resources were observed within the project site.

The project is located adjacent to the American River, an area of targeted use by Native American groups for resource procurement. The immediate project site, however, was mapped historically as an area of marsh or seasonal lake and, although also an area targeted for resources, would not have been suitable for habitation or as a location for accumulated use. Furthermore, the project location is mapped for geoarchaeological sensitivity as variable due to soils from the historic-modern period and artificial cut/fill from the past 150 years. Therefore, although the project area has low sensitivity for cultural resources, excavation anticipated for the proposed project could result in additional significant environmental effects related to damaging or destroying prehistoric cultural resources beyond what was analyzed in the Master EIR. Implementation of Mitigation Measure **CR-1** would mitigate the impact to a less-than significant level.

B) Directly or indirectly destroy a unique paleontological resource?

No additional significant environmental effect. Paleontological resources are not known or suspected on-site due to the geological age of the project area soils, and unique geologic features are not known to exist on the project site or in the immediate vicinity. Due to the disturbed nature of the project site, the potential for encountering paleontological resources is low, however, it remains possible that earth-disturbing activities could affect the integrity of a paleontological site.

C) Disturb any human remains?

Effects can be mitigated to less than significant. Given the disturbed nature of the project site, intact cultural resources are not likely to be found on-site during grading and construction activities. However, due to the continuous occupation of the region as a whole, which includes thousands of years of occupation by Native American groups prior to non-Native peoples settling in the region, the possibility exists that previously unknown resources could be encountered during ground-disturbing activities associated with development of the project. If human remains are discovered during the construction of the project, the implementation of measure **CR-2** will ensure the appropriate procedures are followed to determine the nature of the remains.

MITIGATION MEASURES

CR-1: In the Event that Cultural Resources Are Discovered During Construction, Implement Avoidance and Minimization Measures to Avoid Significant Impacts and Procedures to Evaluate Resources.

If cultural resources (such as structural features, unusual amounts of bone or shell, artifacts, or human remains) are encountered at the project site during construction, work shall be suspended within 100 feet of the find (based on the apparent distribution of cultural materials), and the construction contractor shall immediately notify the project's City representative. Avoidance and preservation in place is the preferred manner of mitigating impacts to cultural resources. This will be accomplished, if feasible, by several alternative means, including:

- Planning construction to avoid archaeological sites and/or other cultural resources; incorporating cultural resources within parks, green-space or other open space; covering archaeological resources; deeding a cultural resource to a permanent conservation easement; or other preservation and protection methods agreeable to consulting parties and regulatory authorities with jurisdiction over the activity.

- Recommendations for avoidance of cultural resources will be reviewed by the City representative and other appropriate agencies, in light of factors such as costs, logistics, feasibility, design, technology and social, cultural and environmental considerations, and the extent to which avoidance is consistent with project objectives. Avoidance and design alternatives may include realignment within the project site to avoid cultural resources, modification of the design to eliminate or reduce impacts to cultural resources or modification or realignment to avoid highly significant features within a cultural resource.

- If the discovered cultural resource can be avoided, the construction contractor(s), will install protective fencing outside the site boundary, including a 100-foot buffer area, before construction restarts. Use of temporary and permanent forms of protective fencing will be determined in consultation with Native American representatives from interested culturally affiliated Native American tribes.

- The construction contractor(s) will maintain the protective fencing throughout construction to avoid the site during all remaining phases of construction. The area will be demarcated as an “Environmentally Sensitive Area”.

If a cultural resource cannot be avoided, the following performance standard shall be met prior to continuance of construction and associated activities that may result in damage to or destruction of cultural resources:

- Each resource will be evaluated for California Register of Historical Resources- (CRHR) eligibility through application of established eligibility criteria (California Code of Regulations 15064.636), in consultation with consulting Native American Tribes, as applicable.

If a cultural resource is determined to be eligible for listing in the CRHR, the City will avoid damaging effects to the resource in accordance with California PRC Section 21084.3, if feasible. The City shall coordinate the investigation of the find with a qualified archaeologist (meeting the Secretary of the Interior’s Professional Qualifications Standards for Archeology) approved by the City. As part of the site investigation and resource assessment, the City and the archaeologist shall c assess the significance of the find, make recommendations for further evaluation and treatment as necessary and provide proper management recommendations should potential impacts to the resources be determined by the City to be significant. A written report detailing the site assessment, coordination activities, and management recommendations shall be provided to the City representative by the qualified archaeologist. These recommendations will be documented in the project record.

CR-2: Implement Procedures in the Event of the Inadvertent Discovery of Human Remains.

If an inadvertent discovery of human remains is made at any time during project-related construction activities or project planning, the City the following performance standards shall be met prior to implementing or continuing actions such as construction, which may result in damage to or destruction of human remains. In accordance with the California Health and Safety Code (HSC), if human remains are encountered during ground-disturbing activities, the City shall immediately halt potentially damaging excavation in the area of the remains and notify the Sacramento County Coroner and a professional archaeologist to determine the nature of the

remains. The Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (HSC Section 7050.5[b]).

If the human remains are of historic age and are determined to be not of Native American origin, the City will follow the provisions of the HSC Section 7000 (et seq.) regarding the disinterment and removal of non-Native American human remains.

If the Coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (HSC Section 7050[c]). After the Coroner's findings have been made, the archaeologist and the NAHC-designated Most Likely Descendant (MLD), in consultation with the landowner, shall determine the ultimate treatment and disposition of the remains. The responsibilities of the City for acting upon notification of a discovery of Native American human remains are identified in California PRC Section 5097.9 et seq.

FINDINGS

All additional significant environmental effects of the project relating to Cultural Resources can be mitigated to a less-than-significant level.

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
5. ENERGY Would the project:			
A) Result in a potentially significant environmental impact due to wasteful. Inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation?			X
B) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X

Energy

Structures built would be subject to Titles 20 and 24 of the California Code of Regulations, which reduce demand for electrical energy by implementing energy-efficient standards for residential and non-residential buildings. The 2035 General Plan includes policies (see 2035 General Plan Energy Resources Goal U 6.1.1) and related policies to encourage energy-efficient technology by offering rebates and other incentives to commercial and residential developers, coordination with local utility providers and recruitment of businesses that research and promote energy conservation and efficiency.

The Master EIR discussed energy conservation and relevant general plan policies in section 6.3 (page 6-3). The discussion concluded that with implementation of the general plan policies and energy regulation (e.g., Title 24) development allowed in the general plan would not result in the inefficient, wasteful or unnecessary consumption of energy.

The Master EIR concluded that implementation of state regulation, coordination with energy providers and implementation of general plan policies would reduce the potential impacts from construction of new energy production or transmission facilities to a less-than-significant level.

ENVIRONMENTAL SETTING

Sacramento Municipal Utility District (SMUD) is a community-owned and not-for-profit utility that provides electric services to 900 square miles, including most of Sacramento County (SMUD 2020). Pacific Gas and Electric (PG&E) is an inventory-owned utility that provides electric and natural gas services to approximately 16 million people within a 70,000-square-mile service area in both northern and central California (PG&E 2020). SMUD is the primary electricity supplier, and PG&E is the primary natural gas supplier for the City and the project area.

Energy demand related to the proposed project would include energy directly consumed for operation of the proposed gas station and retail facilities and lighting. Indirect energy consumption would be associated with the generation of electricity at power plants. Transportation-related energy consumption includes the use of fuels and electricity to power cars, trucks, and public transportation. Energy would also be consumed by equipment and vehicles used during project construction and routine maintenance activities.

Energy Policy and Conservation Act, and CAFE Standards

The Energy Policy and Conservation Act of 1975 established nationwide fuel economy standards to conserve oil. Under this act, the National Highway Traffic and Safety Administration, is responsible for revising existing fuel economy standards and establishing new vehicle economy standards. The Corporate Average Fuel Economy program was established to determine vehicle manufacturer compliance with the government's fuel economy standards. Three Energy Policy Acts have been passed, in 1992, 2005, and 2007, to reduce dependence on foreign petroleum, provide tax incentives for alternative fuels, and support energy conservation.

Energy Policy Act of 1992 and 2005

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light-duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are also included in EPAct. Federal tax deductions are allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs. The Energy Policy Act of 2005 provides renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

State of California Energy Efficiency Action Plan

The 2019 California Energy Efficiency Action Plan has three primary goals for the state: double energy efficiency savings by 2030 relative to a 2015 base year (per SB 350), expand energy efficiency in low-income and disadvantaged communities, and reduce greenhouse gas emissions from buildings. This plan provides guiding principles and recommendations on how the state would achieve those goals. These recommendations include:

- identifying funding sources that support energy efficiency programs,
- identifying opportunities to improve energy efficiency through data analysis,
- using program designs as a way to encourage increased energy efficiency on the consumer end,
- improving energy efficiency through workforce education and training, and
- supporting rulemaking and programs that incorporate energy demand flexibility and building decarbonization. (CEC 2019)

California Green Building Standards

The energy consumption of new residential and nonresidential buildings in California is regulated by the state's Title 24, Part 6, Building Energy Efficiency Standards (California Energy Code). The California Energy Code was established by CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption and provide energy efficiency standards for residential and non-residential buildings. CEC updates the California Energy Code every 3 years with more stringent design requirements for reduced energy consumption, which results in the generation of fewer greenhouse gas (GHG) emissions.

The 2019 California Energy Code was adopted by CEC on May 9, 2018 and applies to projects constructed after January 1, 2020. The 2019 California Energy Code is designed to move the State closer to its zero-net energy goals for new residential development. It does so by requiring all new residences to install enough renewable energy to offset all the electricity needs of each residential unit (California Code of Regulations (CCR), Title 24, Part 6, Section 150.1(c)4). CEC estimates that the combination of mandatory on-site renewable energy and prescriptively required energy efficiency standards will result in a 53 percent reduction in new residential construction as compared to the 2016 California Energy Code. Non-residential

buildings are anticipated to reduce energy consumption by 30 percent as compared to the 2016 California Energy Code primarily through prescriptive requirements for high-efficiency lighting (CEC 2018). The Energy Code is enforced through the local plan check and building permit process. Local government agencies may adopt and enforce additional energy standards for new buildings as reasonably necessary due to local climatologic, geologic, or topographic conditions, provided that these standards exceed those provided in the California Energy Code.

Transportation-Related Regulations

Various regulatory and planning efforts are aimed at reducing dependency on fossil fuels, increasing the use of alternative fuels, and improving California's vehicle fleet. Senate Bill (SB) 375 aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. CARB, in consultation with the metropolitan planning organizations, provides each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in their respective regions for 2020 and 2035.

Pursuant to Assembly Bill (AB) 2076 (Chapter 936, Statutes of 2000), CEC and the CARB prepared and adopted a joint agency report in 2003, Reducing California's Petroleum Dependence. Included in this report are recommendations to increase the use of alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of motor vehicles, and reduce per capita VMT (CEC and CARB 2003).

AB 1007 (Chapter 371, Statues of 2005) required CEC to prepare the State Alternative Fuels Plan to increase the use of alternative fuels in California.

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 zero-emission vehicles, into a single package of standards for vehicle model years 2017 through 2025. The program's zero-emission vehicle regulation requires battery, fuel cell, and/or plug-in hybrid electric vehicles to account for up to 15 percent of California's new vehicle sales by 2025.

On August 2, 2018, the National Highway Traffic Safety Administration (NHTSA and EPA proposed the Safer Affordable Fuel-Efficient Vehicles Rule (SAFE Rule). Part One of the SAFE Rule revokes a waiver granted by EPA to the State of California under Section 209 of the CAA to enforce more stringent emission standards for motor vehicles than those required by EPA for the explicit purpose of GHG emission reduction, and indirectly, criteria air pollutant and ozone precursor emission reduction. On March 31, 2020, Part Two of the SAFE Rule was published and would amend existing CAFE and tailpipe CO2 emissions standards for passenger cars and light trucks and establish new standards covering model years 2021 through 2026.

GHG Reduction Regulations

Several regulatory measures such as AB 32 and the Climate Change Scoping Plan, EO B-30-15, SB 32, and AB 197 were enacted to reduce GHGs and have the co-benefit of reducing California's dependency on fossil fuels and making land use development and transportation systems more energy efficient.

Renewable Energy Regulations

SB X1-2 of 2011 requires all California utilities to generate 33 percent of their electricity from renewables by 2020. SB X1-2 also requires the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California. SB X1-2 mandates that renewables from these sources make up at least 50 percent of the total renewable energy for the 2011-2013 compliance period, at least 65 percent for the 2014-2016 compliance period, and at least 75 percent for 2016 and beyond.

SB 100, signed in September 2018, requires that all California utilities, including independently-owned utilities, energy service providers, and community choice aggregators, supply 44 percent of retail sales from

renewable resources by December 31, 2024, 50 percent of all electricity sold by December 31, 2026, 52 percent by December 31, 2027, and 60 percent by December 31, 2030. The law also requires that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 is designed to improve vehicle fuel economy and help reduce U.S. dependence on oil. It represents a major step forward in expanding the production of renewable fuels, reducing dependence on oil, and confronting global climate change. The Energy Independence and Security Act of 2007 increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly five-fold increase over current levels; and reduces U.S. demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020—an increase in fuel economy standards of 40 percent.

By addressing renewable fuels and the CAFE standards, the Energy Independence and Security Act of 2007 builds upon progress made by the Energy Policy Act of 2005 in setting out a comprehensive national energy strategy for the 21st century.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

Structures built would be subject to Titles 20 and 24 of the California Code of Regulations, which reduce demand for electrical energy by implementing energy-efficient standards for residential and non-residential buildings. The 2035 General Plan includes policies (see 2035 General Plan Energy Resources Goal U 6.1.1) and related policies to encourage energy-efficient technology by offering rebates and other incentives to commercial and residential developers, coordination with local utility providers and recruitment of businesses that research and promote energy conservation and efficiency.

The Master EIR discussed energy conservation and relevant General Plan policies in section 6.3 (page 6-3). The discussion concluded that with implementation of the General Plan policies and energy regulation (e.g., Title 24) development allowed in the General Plan would not result in the inefficient, wasteful or unnecessary consumption of energy.

See also Section 12, below, discussing impacts related to energy. The Master EIR concluded that implementation of state regulation, coordination with energy providers and implementation of General Plan policies would reduce the potential impacts from construction of new energy production or transmission facilities to a less-than-significant level.

Sacramento Climate Action Plan

The Sacramento CAP was adopted on February 14, 2012 by the Sacramento City Council and was incorporated into the 2035 General Plan. The Sacramento CAP includes GHG emission reduction targets, strategies, and implementation measures developed to help the City reach these targets. Reduction strategies address GHG emissions associated with transportation and land use, energy, water, waste management and recycling, agriculture, and open space. It should be noted that the City is currently undertaking an update to the City's General Plan, 2040 General Plan Update, as well as a stand-alone Climate Action and Adaptation Plan (CAAP).

STANDARDS OF SIGNIFICANCE

For the purposes of this Initial Study, an impact is considered significant if the proposed project would:

- result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation; and/or

- conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

ANSWERS TO CHECKLIST QUESTIONS

A. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation?

No additional significant environmental effect. Neither federal or State law nor the State CEQA Guidelines establish thresholds that define when energy consumption is considered wasteful, inefficient and unnecessary. Compliance with CCR Title 24 Energy Efficiency Standards would result in energy-efficient buildings. However, compliance with building codes does not adequately address all potential energy impacts during construction and operation. For example, energy would be required to transport people and goods to and from the project site. Energy use is discussed by anticipated use type below.

Construction

Construction of the proposed project would involve the consumption of energy in the form of gasoline and diesel fuel in order to power construction worker vehicle trips, hauling and materials delivery truck trips, and operation of construction equipment. In addition, portable generators may be used on-site in order to produce additional electricity for temporary on-site lighting, welding, and the supply of energy where hookups to the existing electricity grid are not readily available.

Proposed Project construction would primarily consume diesel and gasoline through operation of heavy-duty construction equipment, material deliveries, and debris hauling. Fuel consumption was calculated by inputting emissions results from the SMAQMD Roadway Construction Emissions Model into the U.S. EPA Greenhouse Gas Equivalencies Calculator (https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator). Table 4 below shows the estimated annual fuel consumption needed to construct the proposed Project.

Table 4. Annual Construction Fuel Consumption

Construction Year	Annual Construction Emissions	Annual Construction Emissions converted to Fuel Consumption		Construction Fuel Consumption converted to Energy Use
	MT/Year	Diesel (gallons)	Gasoline (gallons)	Total Energy (BTU)
2023	35.0	3,438	3,938	4.1E+08 to 5.4E+08

Due to the necessity for different stages of construction (e.g. site preparation, grading, and building construction), the operation of construction equipment would occur at different locations and at different times within the project site. Additionally, the use of construction equipment is regulated under the CARB In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation aims to reduce emissions from in-use off-road, heavy duty vehicles in California by imposing limits on idling, requiring all vehicles to be reported to CARB, restricting the addition of older vehicles to existing fleets, and requiring fleets to reduce emissions by replacing, retrofitting, or retiring older engines. The use of In-Use Off-Road Diesel Vehicle Regulation would therefore assist in improving vehicle fuel efficiency and reducing GHG emissions.

The 2017 Climate Change Scoping Plan Update, prepared by CARB, outlines examples of local actions that would support the State's climate goals, including municipal code changes, zoning changes, policy directions, and mitigation measures. The CARB Diesel Vehicle Regulation described above, with which the project must comply, would maintain the project's consistency with the intention and recommendations of the 2017 Scoping Plan.

Despite the temporary increase in energy use occurring during construction of the proposed project, the project would not result in a significant increase in peak or base demands or require additional capacity from local or regional energy facilities. In addition, construction would be subject to all

applicable regulations related to energy conservation and fuel efficiency, which would serve to reduce the temporary increase in energy demand.

Operation

Operational Energy Consumption for the proposed Project was estimated using CalEEMod version 2022.1.15, soft release. The results are shown below in Table 5.

Table 5. Annual Operation Energy Consumption

Land Use	Electricity (kWh/yr)
Fast Food Restaurant with Drive Thru	89,060
Parking Lot	4,808
Convenience Market with Gas Pumps	77,804

The proposed project would be required to comply with all the relevant provisions outlined in the most recent update of the California Building Standards Commission (CBSC), including the Building Energy Efficiency Standards. Adherence to all applicable regulations included in the City's Climate Action Plan (CAP) would ensure that the buildings resulting from this project would consume energy efficiently through the incorporation of features such as insulated walls and high efficacy lighting. Mandatory compliance with the CBSC ensures that building energy use resulting from the completion of this project would not be wasteful, inefficient, or unnecessary. Additionally, SMUD is required to comply with the State's Renewables Portfolio Standard, mandating that investor-owned utilities, electric service providers, and community choice aggregators must meet a 33 percent total procurement of eligible renewable energy resources by 2020 and 60 percent total procurement by 2030. This ensures that a portion of the electricity consumed during project operations would be generated from renewable resources.

Based on the above, construction and operation of the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Thus, implementation of the proposed project would have no additional significant environmental effect related to energy beyond what was previously evaluated in the Master EIR.

B. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No additional significant environmental effect. Structures built as part of the project would be subject to Titles 20 and 24 of the California Code of Regulations, which serve to reduce demand for electrical energy by implementing energy-efficient standards for residential and non-residential buildings. The 2030 General Plan includes policies (see Policies 6.1.10 through 6.1.13) to encourage the spread of energy-efficient technology by offering rebates and other incentives to commercial and residential developers, and recruiting businesses that research and promote energy conservation and efficiency. Policies 6.1.6 through 6.1.8 focus on promoting the use of renewable resources, which would reduce the cumulative impacts associated with use of non-renewable energy sources. In addition, Policies 6.1.5 and 6.1.12 call for the City to work with utility providers and industries to promote new conservation technologies.

The Master EIR evaluated the potential impacts on energy and concluded that the effects would be less than significant (See Impacts 6.11-9 and 6.11-10). The proposed project would not result in any impacts not identified and evaluated in the Master EIR.

MITIGATION MEASURES

None.

FINDINGS

The project would have no additional project-specific environmental effects relating to Energy.

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
6. GEOLOGY AND SOILS Would the project allow a project to be built that will either introduce geologic or seismic hazards by allowing the construction of the project on such a site without protection against those hazards?			X

ENVIRONMENTAL SETTING

Geological formations of the project vicinity include marine and nonmarine (continental) sedimentary rocks (Pleistocene-Holocene) - Alluvium, lake, playa, and terrace deposits; unconsolidated and semi-consolidated (Q) (Geologic Map of California, 2022).

Surface faulting or ground rupture tends to occur along lines of previous faulting. Within the City of Sacramento, no active faults have been located; however, at least two faults have been confirmed within the Sacramento County. The Mormon Island Fault Zone is found on the eastern border of Sacramento County in proximity to the City of Folsom and Mormon Island Dam; whereas, a second fault was localized under the right abutment of the Folsom Dam. Both of these faults distance between 15 to 20 miles from the project area. Since previously identified fault lines are not within or near the project area, the possibility of fault rupture is negligible within the site, but in the event of an earthquake on a nearby fault, the project site could experience ground shaking. The California Geological Survey (CGS) probabilistic seismic hazards maps shows that the seismic ground-shaking hazard for the city is relatively low, and is among the lowest in the State.

STANDARDS OF SIGNIFICANCE

For the purposes of this Initial Study, an impact is considered significant if it allows a project to be built that will either introduce geologic or seismic hazards by allowing the construction of the project on such a site without protection against those hazards.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

Chapter 4.5 of the Master EIR evaluated the potential effects related to seismic hazards, underlying soil characteristics, slope stability, erosion, existing mineral resources and paleontological resources in the City. Implementation of identified policies in the 2035 General Plan reduced all effects to a less-than-significant level. Policy EC 1.1.1 requires regular review of the City's seismic and geologic safety standards, and Policy EC 1.1.2 requires geotechnical investigations for project sites to identify and respond to geologic hazards, when present.

ANSWERS TO CHECKLIST QUESTIONS

A) Would the project allow a project to be built that will either introduce geologic or seismic hazards by allowing the construction of the project on such a site without protection against those hazards?

No additional significant environmental effect. The project area is located approximately 30 miles from the nearest active fault (the Foothill Fault system) and is not within an Alquist-Priolo Earthquake

Fault Zone. Therefore, the chance of fault rupture within the project area is very low. Since previously identified fault lines are not within or near the project site, the possibility of fault rupture is negligible within the project site, but in the event of an earthquake on a nearby fault, the project site could experience ground shaking.

General Plan Goal EC 1.1 and Policies 1.1.1 to 1.1.3 would ensure that lives and property within the project area protected from seismic hazards. These policies include regular review and enforcement of seismic and geologic safety standards, and geotechnical investigations to determine potential for hazards such as ground rupture, ground shaking, and liquefaction due to seismic events, as well as expansive soils and subsidence problems on sites where these hazards may be present. This impact is within the scope of the General Plan and was analyzed in the Master EIR. By complying with the General Plan policies and City Code, the proposed project would have a less-than-significant impact on exposing life and property to seismic hazards. The project site is relatively level, so there would be no impacts related to the possibility of landslides.

MITIGATION MEASURES

None.

FINDINGS

The project would have no additional project-specific environmental effects relating to Geology and Soils.

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
7. GREENHOUSE GAS EMISSIONS Would the project: A) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?		X	
B) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?		X	

ENVIRONMENTAL SETTING

The City is located within the SVAB, which is a valley bounded by the North Coast Mountain Ranges to the west and the Northern Sierra Nevada Mountains to the east. The terrain in the valley is flat and approximately 25 feet above sea level.

Hot, dry summers and mild, rainy winters characterize the Mediterranean climate of the Sacramento Valley. Throughout the year, daily temperatures may range by 20 degrees Fahrenheit with summer highs often exceeding 100 degrees and winter lows occasionally below freezing. Average annual rainfall is about 20 inches and snowfall is very rare. Summertime temperatures are normally moderated by the presence of the "Delta breeze" that arrives through the Carquinez Strait in the evening hours.

The mountains surrounding the SVAB create a barrier to airflow, which can trap air pollutants in the valley. The highest frequency of air stagnation occurs in the autumn and early winter when large high-pressure cells lie over the valley. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduces the influx of outside air and allows air pollutants to become concentrated in a stable volume of air. The surface concentrations of pollutants are highest when these conditions are combined with temperature inversions that trap cooler air and pollutants near the ground.

The warmer months in the SVAB (May through October) are characterized by stagnant morning air or light winds, and the Delta breeze that arrives in the evening out of the southwest. Usually, the evening breeze transports a portion of airborne pollutants to the north and out of the Sacramento Valley. During about half of the day from July to September, however, a phenomenon called the "Schultz Eddy" prevents this from occurring. Instead of allowing the prevailing wind patterns to move north carrying the pollutants out of the valley, the Schultz Eddy causes the wind pattern to circle back south. This phenomenon exacerbates the pollution levels in the area and increases the likelihood of violating Federal or State standards. The Schultz Eddy normally dissipates around noon when the Delta breeze begins.

Greenhouse Gases

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. GHGs are responsible for "trapping" solar radiation in the earth's atmosphere, a phenomenon known as the greenhouse effect. Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. Emissions of GHGs contributing to

global climate change are attributable, in large part, to human activities associated with on-road and off-road transportation, industrial/manufacturing, electricity generation by utilities and consumption by end users, residential and commercial on-site fuel usage, and agriculture and forestry. Emissions of CO_2 are, largely, byproducts of fossil fuel combustion.

The quantity of GHGs in the atmosphere responsible for climate change is not precisely known, but it is enormous. No single project alone would measurably contribute to an incremental change in the global average temperature or to global or local climates or microclimates. From the standpoint of CEQA, GHG impacts relative to global climate change are inherently cumulative.

Several regulations currently exist related to GHG emissions, predominantly AB 32, Executive Order S-3-05, and Senate Bill (SB) 32. AB 32 requires that Statewide GHG emissions be reduced to 1990 levels by 2020. Executive Order S-3-05 established the GHG emission reduction target for the State to reduce to the 2000 level by 2010, the 1990 level by 2020 (AB 32), 40 percent below the 1990 level by 2030, and to 80 percent below the 1990 level by 2050 (SB 32).

To meet the statewide GHG emission targets, the City adopted the City of Sacramento CAP on February 14, 2012 to comply with AB 32. The CAP identified how the City and the broader community could reduce Sacramento's GHG emissions and included reduction targets, strategies, and specific actions. In 2015, the City adopted the 2035 General Plan Update. The update incorporated measures and actions from the CAP into Appendix B, General Plan CAP Policies and Programs, which includes citywide policies and programs that are supportive of reducing GHG emissions

STANDARDS OF SIGNIFICANCE

A project is considered to have a significant effect relating to greenhouse gas emissions if it fails to satisfy the requirements of the City's Climate Action Plan.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

The Master EIR found that greenhouse gas emissions that would be generated by development consistent with the 2035 General Plan would contribute to climate change on a cumulative basis. Policies of the General Plan identified in the Master EIR that would reduce construction related GHG emissions include: ER 6.1.2, ER 6.1.11 requiring coordination with SMAQMD to ensure feasible mitigation measures are incorporated to reduce GHG emissions, and ER 6.1.15. The 2035 General Plan incorporates the GHG reduction strategy of the 2012 CAP, which demonstrates compliance mechanism for achieving the City's adopted GHG reduction target of 15 percent below 2005 emissions by 2020. Policy ER 6.1.8 commits the City to assess and monitor performance of GHG emission reduction efforts beyond 2020, and progress toward meeting long-term GHG emission reduction goals, ER 6.1.9 also commits the City to evaluate the feasibility and effectiveness of new GHG emissions reduction measures in view of the City's longer-term GHG emission reductions goal. The discussion of greenhouse gas emissions and climate change in the 2035 General Plan Master EIR are incorporated by reference in this Initial Study. (CEQA Guidelines Section 15150)

The Master EIR identified numerous policies included in the 2035 General Plan that addressed greenhouse gas emissions and climate change. See Draft Master EIR, Chapter 4.14, and pages 4.14-1 et seq. The Master EIR is available for review online at
http://www.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports

ANSWERS TO CHECKLIST QUESTIONS

A) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Effect can be mitigated to less than significant. Construction emissions for the proposed project were estimated using CalEEMod version 2022.1.15, soft release. The modelling assumptions, inputs, and

output file can be found in Appendix A. The results of the modelling show that construction of the proposed project would result in 35.0 tons of $CO2_e$ annually (211 pounds per day on average). This is below the SMAQMD GHG construction phase threshold for land development projects (1,100 tons/year), which is used to attain improved air quality and reduce GHG's in the 2035 General Plan.

Per the SMAQMD thresholds, operational emissions for land development projects need to demonstrate consistency with the City's CAP by implementing BMP's. Further discussion on the project's consistency with the City's CAP is discussed below, however, the project will implement measure **AQ-2** to demonstrate compliance.

The proposed project would not generate GHG emissions that may have a significant impact on the environment since construction emissions are below the SMAQMD GHG thresholds and operational emissions are consistent with the City's CAP- with implementation of measure **AQ-2**. The proposed project would not result in any impacts not identified and evaluated in the Master EIR.

B) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Effect can be mitigated to less than significant. To comply with AB 32 and meet the statewide GHG emission targets, the City adopted the City of Sacramento CAP on February 14, 2012. The CAP identified how the City and the broader community could reduce Sacramento's GHG emissions and included reduction targets, strategies, and specific actions. In 2015, the City adopted the 2035 General Plan Update. The update incorporated measures and actions from the CAP into Appendix B, General Plan CAP Policies and Programs, which includes citywide policies and programs that are supportive of reducing GHG emissions. Upon adoption of the 2035 General Plan, the 2012 CAP was rescinded, and the 2035 General Plan became the City's CAP. In updating the 2035 General Plan the City has met the State standards as a qualified plan for the reduction of greenhouse gas emissions under Section 15183.5 of the State CEQA Guidelines. It should be noted that the City is currently undertaking an update to the City's General Plan, 2040 General Plan Update, as well as a stand-alone CAAP.

The Preliminary Draft CAAP, which was released for a 30-day early review on July 1, 2022, is a critical component of the larger Sacramento 2040 effort that involves a comprehensive update of the General Plan, the complete CAAP, and a Master EIR. The Preliminary Draft CAAP sets new and ambitious targets for the City and identifies key decarbonization strategies and implementable actions that form the foundation of Sacramento's goal for achieving carbon neutrality by 2045. By implementing measure **AQ-2**, per the SMAQMD thresholds of significance table, the project is consistent with the Preliminary Draft CAAP. Additionally, the proposed Project would consist of infill development within an established community and adjacent to a central/corridor community, as identified in Figure 3.5 of the Draft CAAP. This is consistent with measure E-5 which is used as a measure to reduce GHG in the Preliminary Draft CAAP (City of Sacramento, 2022).

With adherence to standard BMPs required with SMAQMD, as described in measures **AQ-1** and **AQ-2**, the proposed project would not conflict with existing CAP policies and programs that intend to reduce emissions of GHGs.

MITIGATION MEASURES

See Section 2 – Air Quality for air quality specific measures.

FINDINGS

The project would have no additional project-specific environmental effects relating to Greenhouse Gas Emissions.

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
8. HAZARDS Would the project: A) Expose people (e.g., residents, pedestrians, construction workers) to existing contaminated soil during construction activities?			X
B) Expose people (e.g., residents, pedestrians, construction workers) to asbestos-containing materials or other hazardous materials?			X
C) Expose people (e.g., residents, pedestrians, construction workers) to existing contaminated groundwater during dewatering activities?			X

ENVIRONMENTAL AND REGULATORY SETTING

Federal regulations and regulations adopted by the SMAQMD apply to the identification and treatment of hazardous materials during demolition and construction activities. Failure to comply with these regulations respecting asbestos may result in a Notice of Violation being issued by the AQMD and civil penalties under state and/or federal law, in addition to possible action by U.S. EPA under federal law.

Federal law covers a number of different activities involving asbestos, including demolition and renovation of structures (40 CFR § 61.145).

SMAQMD Rule 902 and Commercial Structures

The work practices and administrative requirements of Rule 902 apply to all commercial renovations and demolitions where the amount of Regulated Asbestos-Containing Material (RACM) is greater than:

- 260 lineal feet of RACM on pipes, or
- 160 square feet of RACM on other facility components, or
- 35 cubic feet of RACM that could not be measured otherwise.

The administrative requirements of Rule 902 apply to any demolition of commercial structures, regardless of the amount of RACM. To determine the amount of RACM in a structure, Rule 902 requires that a survey be conducted prior to demolition or renovation unless:

- the structure is otherwise exempt from the rule, or
- any material that has a propensity to contain asbestos (so-called "suspect material") is treated as if it is RACM.

Surveys must be done by a licensed asbestos consultant and require laboratory analysis. Asbestos consultants are listed in the phone book under "Asbestos Consultants." Large industrial facilities may use non-licensed employees if those employees are trained by the U.S. EPA. Questions regarding the use of non-licensed employees should be directed to the AQMD.

STANDARDS OF SIGNIFICANCE

For the purposes of this Initial Study, an impact is considered significant if the proposed project would:

- expose people (e.g., residents, pedestrians, construction workers) to existing contaminated soil during construction activities;
- expose people (e.g., residents, pedestrians, construction workers) to asbestos-containing materials or other hazardous materials; or
- expose people (e.g., residents, pedestrians, construction workers) to existing contaminated groundwater during dewatering activities.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

The Master EIR evaluated effects of development on hazardous materials, emergency response and aircraft crash hazards. See Chapter 4.6. Implementation of the General Plan may result in the exposure of people to hazards and hazardous materials during construction activities, and exposure of people to hazards and hazardous materials during the life of the general plan. Impacts identified related to construction activities and operations were found to be less than significant. Policies included in the 2035 general Plan, including PHS 3.1.1 (investigation of sites for contamination) and PHS 3.1.2 (preparation of hazardous materials actions plans when appropriate) were effective in reducing the identified impacts.

ANSWERS TO CHECKLIST QUESTIONS

A) Expose people (e.g., residents, pedestrians, construction workers) to existing contaminated soil during construction activities?

No additional significant environmental effect. Based on a search of the Department of Toxic Substances Control Envirostor Database, there are no recorded hazardous waste sites within the project area indicating a presence of contaminated soils. The nearest active site occurs approximately 2000 feet to the east at 1111 Exposition Boulevard, where stained soils were encountered in 2010 by an underground pipeline operated by Santa Fe Petroleum Pipeline (SFPP). The pipeline runs in a north-south direction and is not located near the project site, so the risk of soil contamination at the project site is unlikely. Therefore, the proposed project would not result in additional significant environmental effects related to hazardous waste/materials beyond what was analyzed in the Master EIR.

B) Expose people (e.g., residents, pedestrians, construction workers) to asbestos-containing materials or other hazardous materials?

No additional significant environmental effect. Review of information available through the USGS and the CGS indicated that nearest ultramafic rock formation which may be associated with naturally occurring asbestos is approximately 20 miles east of the project area (USGS, 2011 and CGS, 2011). Additionally, there are no existing buildings at the project site; therefore, analysis for lead-containing structures within the project site prior to the removal of these structures is not warranted. Therefore, risk associated with exposure to asbestos-containing materials at the project site is less than significant.

The project would result in the construction of a gasoline dispensing station consisting of 12 fueling positions, which would allow for fueling operations with an expected throughput of 100,000 gallons per year. According to the Health Risk Assessment prepared for the project by ECORP Consulting, Inc. in January 2023, the existing residents and workers in the surrounding area would not experience a significant amount of TAC exposure exceeding 10 in 1 million due to fueling operations at the project site. The project would have no additional significant effects that were not evaluated in the Master EIR.

C) Expose people (e.g., residents, pedestrians, construction workers) to existing contaminated groundwater during dewatering activities?

No additional significant environmental effect. The proposed project would not be expected to require any on-site dewatering activities. The proposed project would include construction activities within an approximately 0.6-acre project area, including the repaving of the project site and construction of a gas station and retail building, along with various other site improvements. Groundwater would not be anticipated to be encountered during construction of the site, as the site is already graded and vacant. Thus, the proposed project would have a less than significant impact related to the potential to expose construction workers and pedestrians to contaminated groundwater and implementation of the proposed project would result in no additional significant environmental effects beyond what has been previously analyzed in the Master EIR.

MITIGATION MEASURES

None.

FINDINGS

All additional significant environmental effects of the project relating to Hazards can be mitigated to a less-than-significant level.

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
9. HYDROLOGY AND WATER QUALITY Would the project: A) Substantially degrade water quality and violate any water quality objectives set by the State Water Resources Control Board, due to increases in sediments and other contaminants generated by construction and/or development of the project?		X	
B) Substantially increase the exposure of people and/or property to the risk of injury and damage in the event of a 100-year flood ?			X

ENVIRONMENTAL SETTING

The project area is within the Valley-American hydrologic unit and the American River Watershed. The American River is located approximately 0.6 miles to the south of the project area. Creeks, streams, or rivers are not present on the project site. There is an existing drainage ditch along the northern perimeter of the Project site.

The Sacramento River and its tributary channels beneficial uses are municipal and domestic supply, agriculture, industry, recreation, freshwater habitats (migration and spawning of fish), and wildlife habitat according to the Basin Plan for the Sacramento River and San Joaquin River Basins (California Regional Water Quality Control Board, 1998).

The proposed project is not located within one of California's four sole source aquifers. The project is located in Sacramento County which does not have a sole source aquifer.

STANDARDS OF SIGNIFICANCE

For purposes of this Initial Study, impacts to hydrology and water quality may be considered significant if construction and/or implementation of the Proposed Project would result in the following impacts that remain significant after implementation of General Plan policies or mitigation from the General Plan MEIR:

- substantially degrade water quality and violate any water quality objectives set by the State Water Resources Control Board, due to increases in sediments and other contaminants generated by construction and/or development of the Specific Plan or
- substantially increase the exposure of people and/or property to the risk of injury and damage in the event of a 100-year flood.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

Chapter 4.7 of the Master EIR evaluates the potential effects of the 2035 General Plan as they relate to surface water, groundwater, flooding, stormwater and water quality. Potential effects include water quality degradation due to construction activities (Impacts 4.7-1, 4.7-2), and exposure of people to flood risks (Impacts 4.7-3). Policies included in the 2035 General Plan, including a directive for regional cooperation (Policies ER 1.1.2, EC 2.1.1), comprehensive flood management (Policy EC 2.1.23), and construction of adequate drainage facilities with new development (Policy ER 1.1.1 to ER 1.1.10) were identified that the Master EIR concluded would reduce all impacts to a less-than-significant level.

ANSWERS TO CHECKLIST QUESTIONS

A) Substantially degrade water quality and violate any water quality objectives set by the State Water Resources Control Board, due to increases in sediments and other contaminants generated by construction and/or development of the project?

Effect can be mitigated to less than significant. There is potential for the proposed project to result in degradation of water quality during both the construction and operational phases. Polluted runoff from the project site during construction and operation could include sediment from soil disturbances, oil and grease from construction equipment and vehicles, and pesticides and fertilizers from landscaped areas. This degradation could result in violation of water quality standards. It is noted that no creeks, streams or rivers are present on the project site. The existing drainage ditch on the north side of the project site will remain undisturbed.

Although the proposed project would not be required to obtain coverage under the Construction General Permit, the City's Stormwater Quality Improvement Plan (SQIP) contains guidance for construction on small building sites (sites under 1 acre) to comply with the City's MS4 permit requirements. The following recommended BMPs will be implemented during construction: evaluate the site and protect natural features, schedule work to minimize problems, install perimeter controls, install stabilized construction access, protect storm drain inlets, use other pollution control practices as needed, maintain BMPs, and perform finial steps (stabilize the site and remove all temporary construction BMPs). Conformance with City regulations and permit requirements along with implementation of BMPs would ensure that construction activities associated with the proposed project would result in a less-than significant impact related to water quality.

As a standard Condition of Approval for development projects in the City, the City's Department of Utilities requires preparation and submittal of project-specific drainage studies. With submittal of the required drainage study, the Department of Utilities would review the Improvement Plans for the proposed project prior to approval to ensure that adequate water quality control facilities are incorporated. It should be noted that the proposed project would comply with Section 13.08.145, Mitigation of drainage impacts; design and procedures manual for water, sanitary sewer, storm drainage, and water quality facilities, of the City of Sacramento Code.

Design of the proposed project and conformance with City and state regulations would ensure that a substantial degradation to water quality or violation of any water quality objectives due to increases in sediments and other contaminants generated by construction and/or development of the proposed project would not occur. The proposed project would not result in a project-specific impact related to the degradation of water quality during construction, the proposed project would result in no additional significant environmental effects beyond the effects analyzed in the Master EIR. Implementation of measures **WQ-1** would further minimize potential impacts to water quality.

B) Substantially increase the exposure of people and/or property to the risk of injury and damage in the event of a 100-year flood?

No additional significant environmental effect. The project is located within the Federal Emergency Management Agency (FEMA) Zone X (based on 100-year flood plain map 06067C0177J), area with reduced flood risk due to levee. As such, the proposed project would not place housing or structures within a 100-year flood hazard area and no additional significant environmental effect would occur relative to flooding impacts analyzed in the Master EIR.

MITIGATION MEASURES

WQ-1: Water Quality BMPs will be incorporated into project design and project management to minimize impacts on the environment including erosion and the release of pollutants (e.g. oils, fuels):

- Exposed soils and material stockpiles would be stabilized, through watering or other measures, to prevent the movement of dust at the project site caused by wind and construction activities such as traffic and grading activities;

- All construction roadway areas would be properly protected to prevent excess erosion, sedimentation, and water pollution;

- All vehicle and equipment fueling/maintenance would be conducted outside of any surface waters;

- Equipment used in and around jurisdictional waters must be in good working order and free of dripping or leaking contaminants;

- Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life shall be prevented from contaminating the soil or entering jurisdictional waters;

- All erosion control measures and storm water control measures would be properly maintained until the site has returned to a pre-construction state;

- All disturbed areas would be restored to pre-construction contours and revegetated, either through hydroseeding or other means, with native or approved non-invasive exotic species;

- All construction materials would be hauled off-site after completion of construction.

FINDINGS

All additional significant environmental effects of the project relating to Water Quality can be mitigated to a less-than-significant level.

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
10. NOISE Would the project: A) Result in exterior noise levels in the project area that are above the upper value of the normally acceptable category for various land uses due to the project's noise level increases?			X
B) Result in residential interior noise levels of 45 dBA L_{dn} or greater caused by noise level increases due to the project?			X
C) Result in construction noise levels that exceed the standards in the City of Sacramento general plan or Noise Ordinance?			X
D) Permit existing and/or planned residential and commercial areas to be exposed to vibration-peak-particle velocities greater than 0.5 inches per second due to project construction?			X
E) Permit adjacent residential and commercial areas to be exposed to vibration peak particle velocities greater than 0.5 inches per second due to highway traffic and rail operations?			X
F) Permit historic buildings and archaeological sites to be exposed to vibration-peak-particle velocities greater than 0.2 inches per second due to project construction and highway traffic?			X

ENVIRONMENTAL SETTING

The noise environment near the project is dominated by traffic on Leisure Lane and SR-160. Sensitive land uses within 500 feet of the project area were considered in the noise impact analysis. The nearest sensitive land uses to the Project Site include an assisted living facility and nursing home 275 feet and 500 feet respectively southwest of the Project's fence line. In addition, an existing hotel and temple facility are located approximately 500 feet north of the project site. These receptors are shown in Figure 5.

A short-term 15-minute noise measurements was taken at the project site on February 6th, 2023 to establish a baseline noise level, observe existing site conditions, and to validate the traffic noise model (using the FHWA Traffic Noise Model Version 2.5, or TNM 2.5). **Table 6** below shows the representative measured existing ambient noise level compared with the modeled existing noise levels using traffic counts and measured vehicle speeds during noise monitoring. As the modeled noise levels was within 3 dB of the measured noise level, the traffic noise model was considered validated for use in predicting existing and future noise levels.

V:\3006_Leisure_Ln_Gas_Station_Env\Noise\F4_Noise Receivers.mxd

Source: ESRI Maps Online; Dokken Engineering 2/8/2023; Created By: kchen

1 inch = 150 feet

0 150 300 450 600 750 Feet

Figure 5
Noise Measurement and Receiver Locations

Leisure Lane/ Expo Parkway Gas Station and Retail Project
City of Sacramento, Sacramento County, California

Table 6. Short-Term Measurement Results

Location	Start Time/Date	Duration (Minutes)	Measured Leq, dBA	Modelled Leq, dBA	Difference	Noise Sources
Vacant Site at Leisure Lane and SR-160 On/Off Ramps	2:47 pm on 2/7/2023	15	69.0	70.4	+1.4	Traffic noise on SR-160 and Leisure Lane

STANDARDS OF SIGNIFICANCE

For purposes of this Initial Study, impacts due to noise may be considered significant if construction and/or implementation of the Proposed Project would result in the following impacts that remain significant after implementation of general plan policies:

- result in exterior noise levels in the project area that are above the upper value of the normally acceptable category for various land uses due to the project's noise level increases;
- result in residential interior noise levels of 45 dBA L_{dn} or greater caused by noise level increases due to the project;
- result in construction noise levels that exceed the standards in the City of Sacramento Noise Ordinance;
- permit existing and/or planned residential and commercial areas to be exposed to vibration-peak-particle velocities greater than 0.5 inches per second due to project construction;
- permit adjacent residential and commercial areas to be exposed to vibration peak particle velocities greater than 0.5 inches per second due to highway traffic and rail operations; or
- permit historic buildings and archaeological sites to be exposed to vibration-peak-particle velocities greater than 0.2 inches per second due to project construction and highway traffic.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

The Master EIR evaluated the potential for development under the 2035 General Plan to increase noise levels in the community. New noise sources include vehicular traffic, aircraft, railways, light rail and stationary sources. The general plan policies establish exterior (Policy EC 3.1.1) and interior (Policy EC 3.1.3) noise standards. A variety of policies provide standards for the types of development envisioned in the general plan. See Policy EC 3.1.8, which requires new mixed-use, commercial and industrial development to mitigate the effects of noise from operations on adjoining sensitive land use, and Policy 3.1.9, which calls for the City to limit hours of operations for parks and active recreation areas to minimize disturbance to nearby residences. Notwithstanding application of the general plan policies, noise impacts for exterior noise levels (Impact 4.8-1) and interior noise levels (Impact 4.8-2), and vibration impacts (Impact 4.8-4) were found to be significant and unavoidable.

ANSWERS TO CHECKLIST QUESTIONS

A) Result in exterior noise levels in the project area that are above the upper value of the normally acceptable category for various land uses due to the project's noise level increases?

No additional significant environmental effect. Existing noise within the project site includes noise from the operations of the adjacent retail operations surrounding the project, and traffic associated with Leisure Lane and other surrounding roadways. Operational noise from the proposed gas station and retail building would result primarily from increased traffic generated along Leisure Lane.

Traffic noise levels for the Existing, Baseline, and Baseline with Project conditions were predicted for sensitive receptors within a 500-foot radius of the project site using TNM 2.5 and are shown below in **Table 7**. These noise levels are then compared to the applicable Sensitive Outdoor Area Noise Standard as shown in Table 1 of the City of Sacramento General Plan Noise Element.

Baseline conditions represents existing conditions with the addition of trips generated by two approved projects near the study area. The traffic volumes for all analyzed scenarios were derived from the traffic analysis performed by Fehr & Peers for the project on January 19, 2023.

Table 7. Predicted Existing, Baseline, and Baseline with Project Exterior Noise Levels

Location and Land Use	Existing (Ldn)	Baseline (Ldn)	Baseline with Project (Ldn)	Outdoor Area Noise Standard (Ldn)
Advanced health Care of Sacramento (Nursing Home)	50.8	51.0	51.2	65
The Woodlake (Assisted Living Facility)	50.4	50.7	50.9	65
SureStay Plus Hotel	47.1	47.3	47.4	65
Sacramento True Buddha Temple	69.4	69.4	69.4	N/A[1]
1 – No sensitive outdoor use area was observed at the Sacramento True Buddha Temple				

As shown in **Table 7**, project operations would not increase exterior noise levels in the project area that are above the upper value of the normally acceptable category for various land uses.

B) Result in residential interior noise levels of 45 dBA Ldn or greater caused by noise level increases due to the project?

No additional significant environmental effect. The nearest residences are 600 feet north of the project and were not considered in the noise evaluation. Given the distance between the project site and the nearest residences, and the current land use of the surrounding area, the proposed project would not result in residential interior noise levels of 45 dBA Ldn or greater caused by noise level increases due to the proposed project.

Interior noise levels were also estimated for the assisted living facility and nursing home southwest of the project site. Modern construction typically provides a 25-dB exterior-to-interior noise level reduction with windows closed. This reduction was applied to the Baseline with Exterior noise levels for the assisted living facility and nursing home and are shown below in **Table 8**.

Table 8. Predicted Existing, Baseline, and Baseline with Project Interior Noise Levels

Location and Land Use	Baseline with Project (Exterior)	Baseline with Project (Interior)
Advanced health Care of Sacramento (Nursing Home)	51.2	26.2
The Woodlake (Assisted Living Facility)	50.9	25.9

As shown in **Table 8**, the project would not result in additional traffic noise that would cause residential interior noise levels to exceed 45 dBA Ldn. Thus, the proposed project would have no additional significant environmental effect related to noise beyond what was previously evaluated in the Master EIR.

C) Result in construction noise levels that exceed the standards in the City of Sacramento General Plan or Noise Ordinance?

No additional significant environmental effect. During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Based on **Table 9** below, activities in typical construction would generate maximum noise levels up to 89 dB at a distance of 50 feet, however, since the site is already graded, the maximum noise levels will be up to 85 dB at a distance of 50 feet. Noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance.

Table 9. Construction Equipment Noise Emissions Levels

Equipment	Maximum Noise Level (dBA at 50 feet)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82

Source: Federal Transit Administration, 2006

Construction noise associated with the proposed project would be exempt from the Noise Control provisions of the City Noise ordinance as all construction activity would be conducted within the parameters established by Section 8.68.080 of the City Noise Ordinance: between the hours of seven a.m. and six p.m., on Monday, Tuesday, Wednesday, Thursday, Friday and Saturday, and between nine a.m. and six p.m. on Sunday, provided that operation of a equipment with an internal combustion engine is equipped with a suitable exhaust and intake silence in good working order. With implementation of construction in accordance with Section 8.68.080 of the City Noise Ordinance, no additional significant environmental effects would occur.

D) Permit existing and/or planned residential and commercial areas to be exposed to vibration-peak-particle velocities greater than 0.5 inches per second due to project construction?

No additional significant environmental effect. Construction of the proposed project would not perceptibly increase groundborne vibration or groundborne noise since construction would not involve vibration creating activities such as pile driving.

E) Permit adjacent residential and commercial areas to be exposed to vibration peak particle velocities greater than 0.5 inches per second due to highway traffic and rail operations?

No additional significant environmental effect. There are no new highway or railway operations associated with the construction of the proposed project. The nearest highway is SR-160 immediately adjacent north, and the nearest railroad is approximately 0.38 miles to the east. There would be no impact.

F) Permit historic buildings and archaeological sites to be exposed to vibration-peak-particle velocities greater than 0.2 inches per second due to project construction and highway traffic?

No additional significant environmental effect. No historic buildings or archaeological sites have been identified within the project area. The buildings in the project vicinity that would be impacted by construction are designated Suburban Center and Urban Center Low, none of which are considered extremely fragile, fragile, or historic buildings. Therefore, no historic buildings or archaeological sites would be exposed to vibration-peak-particle velocities greater than 0.2 inches per second due to project construction and highway traffic. There would be no impact.

MITIGATION MEASURES

None.

Findings

All additional significant environmental effects of the project relating to Noise can be mitigated to a less-than-significant level.

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
11. PUBLIC SERVICES Would the project result in the need for new or altered services related to fire protection, police protection, school facilities, or other governmental services beyond what was anticipated in the 2035 General Plan?			X

ENVIRONMENTAL SETTING

Fire

The Sacramento Fire Department (SFD) provides fire protection services to the entire City and some small areas just outside the City boundaries within the County limits. Sacramento Fire Stations 19 and 20 are the closest fire stations to the project site and are located at 1700 Challenge Way and 2512 Rio Linda Boulevard respectively, both approximately 1 mile east or north of the project site.

Police

Police protection services are provided by the Sacramento Police Department (SPD) for areas within the City. The proposed project site is within Police District 2 and the nearest police facility is the Los Rios Police Department District Office, located at 1410 Ethan Way. In addition to the SPD and Sheriff's Department, the California Highway Patrol and the Regional Transit Police Department provide police protection within the City of Sacramento.

School District

The proposed project site is within Twin Rivers Unified School District. The proposed project site is located approximately 0.2 miles from Woodlake Elementary School. Woodlake Elementary School would remain open throughout construction; no detour would be implemented due to the proposed project.

STANDARDS OF SIGNIFICANCE

For the purposes of this Initial Study, an impact would be considered significant if the project resulted in the need for new or altered services related to fire protection, police protection, school facilities, or other governmental services beyond what was anticipated in the 2035 General Plan.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

The Master EIR evaluated the potential effects of the 2035 General Plan on various public services. These include police, fire protection, schools, libraries and emergency services (Chapter 4.10).

The general plan provides that adequate staffing levels for police and fire are important for the long-term health, safety and well-being of the community (Goal PHS 1.1, PHS 2.1). The Master EIR concluded that effects of development that could occur under the general plan would be less than significant.

General plan policies that call for the City to consider impacts of new development on schools (see, for example, Policy ERC 1.1.2 setting forth locational criteria, and Policy ERC 1.1.4 that encourages joint-use

development of facilities) reduce impacts on schools to a less-than-significant level. (Impacts 4.10-3, 4) Impacts on library facilities were considered less than significant (Impact 4.10-5).

ANSWERS TO CHECKLIST QUESTIONS

A) Would the project result in the need for new or altered services related to fire protection, police protection, school facilities, or other governmental services beyond what was anticipated in the 2035 General Plan?

No additional significant environmental effect. The proposed project is consistent with 2035 General Plan land use designations and current zoning. The project would not provide additional housing to the area and would not result in an increase in population. The project would not require the need for public facilities or governmental service beyond what has been anticipated in the 2035 General Plan. The project would have no additional significant effects that were not evaluated in the Master EIR.

MITIGATION MEASURES

None.

FINDINGS

The project would have no additional project-specific environmental effects relating to Public Services.

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
12. RECREATION Would the project: A) Cause or accelerate substantial physical deterioration of existing area parks or recreational facilities?			X
B) Create a need for construction or expansion of recreational facilities beyond what was anticipated in the 2035 General Plan?			X

ENVIRONMENTAL SETTING

The City Department of Youth, Parks and Community Enrichment maintains all parks and recreational facilities within the City. As noted in the City's General Plan Background Report, the City currently contains 226 developed and undeveloped park sites, 115 miles of shared-use paths, 21 lakes/ponds or beaches, over 20 aquatic facilities, and extensive recreation facilities in the City parks. The developed park sites comprise 223 total parks with an area of 4,300 acres of parkland. The nearest City park to the project area is Woodlake Park located approximately 0.5 miles north. In addition, the American River Parkway, a Sacramento County regional park, is located 0.3 miles south of the Project.

Residential and non-residential projects that are built in the City are required to pay a park development impact fee per Chapter 18.44 of the Sacramento City Code. The fees collected pursuant to Chapter 18.44 are primarily used to finance the construction of neighborhood and community park facilities.

STANDARDS OF SIGNIFICANCE

For purposes of this Initial Study, impacts to recreational resources are considered significant if the proposed project would do either of the following:

- cause or accelerate substantial physical deterioration of existing area parks or recreational facilities; or
- create a need for construction or expansion of recreational facilities beyond what was anticipated in the 2035 General Plan.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

Chapter 4.9 of the Master EIR considered the effects of the 2035 General Plan on the City's existing parkland, urban forest, recreational facilities and recreational services. The general plan identified a goal of providing an integrated park and recreation system in the City (Goal ERC 2.1). New residential development will be required to dedicate land, pay in-lieu fees or otherwise contribute a fair share to the acquisition and development of parks and recreation facilities (Policy ERC 2.2.5). Impacts were considered less than significant after application of the applicable policies. (Impacts 4.9-1 and 4.9-2)

ANSWERS TO CHECKLIST QUESTIONS

A) Cause or accelerate substantial physical deterioration of existing area parks or recreational facilities?

No additional significant environmental effect. The proposed project would not increase the City's population and does not include a residential development; therefore, the project would not burden any parks in the surrounding area beyond capacity by generating additional residential recreational users.

Employees are expected to use park facilities at a lesser rate than residents. Within the Central City, workers are expected to use Neighborhood parks about 5 percent as much as local residents and are expected to use Community and Citywide parks and facilities about 20 percent as much as local residents. Within the Remaining City, workers are not expected to use Neighborhood parks (which are typically designed to serve local residents only), but are expected to use Community and Citywide parks and facilities about 20 percent as much as local residents (PIF Nexus Study 2017). As such, the proposed project would not increase the use of park and recreational facilities resulting in substantial physical deterioration of the facility. The proposed project would result in no additional significant environmental effects beyond the effects analyzed in the Master EIR.

B) Create a need for construction or expansion of recreational facilities beyond what was anticipated in the 2035 General Plan?

No additional significant environmental effect. The proposed project would not include residential development or increase population; therefore, the project would not create a need for construction or expansion of recreational facilities beyond what was anticipated in the 2035 General Plan.

MITIGATION MEASURES

None.

FINDINGS

The project would have no additional project-specific environmental effects relating to Recreation.

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
13. TRANSPORTATION AND CIRCULATION Would the project: A) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities?			X
B) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?			X
C) Substantially increase hazards due to a geometric design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X
D) Result in inadequate emergency access?			X

ENVIRONMENTAL SETTING

The existing roadway, transit systems, and bicycle and pedestrian facilities within the study area are described below.

Project Area Roadways

- SR-160, also known as Lincoln Highway is a four-lane east/west freeway extending from the American River crossing at N. 12th Street/N.16th Street to I-80 Business (Capital City Freeway) at Arden Way. SR 160 has two eastbound and two westbound ramp terminal intersections within a ¾ mile stretch in the study area.

- Leisure Lane is a two-lane east-west street that begins at Canterbury Road, extends easterly through the study area, and crosses over SR 160 before terminating at Royal Oaks Drive. It provides access to the two Eastbound SR 160 on/off-ramps and to one Westbound SR 160 on/off-ramp (at Royal Oaks Drive). Leisure Lane has a posted speed limit of 30 miles per hour (MPH) near the project site.

- Expo Parkway is a two-lane local road that serves medical, residential, and retail land uses between Leisure Lane/Slobe Avenue and Exposition Boulevard.

- Exposition Boulevard is an east-west arterial that begins at the SR 160 Eastbound Ramps/Exposition Boulevard/Leisure Lane (#3) intersection and extends easterly until it becomes Arden Way. In the study area, Exposition Boulevard is a four-lane arterial with a raised median and posted speed limit of 40 MPH.

STANDARDS OF SIGNIFICANCE

For purposes of this initial study, transportation impacts may be considered significant if construction and/or operation of the proposed project would result in any of the following conditions or potential thereof, after implementation of 2035 General Plan policies:

- conflict with a program, plan, ordinance or policy addressing transit, bicycle, and pedestrian facilities; or

- conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

Transportation and circulation were discussed in the Master EIR in Chapter 4.12. Various modes of travel were included in the analysis, including vehicular, transit, bicycle, pedestrian and aviation components. Provisions of the 2035 General Plan that provide substantial guidance include Mobility Goal 1.1, calling for a transportation system that is effectively planned, managed, operated and maintained, promotion of multimodal choices (Policy M 1.2.1), support for state highway expansion and management consistent with the Sacramento Area Council of Governments Metropolitan Transportation Plan/Sustainable Communities Strategy (SACOG MTP/SCS) (Policy M 1.5.6) and development that encourages walking and biking (Policy LU 4.2.1).

While the general plan includes numerous policies that direct the development of the City's transportation system, the Master EIR concluded that the general plan development would result in significant and unavoidable effects. See Impacts 4.12-3 (roadway segments in adjacent communities, and Impact 4.12-4 (freeway segments).

ANSWERS TO CHECKLIST QUESTIONS

A) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities?

No additional significant environmental effect. The proposed project does not include any uses that would potentially conflict with an existing City program, ordinance, or policy that addresses circulation. The proposed project has no existing bicycle and pedestrian facilities and would not interfere with any existing bicycle or pedestrian facilities in the vicinity.

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

No additional significant environmental effect. In December 2018, OPR published technical guidance recommending approaches to analyzing transportation and land use project. Since new retail development often redistributes trips rather than creating new travel demand, the OPR guidance recommends that lead agencies analyze the net change in VMT to indicate the transportation impact of retail projects. The potential for VMT impacts, according to this approach, hinges on whether the project can be considered local-serving or regional. By adding retail opportunities within existing neighborhoods, local serving retail projects can shorten trips and reduce overall VMT. In contrast, regional destination retail projects would draw customers from larger trade areas, potentially substituting for shorter trips and increasing VMT. The OPR guidance suggests that any retail projects, including stores larger than 50,000 sf, might be considered as regional serving retail and therefore require an analysis of net change in VMT. As this project is composed of a gas station, 1,640-square foot convenience store and 2,280-square foot drive-through restaurant, consistent with OPR Guidelines, it was determined that a quantitative analysis was not necessary. The project would not project conflict or be inconsistent with 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)?

No additional significant environmental effect. The project has been designed to ensure existing ingress and egress and existing sight distances. The proposed project does not include any unusual features design features or introduce incompatible users that could create a potentially hazardous situation.

D) Result in inadequate emergency access?

No additional significant environmental effect. Access to the project site would be provided via Leisure Lane, which would provide adequate emergency access during construction and upon completion of the project.

MITIGATION MEASURES

None.

FINDINGS

The project would have no additional project-specific environmental effects relating to Transportation and Circulation.

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
14. TRIBAL CULTURAL RESOURCES Would the project: A) Cause a substantial adverse change in the significance of a tribal cultural resource, as defined in Public Resources Code 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: i. 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) or		X	
ii. 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		X	

ENVIRONMENTAL SETTING

Please reference the Cultural Resources Chapter for the Ethnohistory of the historic indigenous groups that occupied the region. This section focuses on the contemporary tribal communities and tribal cultural resources as they pertain to AB52.

This section analyzes and evaluates the potential impacts of the project on Tribal cultural resources, both identified and undiscovered. Tribal cultural resources, as defined by Assembly Bill (AB) 52, Statutes of 2014, in Public Resources Code (PRC) Section 21074, are sites, features, places, cultural landscapes, sacred places and objects, with cultural value to a Tribe. A Tribal cultural landscape is defined as a geographic area (including both cultural and natural resources and the wildlife therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. The unanticipated find of Native American human remains would also be considered a Tribal cultural resource and are therefore analyzed in this section.

The proposed project area is situated within the lands traditionally occupied by the Valley Nisenan, or Southern Maidu. Many descendants of Valley Nisenan throughout the larger Sacramento region belong to the United Auburn Indian Community, Shingle Springs, Ione Band, Colfax-Todds Valley, and Wilton

Rancheria Tribes. The Tribes actively participate in the identification, evaluation, preservation, and restoration of Tribal Cultural Resources.

Data Sources/Methodology

Under PRC section 21080.3.1 and 21082.3, the City must consult with tribes traditionally and culturally affiliated with the project area that have requested formal notification and responded with a request for consultation. The parties must consult in good faith. Consultation is deemed concluded when the parties agree to measures to mitigate or avoid a significant effect on a tribal cultural resource when one is present or when a party concludes that mutual agreement cannot be reached. Mitigation measures agreed on during the consultation process must be recommended for inclusion in the environmental document.

Native American Consultation

On March 18, 2022, notifications were sent to the four tribes who've previously requested to receive notifications pursuant to Public Resources Code Section 21080.3.1 (AB 52).

Wilton Rancheria: The Wilton Rancheria responded on March 24th, 2022, requesting the addition of standard City of Sacramento TCR mitigation measures. The requested measures have been included, and AB 52 consultation with the tribe is considered complete as of August 17, 2023.

United Auburn Indian Community (UAIC): The UAIC did not respond to the AB52 notification within the required 30 day period.

Buena Vista Band of Me-Wuk Indians: The Buena Vista Band of Me-Wuk Indians did not respond to the AB52 notification within the required 30 day period.

Shingle Springs Band of MiWok Indians: The Shingle Springs Band of MiWok Indians did not respond to the AB52 notification within the required 30 day period.

REGULATORY SETTING

Federal

There are no Federal plans, policies, or regulations related to Tribal Cultural Resources that are directly applicable to the proposed project, however Section 106 of the National Historic Preservation Act does require consultation with Native Americans to identify and consider certain types of cultural resources. Cultural resources of Native American origin identified as a result of the identification efforts conducted under Section 106 may also qualify as tribal cultural resources under CEQA.

State

California Environmental Quality Act — Statute and Guidelines
CEQA requires that public agencies that finance or approve public or private projects must assess the effects of the project on tribal cultural resources. Tribal cultural resources are defined in Public Resources Code (PRC) 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 that is (1) listed or determined eligible for listing on the California Register of Historical Resources (CRHR) or a local register, or (2) that are 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

California Public Resources Code Section 5024
PRC Section 5024.1 establishes the CRHR, which is the authoritative guide for identifying the State's historical resources to indicate what properties are to be protected, if feasible, from substantial adverse

change. For a resource to be eligible for the CRHR, it must be more than 50 years old, retain its historic integrity, and satisfy one or more of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Is associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

STANDARDS OF SIGNIFICANCE

For the purposes of this Initial Study, a tribal cultural resource is considered to be a significant resource if the resource is: 1) listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources; or 2) the resource has been 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. For purposes of this Initial Study, impacts on tribal cultural resources may be considered significant if construction and/or implementation of the proposed project would result in the following:

- cause a substantial change in the significance of a tribal cultural resource as defined in Public Resources Code 21074.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

The Master EIR evaluated the potential effects of development under the 2035 General Plan on prehistoric and historic resources (see Master EIR Chapter 4.4 and Appendix C – Background Report, B. Cultural Resources Appendix), but did not specifically address tribal cultural resources because that resource type had not yet been defined in CEQA at the time the Master EIR was adopted. The Master EIR identified significant and unavoidable effects on historic resources and archaeological resources, some of which could be tribal cultural resources as defined Public Resources Code 21074. Ground-disturbing activities resulting from implementation of development under the 2035 General Plan could affect the integrity of an archaeological site (which may be a tribal cultural resource), thereby causing a substantial change in the significance of the resource. General plan policies identified as reducing such effects on cultural resources that may also be tribal cultural resources include identification of resources on project sites (Policy HCR 2.1.1); implementation of applicable laws and regulations (Policy HCR 2.1.2); consultation with appropriate organizations and individuals including the Native American Heritage Commission and implementation of their consultation guidelines (Policy HCR 2.1.3); enforcement programs to promote the maintenance, rehabilitation, preservation, and interpretation of the City's historic resources (Policy HCR 2.1.4); listing of qualified historic resources under appropriate national, State, and local registers (Policy HCR 2.1.5); consideration of historic and cultural resources in planning studies (Policy HCR 2.1.6); enforcement of compliance with local, State, and federal historic and cultural preservation requirements (Policy HCR 2.1.8); and early consultation with owners and land developers to minimize effects (Policy HCR 2.1.10).

Of particular relevance to this project are policies that ensure compliance with protocol that protect or mitigate impacts to archaeological resources (Policy HCR 2.1.16) and that encourage preservation and minimization of impacts on cultural resources (Policy HCR 2.1.17).

ANSWERS TO CHECKLIST QUESTIONS –

A) Cause a substantial adverse change in the significance of a tribal cultural resource, as defined in Public Resources Code 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:

i) 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)

ii) 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Effect can be mitigated to less than significant. As described in Section 4 – Cultural Resources, the existing record searches did not identify known archaeological resources that could be considered tribal cultural resources, listed or determined eligible for listing in the California Register, or included in a local register of historical resources as defined in PRC Section 5020.1(k), pursuant to PRC Section 21074(a)(1) in the project site.

As described above, according to the provision of PRC Section 21080.3, four Native American tribes have requested to receive notification of projects in the jurisdiction of the City of Sacramento. One tribe, the Wilton Rancheria, responded to request the addition of the standard City of Sacramento TCR mitigation measure. With inclusion of Mitigation Measure **TCR-1a** through **TCR-1c**, the proposed project would have a less-than-significant impact on tribal cultural resources.

MITIGATION MEASURES

TCR-1a: Conduct Cultural Resources and Tribal Cultural Resources Sensitivity and Awareness Training Program Prior to Ground-Disturbing Activities

The City shall require the applicant/contractor to provide a cultural resources and tribal cultural resources sensitivity and awareness training program (Worker Environmental Awareness Program [WEAP]) for all personnel involved in project construction, including field consultants and construction workers. The WEAP will be developed in coordination with an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology, as well as culturally affiliated Native American tribes. The City may invite Native American representatives from interested culturally affiliated Native American tribes to participate. The WEAP shall be conducted before any project-related construction activities begin at the project site. The WEAP will include relevant information regarding sensitive cultural resources and tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations.

The WEAP will also describe appropriate avoidance and impact minimization measures for cultural resources and tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential cultural resources or tribal cultural resources are encountered. The WEAP will emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American tribal values.

TCR-1b: In the Event that Tribal Cultural Resources Are Discovered During Construction, Implement Avoidance and Minimization Measures to Avoid Significant Impacts and Procedures to Evaluate Resources.

If cultural resources or tribal cultural resources (such as structural features, unusual amounts of bone or shell, artifacts, or human remains) are encountered at the project site during construction, work shall be suspended within 100 feet of the find (based on the apparent distribution of cultural materials), and the construction contractor shall immediately notify the project's City representative.

Avoidance and preservation in place is the preferred manner of mitigating impacts to tribal cultural resources. This will be accomplished, if feasible, by several alternative means, including:

- Planning construction to avoid tribal cultural resources, archaeological sites and/or other cultural resources; incorporating cultural resources within parks, green-space or other open space; covering archaeological resources; deeding a cultural resource to a permanent conservation easement; or other preservation and protection methods agreeable to consulting parties and regulatory authorities with jurisdiction over the activity.

- Recommendations for avoidance of tribal cultural resources will be reviewed by the City representative, interested culturally affiliated Native American tribes and other appropriate agencies, in light of factors such as costs, logistics, feasibility, design, technology and social, cultural and environmental considerations, and the extent to which avoidance is consistent with project objectives. Avoidance and design alternatives may include realignment within the project site to avoid tribal cultural resources, modification of the design to eliminate or reduce impacts to tribal cultural resources or modification or realignment to avoid highly significant features within a cultural resource or tribal cultural resource.

- Native American representatives from interested culturally affiliated Native American tribes will be notified to review and comment on these analyses and shall have the opportunity to meet with the City representative and its representatives who have technical expertise to identify and recommend feasible avoidance and design alternatives, so that appropriate and feasible avoidance and design alternatives can be identified.

- If the discovered tribal cultural resource can be avoided, the construction contractor(s), will install protective fencing outside the site boundary, including a 100-foot buffer area, before construction restarts. The boundary of a a tribal cultural resource will be determined in consultation with interested culturally affiliated Native American tribes and tribes will be notified to monitor the installation of fencing. Use of temporary and permanent forms of protective fencing will be determined in consultation with Native American representatives from interested culturally affiliated Native American tribes.

- The construction contractor(s) will maintain the protective fencing throughout construction to avoid the site during all remaining phases of construction. The area will be demarcated as an “Environmentally Sensitive Area”.

If a cultural resource or tribal cultural resource cannot be avoided, the following performance standard shall be met prior to continuance of construction and associated activities that may result in damage to or destruction of tribal cultural resources:

- Each resource will be evaluated for California Register of Historical Resources-(CRHR) eligibility through application of established eligibility criteria (California Code of Regulations 15064.636), in consultation with consulting Native American Tribes, as applicable.

If a cultural or tribal cultural resource is determined to be eligible for listing in the CRHR, the City will avoid damaging effects to the resource in accordance with California PRC Section 21084.3, if feasible. The City shall coordinate the investigation of the find with a qualified archaeologist (meeting the Secretary of the Interior’s Professional Qualifications Standards for Archeology) approved by the City and with interested culturally affiliated Native American tribes that respond to the City’s notification. As part of the site investigation and resource assessment, the City and the archaeologist shall consult with interested culturally affiliated Native American tribes to assess the significance of the find, make recommendations for further evaluation and treatment as necessary and provide proper management recommendations should potential impacts to the resources be

determined by the City to be significant. A written report detailing the site assessment, coordination activities, and management recommendations shall be provided to the City representative by the qualified archaeologist. These recommendations will be documented in the project record. For any recommendations made by interested culturally affiliated Native American tribes that are not implemented, a justification for why the recommendation was not followed will be provided in the project record.

Native American representatives from interested culturally affiliated Native American Tribes and the City representative will also consult to develop measures for long-term management of any discovered tribal cultural resources. Consultation will be limited to actions consistent with the jurisdiction of the City and taking into account ownership of the subject property. To the extent that the City has jurisdiction, routine operation and maintenance within tribal cultural resources retaining tribal cultural integrity shall be consistent with the avoidance and minimization standards identified in this mitigation measure.

If the City determines that the project may cause a significant impact to a tribal cultural resource, and measures are not otherwise identified in the consultation process, the following are examples of mitigation capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to the resource. These measures may be considered to avoid or minimize significant adverse impacts and constitute the standard by which an impact conclusion of less-than significant may be reached:

- Avoid and preserve resources in place, including, but not limited to, planning construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
- Treat the resource with culturally appropriate dignity taking into account the Tribal cultural values and meaning of the resource, including, but not limited to, the following:
    - Protect the cultural character and integrity of the resource.
    - Protect the traditional use of the resource.
    - Protect the confidentiality of the resource.
    - Establish permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or using the resources or places.
    - Protect the resource.

TCR-1c: Implement Procedures in the Event of the Inadvertent Discovery of Human Remains.

If an inadvertent discovery of human remains is made at any time during project-related construction activities or project planning, the City the following performance standards shall be met prior to implementing or continuing actions such as construction, which may result in damage to or destruction of human remains. In accordance with the California Health and Safety Code (HSC), if human remains are encountered during ground-disturbing activities, the City shall immediately halt potentially damaging excavation in the area of the remains and notify the Sacramento County Coroner and a professional archaeologist to determine the nature of the remains. The Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (HSC Section 7050.5[b]).

If the human remains are of historic age and are determined to be not of Native American origin, the City will follow the provisions of the HSC Section 7000 (et seq.) regarding the disinterment and removal of non-Native American human remains.

If the Coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (HSC Section 7050[c]). After the Coroner's findings have been made, the archaeologist and the NAHC-designated Most Likely Descendant (MLD), in consultation with the landowner, shall determine the ultimate treatment and disposition of the remains. The responsibilities of the City for acting upon notification of a discovery of Native American human remains are identified in California PRC Section 5097.9 et seq.

FINDINGS

With the implementation of the mitigation measures listed above, impacts related to Tribal Cultural Resources would be less than significant.

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
15. UTILITIES AND SERVICE SYSTEMS Would the project: A) Result in the determination that adequate capacity is not available to serve the project's demand in addition to existing commitments?			X
B) Require or result in either the construction of new utilities or the expansion of existing utilities, the construction of which could cause significant environmental impacts?			X

ENVIRONMENTAL SETTING

Wastewater Service

Wastewater collection and treatment services for the proposed project would be provided by the Sacramento Area Sewer District (SASD) and the Sacramento Regional County Sanitation District (SRCSD). Wastewater generated from the project area is collected in the SASD system through a series of sewer pipes and pump stations. Once collected in the SASD system, sewage flows into the SRCSD interceptor system, where the sewage is conveyed to the Sacramento Regional Wastewater Treatment Plant (SRWWTP) located near Elk Grove. The City's Department of Utilities is responsible for providing and maintain water, sewer collection, storm drainage, and flood control services for residents and businesses within city limits.

Water Supply Service

Water service for the proposed project would be provided by the City. The City uses surface water from the Sacramento and American rivers to meet the majority of its water demands. To meet the City's water demand, the City uses surface water from the Sacramento and American rivers, and groundwater pumped from the North American and South American Subbasins.

Solid Waste Service

The City does not provide commercial solid waste collection services. Rather, commercial garbage, recycling or yard waste services are provided by a franchised hauler authorized by the Sacramento Solid Waste Authority to collect commercial garbage and commingled recycling within the City. Kiefer Landfill, located at 12701 Kiefer Boulevard in Sloughhouse, California, is the primary location for the disposal of waste by the City. According to the Master EIR, the landfill is permitted to accept up to 10,815 tons per day and the current peak and average daily disposal is much lower than the permitted amount. The landfill is anticipated to be capable of adequately serving the area, including the anticipated population growth, until the year 2065. Solid waste collected at commercial uses in the project area is currently disposed of at the Kiefer Landfill.

STANDARDS OF SIGNIFICANCE

For the purposes of this Initial Study, an impact would be considered significant if the project resulted in the need for new or altered services related to fire protection, police protection, or school facilities beyond what was anticipated in the 2035 General Plan:

- result in the determination that adequate capacity is not available to serve the project's demand in addition to existing commitments or
- require or result in either the construction of new utilities or the expansion of existing utilities, the construction of which could cause significant environmental impacts.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

The Master EIR evaluated the effects of development under the 2035 General Plan on water supply, sewer and storm drainage, solid waste, electricity, natural gas and telecommunications. See Chapter 4.11.

The Master EIR evaluated the impacts of increased demand for water that would occur with development under the 2035 General Plan. Policies in the general plan would reduce the impact generally to a less-than-significant level (see Impact 4.11-1) but the Master EIR concluded that the potential increase in demand for potable water in excess of the City's existing diversion and treatment capacity, and which could require construction of new water supply facilities, would result in a significant and unavoidable effect (Impact 4.11-2). The potential need for expansion of wastewater treatment facilities was identified as having a less-than-significant effect (Impact 4.11-4). Impacts on solid waste facilities were less than significant (Impact 4.11-5). Implementation of energy efficient standards as set forth in Titles 20 and 24 of the California Code of Regulations for residential and non-residential buildings, would reduce effects for energy to a less-than-significant level.

ANSWERS TO CHECKLIST QUESTIONS

A) Result in the determination that adequate capacity is not available to serve the project's demand in addition to existing commitments?

No additional significant environmental effect. The project site is an existing vacant lot that would require new utility connections to service the proposed gas station and retail building.

Wastewater

The SRCSD is responsible for sewer collection in the project area. SRCSD has anticipated the need for wastewater services in the project area and requires development impact fees to support buildout demand of their service area (including the proposed project site). The SRCSD would be able to provide sufficient wastewater services and conveyance to serve full buildout of the City, including the project area, per the 2035 Master EIR. Therefore, adequate capacity exists to serve the wastewater demand associated with buildout of the project site with commercial uses.

Water Supply

The City is responsible for providing and maintaining water for the project site. The Urban Water Management Plan analyzes the water supply, water demand, and water shortage contingency planning for the City's service area, which would include the proposed project site. According to the City's Urban Water Management Plan (UWMP), under all drought conditions, the City possesses sufficient water supply entitlements to meet the demands of the City's customers up to the year 2035.

Development of the proposed project would increase water demand associated with the project site. However, the project would be consistent with the site's existing General Plan land use and zoning

designations. Therefore, such increases in water demand are within the capacities anticipated within the City's UWMP and analyzed in the Master EIR.

Solid Waste

Solid waste from existing development in the project area is transferred to Kiefer Landfill for disposal. The 2035 General Plan Master EIR concluded that adequate capacity at local landfills exists for full buildout of the general plan. The proposed project is consistent with what is anticipated for the site, and the associated increase in solid waste disposal needs was considered in the 2035 General Plan Master EIR analysis. The gas station and new retail building would not generate an increase in solid waste from what has been anticipated in the Master EIR. As such, adequate capacity would be expected to be available to serve the proposed project's solid waste disposal needs.

B) Require or result in either the construction of new utilities or the expansion of existing utilities, the construction of which could cause significant environmental impacts?

No additional significant environmental effect. As the project is currently an existing vacant lot, new utility connections would need to be made to service the proposed gas station and retail building. However, adequate capacity exists to serve the project's demands in addition to existing commitments as development of this parcel is reflected in full buildout of the 2035 Master EIR analysis. Therefore, no construction of new utility facilities or expansion of existing facilities would be required. Implementation of the proposed project would result in no additional environmental effects beyond what was analyzed in the 2035 Master EIR.

MITIGATION MEASURES

None.

FINDINGS

The project would have no additional project-specific environmental effects relating to Utilities and Service Systems.

MANDATORY FINDINGS OF SIGNIFICANCE

Issues:	Effect remains significant with all identified mitigation	Effect can be mitigated to less than significant	No additional significant environmental effect
16. MANDATORY FINDINGS OF SIGNIFICANCE A.) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X	
B.) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)			X
C.) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X	

ANSWERS TO CHECKLIST QUESTIONS

A. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Effect can be mitigated to less than significant. After a careful comparison between habitat requirements and the habitat available within the project area, no special status species were determined to have the potential to occur within the project area. As such, the project is not anticipated to result in the substantial degradation of the quality of the environment, reduction of the habitat, or reduction of population below self-sustaining levels of threatened or endangered species.

The proposed project does have the potential to impact previously undiscovered cultural and tribal cultural resources and/or human remains. With implementation of measures **CR-1, CR-2**, and **TCR-1a** through **TCR-1c**, impacts would be reduced to less than significant levels.

With implementation of the mitigation measures identified in this IS, compliance with City 2035 General Plan policies, and application of standard BMPs during construction, development of the proposed project would not result in any of the following: 1) degrade the quality of the environment; 2) substantially reduce or impact the habitat of fish or wildlife species; 3) cause fish or wildlife populations to drop below self-sustaining levels; 4) threaten to eliminate a plant or animal community; 5) reduce the number or restrict the range of a rare or endangered plant or animal; or 6) eliminate important examples of the major periods of California history or prehistory. Therefore, the proposed project's impact would be mitigated to a less than significant level.

B. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

No additional significant environmental effect. The proposed project is consistent with the General Plan and the findings in the Master EIR and would not result in individually limited but collectively significant impacts. Therefore, the project would not cause any additional environmental effects.

C. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Effect can be mitigated to less than significant. The project would not result in either direct or indirect substantial adverse effects on human beings. Air quality, water quality, hazards, and noise can be reduced to less-than-significant levels through implementation of the mitigation measures included in this study (**AQ-1, AQ-2,** and **WQ-1**).

SECTION IV - ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would potentially be affected by this project.

	Aesthetics	X	Hydrology and Water Quality
X	Air Quality		Noise
	Biological Resources		Public Services
X	Cultural Resources		Recreation
	Energy and Mineral Resources		Transportation/Circulation
	Geology and Soils	X	Tribal Cultural Resources
X	Greenhouse Gas Emissions		Utilities and Service Systems
X	Hazards		Population and Housing
	None Identified		

On the basis of the initial study:

I find that (a) the proposed project is an anticipated subsequent project identified and described in the 2035 General Plan Master EIR; (b) the proposed project is consistent with the 2035 General Plan land use designation and the permissible densities and intensities of use for the project site; (c) that the discussions of cumulative impacts, growth inducing impacts, and irreversible significant effects in the Master EIR are adequate for the proposed project; and (d) the proposed project will have additional significant environmental effects not previously examined in the Master EIR. A Mitigated Negative Declaration will be prepared. Mitigation measures from the Master EIR will be applied to the project as appropriate, and additional feasible mitigation measures and alternatives will be incorporated to revise the proposed project before the negative declaration is circulated for public review, to avoid or mitigate the identified effects to a level of insignificance. (CEQA Guidelines Section 15178(b))

Ron Bess

Signature

May 1, 2023

Date

Ron Bess

Printed Name

REFERENCES CITED

California Air Pollution Control Officers Association, 2022: *CalEEMod version 2022,1 soft release*

California Department of Conservation, 2022: *Geologic Map of California*

City of Sacramento, 2015: *2035 General Plan*.

City of Sacramento, 2015: *Sacramento 2035 General Plan Master Environmental Impact Report*

City of Sacramento, 2022: *Preliminary Climate Action and Adaptation Plan*

City of Sacramento, 2023: *Sacramento City Code*

FEMA. *FEMA Flood Map Service Center, Firmette #06067C0177J*. Accessed at: https://msc.fema.gov/portal/home

NRCS, 2022: Web Soil Survey

Sacramento Metropolitan Air Quality Management District, 2020: *SMAQMD Thresholds of Significance Table*

State Water Resources Control board. *Geotracker*. Accessed at: https://geotracker.waterboards.ca.gov/

US EPA. *Greenhouse Gas Equivalencies Calculator.* Accessed at: *https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator*

US Geological Survey. *Interactive Quaternary Faults Database*. Accessed at: https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf

APPENDIX A: Health Risk Assessment for the Leisure Lane-Expo Parkway Gas Station Project. ECORP Consulting, Inc., January 2023

Health Risk Assessment
for the
Leisure Lane-Expo Parkway Gas Station Project

Sacramento, California

Prepared For:

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110 Blue Ravine Road, Suite 200
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Prepared By:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS
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January 2023

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ATTACHMENTS

LIST OF ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ASF	Age Sensitivity Factor
ATCM	Airborne Toxics Control Measure
BR	Breathing Rate
BW	Body Weight
CAA	Clean Air Act
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
DPM	Diesel Particulate Matter
EF	Exposure Frequency
FAH	Fraction of time at home
GLC	Ground Level Concentration
HAP	Hazardous Air Pollutant
HARP2	Hot Spots Analysis & Reporting Program
HRA	Health Risk Assessment
kg	Kilogram
L	Liter
MEIR	Maximum Exposed Individual Resident
MEIW	Maximum Exposed Individual Worker
NAAQS	National Ambient Air Quality Standards
NESHAPs	National Emissions Standards for Hazardous Air Pollutants
OEHHA	Office of Environment Health Hazard Assessment
Project	Residences at Napa Junction Project
REL	Reference Exposure Level
SB	Senate Bill
SMAQMD	Sacramento Metropolitan Air Quality Management District
SVAB	Sacramento Valley Air Basin
TAC	Toxic Air Contaminants
T-BACT	Toxics Best Available Control Technology
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey

1.0 INTRODUCTION

This report documents the results of a Health Risk Assessment (HRA) completed for the emissions associated with fueling operations of the Leisure Lane-Expo Parkway Gas Station Project (Project), which consist of the proposal to construct a 12-pump gas station due east of the North Sacramento Freeway (State Route 160) in the City of Sacramento, California. The purpose of this HRA is to evaluate potential health risks associated with exposure of toxic air contaminants (TACs) (or hazardous air pollutants [HAPs] in the federal parlance), including benzene, ethyl benzene, n-hexane, naphthalene, propylene (or propene), xylenes, and toluene, generated by Project fueling and fuel storage operations. This Operational HRA was prepared in accordance with the requirements and recommendations of the Office of Environmental Health Hazard Assessment (OEHHA), California Air Resources Board (CARB), California Air Pollution Control Officers Association (CAPCOA), and the Sacramento Metropolitan Air Quality Management District (SMAQMD) to determine if significant health risks are likely to occur to existing residents and workers in the vicinity of the Project Site due to Project Operations.

1.1 Project Location and Description

The Project Site is located in the central portion of City of Sacramento on an irregular shaped property directly south of State Route (SR) 160. The Site can be accessed from SR 160 via Leisure Lane. The site is bounded by SR 160 to the north, with a commercial hotel and residential neighborhoods beyond, Leisure Lane and commercial land uses to the east, Leisure Lane to the south with vacant land beyond, an assisted living facility to the southwest, and vacant land to the west. The nearest residences to the north are located approximately 665 feet from the Project Site. The assisted living facility is approximately 275 feet to the southwest of the Project Site. The Project Site is relatively flat with no structures.

The Project proposes the construction of a gasoline dispensing station consisting of 12 fueling positions, a 1,640-square foot convenience store, 2,280-square foot drive-through restaurant and associated parking. The Project's expected gasoline throughput is 100,000 gallons per year. The Project would be accessible from Leisure Lane on the south-southeast side of the property boundary. The Project vicinity and location can be seen in Figures 1 and 2.

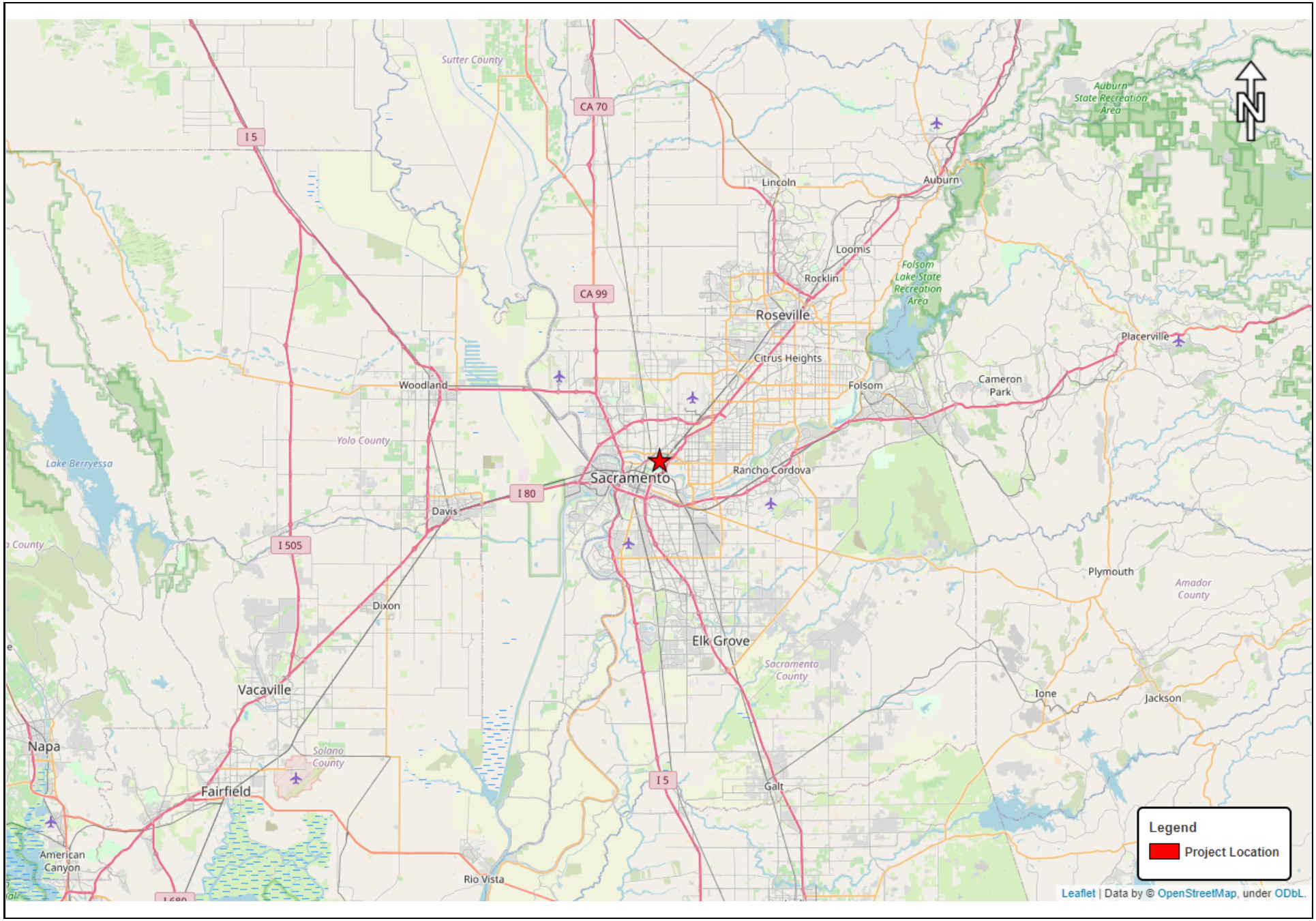

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Figure 1. Project Location

2022-279 Leisure Lane-Expo Parkway Gas Station Project

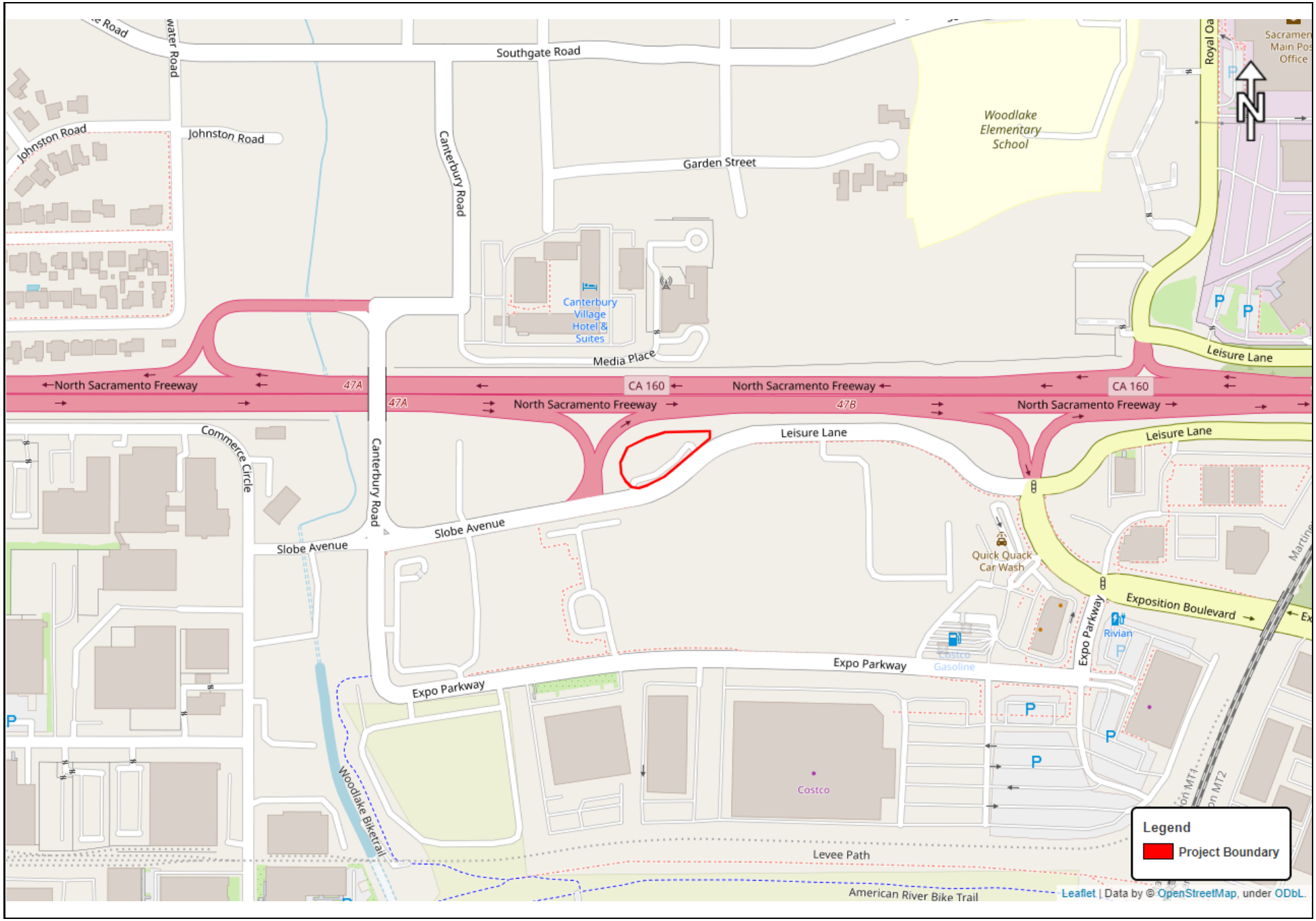

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Figure 2. Project Vicinity

2022-279 Leisure Lane-Expo Parkway Gas Station Project

2.0 HEALTH RISK ASSESSMENT

2.1 Environmental Setting

Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below, along with the current regulatory structure that applies to the Sacramento Valley Air Basin (SVAB), which encompasses the Project Site, pursuant to the regulatory authority of the SMAQMD.

Ambient air quality is commonly characterized by climate conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The air basin is subject to a combination of topographical and climatic factors that reduce the potential for high levels of regional and local air pollutants. The following section describes the pertinent characteristics of the air basin and provides an overview of the physical conditions affecting pollutant dispersion in the Project Area.

2.1.1 Sacramento Valley Air Basin

CARB divides the State into air basins that share similar meteorological and topographical features. The Project site lies in the SVAB, which is comprised all of Butte, Colusa, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba counties and parts of Solano and Placer County. The air basin is relatively flat, bordered by mountains to the east, west, and north and by the San Joaquin Valley to the south. Air flows into the SVAB through the Carquinez Strait, moving across the Sacramento Delta, and bringing pollutants from the heavily populated San Francisco Bay Area. The climate is characterized by hot, dry summers and cool, rainy winters. Characteristic of SVAB winter weather are periods of dense and persistent low-level fog, which are most prevalent between storm systems. From May to October, the region's intense heat and sunlight lead to high ozone pollutant concentrations. Summer inversions are strong and frequent but are less troublesome than those that occur in the fall. Autumn inversions, formed by warm air subsiding in a region of high pressure, have accompanying light winds that do not provide adequate dispersion of air pollutants.

Regional flow patterns affect air quality patterns by directing pollutants downwind of sources. Localized meteorological conditions, such as moderate winds, disperse pollutants and reduce pollutant concentrations. However, the mountains surrounding the SVAB can create a barrier to airflow, which can trap air pollutants in the valley when meteorological conditions are right and a temperature inversion exists. The highest frequency of air stagnation occurs in the autumn and early winter when large high-pressure cells lie over the valley. The lack of surface wind during these periods and the reduced vertical air flow caused by less surface heating reduces the influx of outside air and allows air pollutants to become concentrated in a stable volume of air. The surface concentrations of pollutants are highest when these conditions are combined with smoke from agricultural burning or when temperature inversions trap cool air, fog, and pollutants near the ground.

The ozone season (May through October) in the valley is characterized by stagnant morning air or light winds, with the delta sea breeze arriving in the afternoon out of the southwest. Usually, the evening breeze transports the airborne pollutants to the north out of the valley. During about half of the days from July to September, however, a phenomenon called the Schultz Eddy prevents this from occurring. Instead of

allowing the prevailing wind patterns to move north and carry the pollutants out of the valley, the Schultz Eddy causes the wind pattern to circle back south. This phenomenon exacerbates the pollution levels in the area and increases the likelihood of exceeding federal or state standards.

2.1.2 Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

2.1.2.1 Gasoline Vapor

Gasoline vapor consists of the TACs, benzene, ethyl benzene, n-hexane, naphthalene, propylene (or propene), xylenes, and toluene. However, of all the TACs in gasoline, benzene is the most toxic component of gas station emissions (CARB & CAPCOA 2022a). According to CAPCOA, benzene is the most important substance driving cancer risk, while xylene, another air toxic associated with gasoline stations, is the only substance which is associated with acute adverse health effects (CAPCOA 1997). According to CAPCOA, not until the benzene emissions are three orders of magnitude above the rate of an increase of 10 per million cancer risk, do the emissions of xylene begin to cause acute adverse health effects. Approximately 84 percent of the benzene emitted in California comes from motor vehicles, including evaporative leakage and unburned fuel exhaust. Benzene is highly carcinogenic and occurs throughout California. Benzene also has non-cancer health effects. Brief inhalation exposure to high concentrations can cause central nervous system symptoms of nausea, tremors, drowsiness, dizziness, headache, intoxication, and unconsciousness.

Neurological symptoms of inhalation exposure to benzene include drowsiness, dizziness, headaches, and unconsciousness. Ingestion of large amounts of benzene may result in vomiting, dizziness, and convulsions. Exposure to liquid and vapor may irritate the skin, eyes, and upper respiratory tract. Redness and blisters may result from dermal exposure to benzene. Chronic inhalation of certain levels of benzene causes blood disorders because benzene specifically affects bone marrow, which produces blood cells. Aplastic anemia, excessive bleeding, and damage to the immune system (by changes in blood levels of antibodies and loss of white blood cells) may develop. Increased incidence of leukemia (cancer of the tissues that form white blood cells) has been observed in humans occupationally exposed to benzene.

2.1.3 Sensitive Receptors

Sensitive receptors are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

The nearest sensitive land use to the Project Site is an assisted living facility to the southwest of the Project. The assisted living facility is approximately 275 feet (85 meters) southwest of the Project's fence line. In addition to this assisted living facility, there are houses located approximately 665 feet (200 meters) to the north, behind an existing hotel, temple, and small business park. The nearest school is located 350 meters to the northeast of the Project. The school is over 1,000 feet from the Project, while the assisted living facility and houses to the north are within 1,000 feet of the site.

2.2 Regulatory Framework

2.2.1 Federal

2.2.1.1 Clean Air Act

The Federal Clean Air Act (CAA) was amended in 1990 to address a large number of air pollutants that are known to cause or may reasonably be anticipated to cause adverse effects to human health or adverse environmental effects. 188 specific pollutants and chemical groups were initially identified as HAPs, and the list has been modified over time. The CAA Amendments included new regulatory programs to control acid deposition and for the issuance of stationary source operating permits.

Unlike the criteria pollutants, toxics do not have National Ambient Air Quality Standards (NAAQS) making evaluation of their impacts more subjective. National Emissions Standards for Hazardous Air Pollutants (NESHAPs) were incorporated into a greatly expanded program for controlling toxic air pollutants. Section 112 of the CAA Amendments governs the federal control program for HAPs. NESHAPs are issued to limit the release of specified HAPs from specific industrial sectors. These standards are technology-based, meaning that they represent the best available control technology an industrial sector could afford. The level of emissions controls required by NESHAPs are not based on health risk considerations because allowable releases and resulting concentrations have not been determined to be safe for the general public. The CAA does not establish air quality standards for HAPs that define legally acceptable concentrations of these pollutants in ambient air.

2.2.2 State

2.2.2.1 California Clean Air Act

California Air Resources Board

CARB's statewide comprehensive air toxics program was established in 1983 with AB 1807 the Toxic Air Contaminant Identification and Control Act (Tanner Air Toxics Act of 1983). AB 1807 created California's program to reduce exposure to air toxics and sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an airborne toxics control measure (ATCM) for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology (T-BACT) to minimize emissions.

CARB also administers the state's mobile source emissions control program and oversees air quality programs established by state statute, such as AB 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, required to communicate the results to the public in the form of notices and public meetings. In September 1992, the "Hot Spots" Act was amended by Senate Bill (SB) 1731 which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

Tanner Air Toxics Act & Air Toxics "Hot Spot" Information and Assessment Act

CARB's Statewide comprehensive air toxics program was established in 1983 with Assembly Bill (AB) 1807, the Toxic Air Contaminant Identification and Control Act (Tanner Air Toxics Act of 1983). AB 1807 created California's program to reduce exposure to air toxics and sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an ATCM for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate T-BACT to minimize emissions.

CARB also administers the state's mobile source emissions control program and oversees air quality programs established by state statute, such as AB 2588, the Air Toxics Hot Spots Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a HRA and, if specific thresholds are exceeded, required to communicate the results to the public in the form of notices and public meetings. In September 1992, the Hot Spots Act was amended by SB 1731, which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

Gasoline Service Station Industrywide Risk Assessment Technical Guidance

CARB and the CAPCOA have developed the 2022 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Manual (2022a) to assess the health impacts of emissions from gasoline service stations in California. This manual provides guidance for local districts in the state to follow when preparing gas station emission inventories and health risk assessments to meet the requirements of the Air Toxics "Hot Spots" Information and Assessment Act (also known as the Hot Spots Act). The Hot Spots Act requires districts to establish health risk levels at which facilities are required to notify the public if these levels are exceeded and may also require facilities to implement measures to reduce emissions and potential health impacts if the cancer or noncancer risk levels are above certain levels.

2.2.3 Local

2.2.3.1 Sacramento Metropolitan Air Quality Management District

SMAQMD has stringent requirements for the control of gasoline vapor emissions from gasoline-dispensing facilities. SMAQMD Rule 448, Gasoline Transfer into Stationary Storage Containers, prohibits the transfer or allowance of the transfer of gasoline into stationary tanks at a gasoline-dispensing facility unless a CARB-certified Phase I vapor recovery system is used; and SMAQMD Rule 449, Transfer of Gasoline into Vehicle Fuel Tanks, further prohibits the transfer or allowance of the transfer of gasoline from stationary tanks into motor vehicle fuel tanks at a gasoline-dispensing facility unless a CARB-certified Phase II vapor recovery system is used during each transfer. Vapor recovery systems collect gasoline vapors that would otherwise escape into the air during bulk fuel delivery (Phase I) or fuel storage and vehicle refueling (Phase II). Phase I vapor recovery system components include the couplers that connect tanker trucks to the underground tanks, spill containment drain valves, overfill prevention devices, and vent pressure/vacuum valves. Phase II vapor recovery system components include gasoline dispensers, nozzles, piping, break away, hoses, face plates, vapor processors, and system monitors. SMAQMD Rule 448 also requires fuel storage tanks to be equipped with a permanent submerged fill pipe and the storage tank which prevents the escape of gasoline vapors. In addition, all gasoline must be stored underground with valves installed on the tank vent pipes to further control gasoline emissions.

Stationary sources having the potential to emit TACs, including gas stations, are required to obtain permits from the SMAQMD. Permits may be granted to these operations provided they are operated in accordance with applicable SMAQMD rules and regulations. SMAQMD's gasoline station permitting process provides for the review of gasoline TAC emissions to evaluate potential public exposure and health risk, to mitigate potentially significant health risks resulting from these exposures, and to provide net health risk benefits by improving the level of control when existing sources are modified or replaced. SMAQMD's permitting procedures require substantial control of emissions, and permits are not issued unless TAC risk screening or TAC risk assessment can show that risks are not significant. According to the SMAQMD (2017), SMAQMD may impose limits on annual throughput to ensure that risks are within acceptable limits. In addition, California has statewide limits on the benzene content in gasoline, which greatly reduces the toxic potential of gasoline emissions.

2.2.4 Threshold of Significance

The impact analysis provided below is based on the following local (SMAQMD) health risk thresholds, as shown in Table 2-1.

Table 2-1. SMAQMD Health Risk Significance Thresholds

Air Pollutant/Risk Parameter	Value	Units
Elevated Cancer Risk	10	In One Million
Chronic Hazard Quotient	1	Health Hazard Index
Acute Hazard Quotient	1	Health Hazard Index

Cancer risk is expressed in terms of expected incremental incidence per million population. This threshold serves to determine whether Project sources of TACs (e.g., gasoline vapor) potentially have significant impacts on a receptor. The 10-in-one-million standard is a very health-protective significance threshold. A risk level of 10 in one million implies a likelihood that up to 10 persons out of one million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the levels of TACs over a specified duration of time. This risk would be an excess cancer that is in addition to any cancer risk borne by a person not exposed to these air toxics. To put this risk in perspective, the risk of dying from accidental drowning is 1,000 in a million, which is 100 times more than the SMAQMD's threshold of 10 in one million.

The SMAQMD has also established non-carcinogenic risk parameters for use in HRAs. Noncarcinogenic risks are quantified by calculating a *hazard index*, expressed as the ratio between the ambient pollutant concentration and its toxicity or Reference Exposure Level (REL). An REL is a concentration at, or below which health effects are not likely to occur. A hazard index less of than one (1.0) means that adverse health effects are not expected. Within this analysis, non-carcinogenic exposures of less than 1.0 are considered less than significant.

2.2.5 Methodology

2.2.5.1 Fueling Station Emission Calculations

Fueling station throughput for the permitted site was modeled using the estimated gasoline throughput of 100,000 gallons per year provided by the applicant. Maximum hourly throughput was calculated using the annual throughput and 2022 CARB & CAPCOA Gasoline Services Station Industrywide Risk Assessment Look-up Tool Version 1.0 (CARB & CAPCOA 2022b). Gasoline vapor emissions were calculated for tank loading and breathing; vehicle fueling and spillage and hose permeation for each station using emission factors found in the Gasoline Service Station Industrywide Risk Assessment Technical Guidance (CARB 2022a). The calculated gasoline vapor emissions were speciated in the TACs contained in total TOG using a summer/winter gasoline profile from the 2022 Gasoline Service Station Industrywide Risk Assessment Technical Guidance (CARB & CAPCOA 2022a). Emission calculations for fueling can be found in Attachment B of this document. Stage I and II Vapor Recovery are assumed for loading and fueling operations per SMAQMD Rule 449.

2.2.5.2 Dispersion Modeling

The air dispersion modeling for the HRA was performed using the USEPA AERMOD Version 22112 dispersion model. AERMOD is a steady-state, multiple-source, Gaussian dispersion model designed for use with emission sources situated in terrain where ground elevations can exceed the stack heights of the emission sources. The appropriate USGS_NED file found at U.S. Geological Survey (USGS) was used for elevation data for all sources and receptors in the school domain. All regulatory defaults were used for dispersion modeling.

AERMOD requires hourly meteorological data consisting of wind vector, wind speed, temperature, stability class, and mixing height. Pre-processed meteorological data files provided by SMAQMD using USEPA's AERMET program, designed to create AERMOD input files for the Sacramento Executive Airport monitoring station, were selected as being the most representative meteorology based on proximity. The location of the monitoring station in respect to the Project Site is presented in Attachment B to this document.

The unit emission rate of one gram per second was utilized in AERMOD to create plot files containing the dispersion factor (X/Q) for each source group. A uniform grid was placed over the Project Area with a spacing of 10 meters. Emissions for each source group as described above were input into HARP2 to calculate the ground level concentrations (GLC) at the modeled receptors. Source and receptor locations can be found in Attachment B of this document. AERMOD summary files can be found in Attachment C of this document.

2.2.5.3 Health Risk Modeling

Based on the OEHHA methodology, the residential inhalation cancer risk from the annual average TAC concentrations is calculated by multiplying the daily inhalation or oral dose, by a cancer potency factor, the age sensitivity factor (ASF), the frequency of time spent at home, and the exposure duration divided by averaging time, to yield the excess cancer risk. These factors are discussed in more detail below. Cancer risk must be separately calculated for specified age groups, because of age differences in sensitivity to carcinogens and age differences in intake rates (per kilogram [kg] body weight). Separate risk estimates for these age groups provide a health-protective estimate of cancer risk by accounting for greater susceptibility in early life, including both age-related sensitivity and amount of exposure.

Exposure through inhalation (Dose-air) is a function the breathing rate, the exposure frequency, and the concentration of a substance in the air. The breathing rates are determined for specific age groups, so Dose-air is calculated for each of these age groups, 3rd trimester, 0<2, 2<9, 2<16, 16<30 and 16-70 years. To estimate cancer risk, the dose was estimated by applying the following formula to each ground-level concentration:

$$\mathbf{Dose_{-air} = (C_{air} * \{BR/BW\} * A * EF * 10^{-6})}$$

Where:

Dose-air	=	dose through inhalation (mg/kg/day)
C_{air}	=	air concentration ($\mu g/m^3$) from air dispersion model

{BR/BW}	=	daily breathing rate normalized to body weight (L/kg body weight – day) (361 L\kg BW-day for 3rd Trimester, 1,090 L/kg BW-day for 0<2 years, 861 L/kg BW-day for 2<9 years, 745 L/kg BW-day for 2<16 years, 335 L/kg BW-day for 16<30 years, and 290 L/kg BW-day 16<70 years)
A	=	Inhalation absorption factor (unitless [1])
EF	=	exposure frequency (unitless), days/365 days (0.96 [approximately 350 days per year])
10^{-6}	=	conversion factor (micrograms to milligrams, liters to cubic meters)

OEHHA developed ASFs to consider the increased sensitivity to carcinogens during early-in-life exposure. In the absence of chemical-specific data, OEHHA recommends a default ASF of 10 for the third trimester to age 2 years, an ASF of 3 for ages 2 through 15 years to account for potential increased sensitivity to carcinogens during childhood and an ASF of 1 for ages 16 through 70 years.

Fraction of time at home (FAH) during the day is used to adjust exposure duration and cancer risk from a specific facility's emissions, based on the assumption that exposure to Project gasoline vapors are not occurring away from home. OEHHA recommends the following FAH values: from the third trimester to age <2 years, 85 percent of time is spent at home; from age 2 through <16 years, 72 percent of time is spent at home; from age 16 years and greater, 73 percent of time is spent at home.

To estimate the cancer risk, the dose is multiplied by the cancer potency factor, the ASF, the exposure duration divided by averaging time, and the frequency of time spent at home (for residents only):

$$\mathbf{Risk_{inh\text{-}res} = (Dose_{air} * CPH * ASF * ED/AT * FAH)}$$

Where:

$Risk_{inh\text{-}res}$	=	residential inhalation cancer risk (potential chances per million)
$Dose_{air}$	=	daily dose through inhalation (mg/kg-day)
CPF	=	inhalation cancer potency factor (mg/kg-day^{-1})
ASF	=	age sensitivity factor for a specified age group (unitless)
ED	=	exposure duration (in years) for a specified age group (0.25 years for 3rd trimester, 2 years for 0<2, 7 years for 2<9, 14 years for 2<16, 14 years for 16<30, 54 years for 16-70)
AT	=	averaging time of lifetime cancer risk (years)
FAH	=	fraction of time spent at home (unitless)

Non-cancer chronic impacts are calculated by dividing the annual average concentration by the REL for that substance. The REL is defined as the concentration at which no adverse non-cancer health effects are anticipated. The following equation was used to determine the non-cancer risk:

$$\mathbf{Hazard\ Quotient = Ci/RELi}$$

Where:

Ci	=	Concentration in the air of substance i (annual average concentration in µg/m^3)
RELi	=	Chronic noncancer Reference Exposure Level for substance i (µg/m^3)

Lastly, the resultant values modeled using AERMOD and HARP2, as described above, are verified for accuracy against CARB's "Look-up Tool", which is health risk screening tool. The CARB Look-up Tool is a health risk screening spreadsheet that allows the user to select from predetermined modeling results and scale risk results by facility specific emissions. The Look-up Tool provides health risk screening results based on less robust calculations processes when compared to the AERMOD and HARP2 modeling prepared for this analysis; nonetheless, a comparison of the AERMOD and HARP2 modeling results against the Look-up Tool is helpful for verifying the certainty of results.

2.2.5.4 Cancer Risk

Operational cancer risk calculations for Project vicinity residential and worker receptors were completed for 70-, 30-, 25- and 9-year periods as shown in Table 2-2 of the Maximumly Exposed Individual Resident (MEIR) and Maximumly Exposed Individual Worker (MEIW) in the Project vicinity. The calculated cancer risk accounts for 350 days per year of exposure to residential and worker receptors. While the average American spends 87 percent of their life indoors (USEPA 2001), neither the pollutant dispersion modeling nor the health risk calculations account for the reduced exposure structures provide. Instead, health risk calculations account for the equivalent exposure of continual outdoor living and working.

The MEIR and MEIW are identified at the northeastern corner of the assisted living facility 275 feet (85 meters) to the southwest of the Project Site (see Attachment A). The specific health risk calculations shown in Table 2-2 are specific to this location. The residences to the north of the proposed gasoline dispensing station and offsite workers to the east have lower calculated risk values than those presented in Table 2-2.

Table 2-2. Maximum Cancer Risk Summary

Maximum Exposure Scenario	Total Maximum Risk (in 1 million)
70-Year Exposure Resident	0.02
30-Year Exposure Resident	0.02
9-Year Exposure Resident	0.01
25-Year Exposure Worker	0.005
CARB & CAPCOA Screening Tool @ 85 Meters	0.07
Significance Threshold	*10*
Exceed Threshold?	**No**

Source: ECORP Consulting 2022. See Attachment B.

As shown, the existing residents and workers in the surrounding area would not experience a significant amount of cancer risk from fueling operations at the Proposed Project. In addition, the values modeled using AERMOD and HARP2 have good agreement with the conservative numbers provided in the CARB Lookup Tool. As previously described, the Look-up Tool provides health risk screening results based on less robust calculations processes when compared to the AERMOD and HARP2 modeling prepared for this

analysis; nonetheless, a comparison of the AERMOD and HARP2 modeling results against the Look-up Tool is helpful for verifying the certainty of results.

2.2.5.5 Non-Carcinogenic Hazards

In addition to cancer risk, the significance thresholds for TAC exposure requires an evaluation of non-cancer risk stated in terms of a hazard index. Non-cancer chronic impacts are calculated by dividing the annual average concentration by the REL for that substance. The REL is defined as the concentration at which no adverse non-cancer health effects are anticipated. The potential for acute non-cancer hazards is evaluated by comparing the maximum short-term exposure level to an acute REL. RELs are designed to protect sensitive individuals within the population. The calculation of acute non-cancer impacts is like the procedure for chronic non-cancer impacts.

A chronic or acute hazard index of 1.0 is considered individually significant. The hazard index is calculated by dividing the chronic exposure by the REL. The highest maximum chronic and acute hazard indexes for residents and workers due to Project fueling operations are presented in Table 2-3.

Table 2-3. Maximum Non-Cancer Risk Summary

Maximum Exposure Scenario	Health Hazard Index (HHI)	
	Chronic	**Acute**
Resident (70 Year for Chronic)	0.0001	0.15
Worker (25 Year for Chronic)	0.0001	0.15
CARB & CAPCOA Tool @ 90 Meters	0.00	0.07
Significance Threshold	*1*	*1*
Exceed Threshold?	**No**	**No**

Source: ECORP Consulting 2022. See Attachment B.

As shown in Table 2-3, the highest maximum chronic hazard indexes for residents and workers are under the SMAQMD significance threshold of 1.0. As with cancer risk, benzene is the largest contributor to both acute and chronic scenarios. Like cancer risk, chronic and acute risk is calculated from the maximum annual concentration using the most recent five years of available meteorological data.

3.0 REFERENCES

California Air Pollution Control Officer's Association. 1997. Air Toxics "Hot Spots Program. https://ww2.arb.ca.gov/sites/default/files/classic/ab2588/rrap-iwra/gasiwra.pdf

California Air Resources Board. 2022. HARP Air Dispersion Modeling and Risk Tool 22118. https://ww2.arb.ca.gov/resources/documents/harp-air-dispersion-modeling-and-risk-tool

California Air Resources Board & California Air Pollution Control Officer's Association. 2022a. Gasoline Service Station Industrywide Risk Assessment Technical Guidance.

_____. 2022b. Gasoline Service Station Industrywide Risk Assessment Lookup Tool.

Office of Environmental Health Hazard Assessment (OEHHA). 2015. Guidance Manual for Preparation of Health Risk Assessments.

Sacramento Metropolitan Air Quality Management District (SMAQMD). 2022. CEQA Guidance and Tools. https://www.airquality.org/businesses/ceqa-land-use-planning/ceqa-guidance-tools

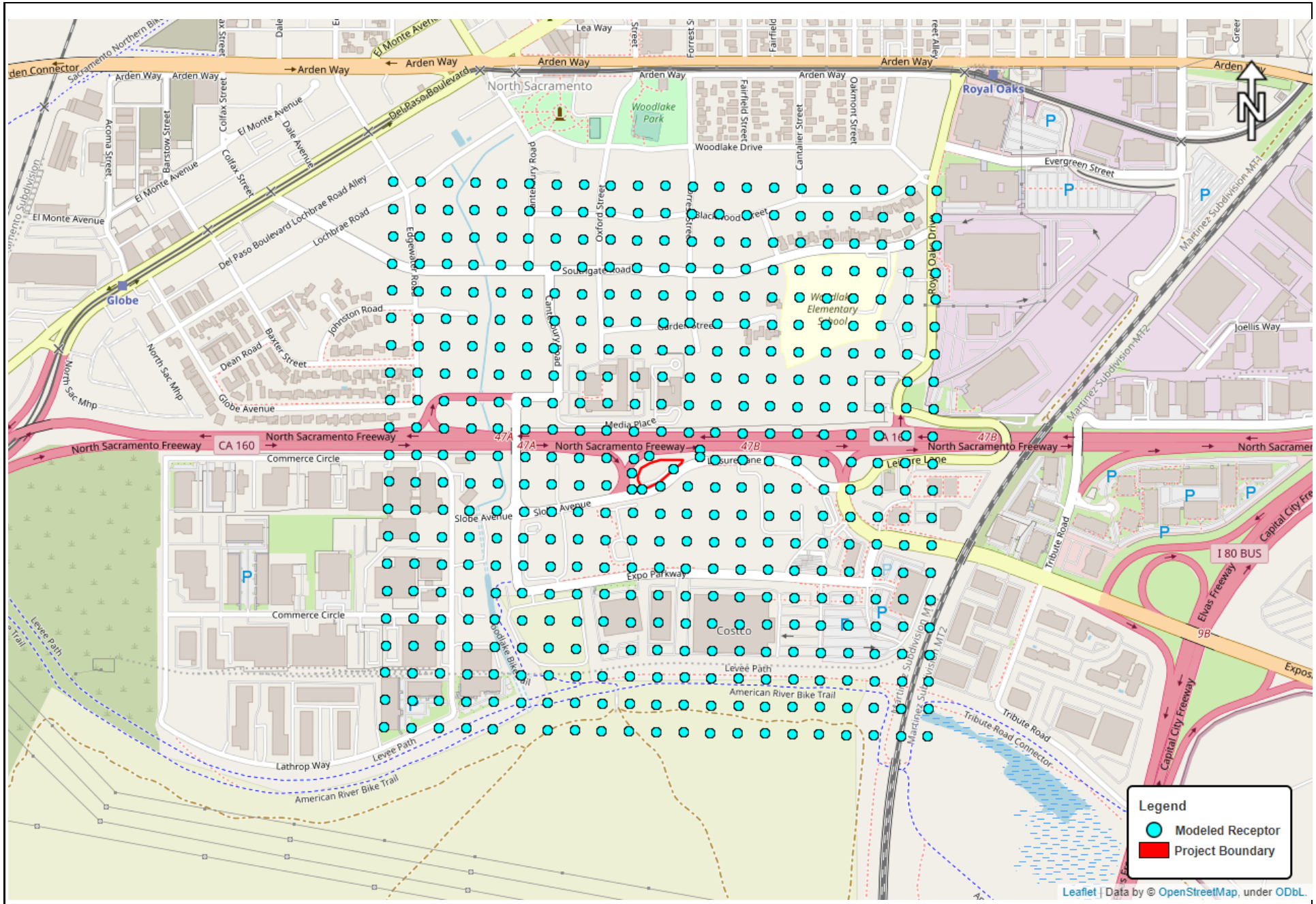
_____. 2017. Email Communication with SMAQMD Staff, Brian Krebs [BKREBS@airquality.com]. June 02, 2017.

USEPA (U.S. Environmental Protection Agency). 2001. National Human Activity Pattern Survey.

LIST OF ATTACHMENTS

ATTACHMENT A

Supplemental Health Risk Figures



ECORP Consulting, Inc.
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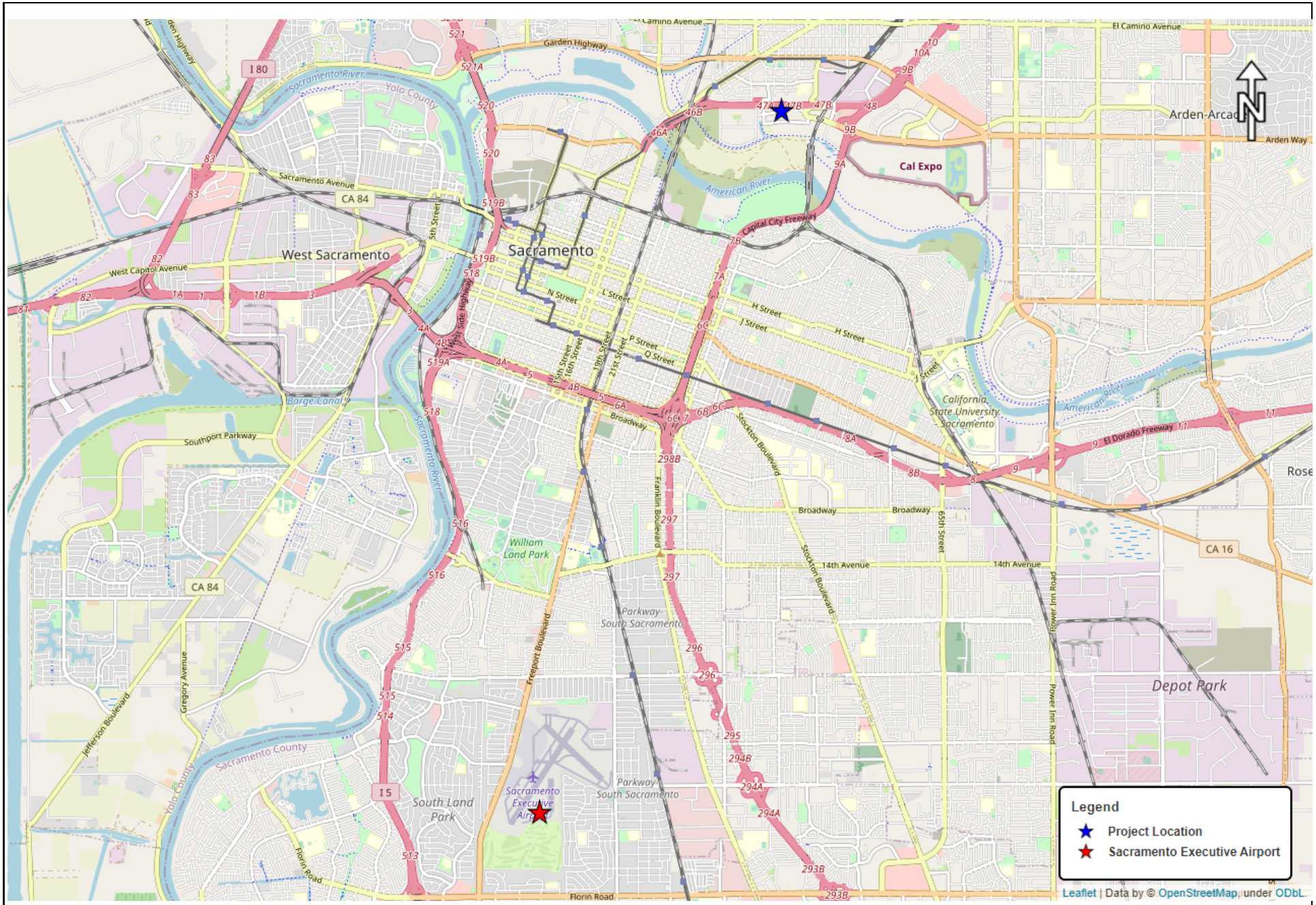
Figure A-1. Receptor Location

2022-279 Leisure Lane-Expo Parkway Gas Station Project



ECORP Consulting, Inc.
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Figure A-2. Meteorological Monitoring Station Location

2022-279 Leisure Lane-Expo Parkway Gas Station Project

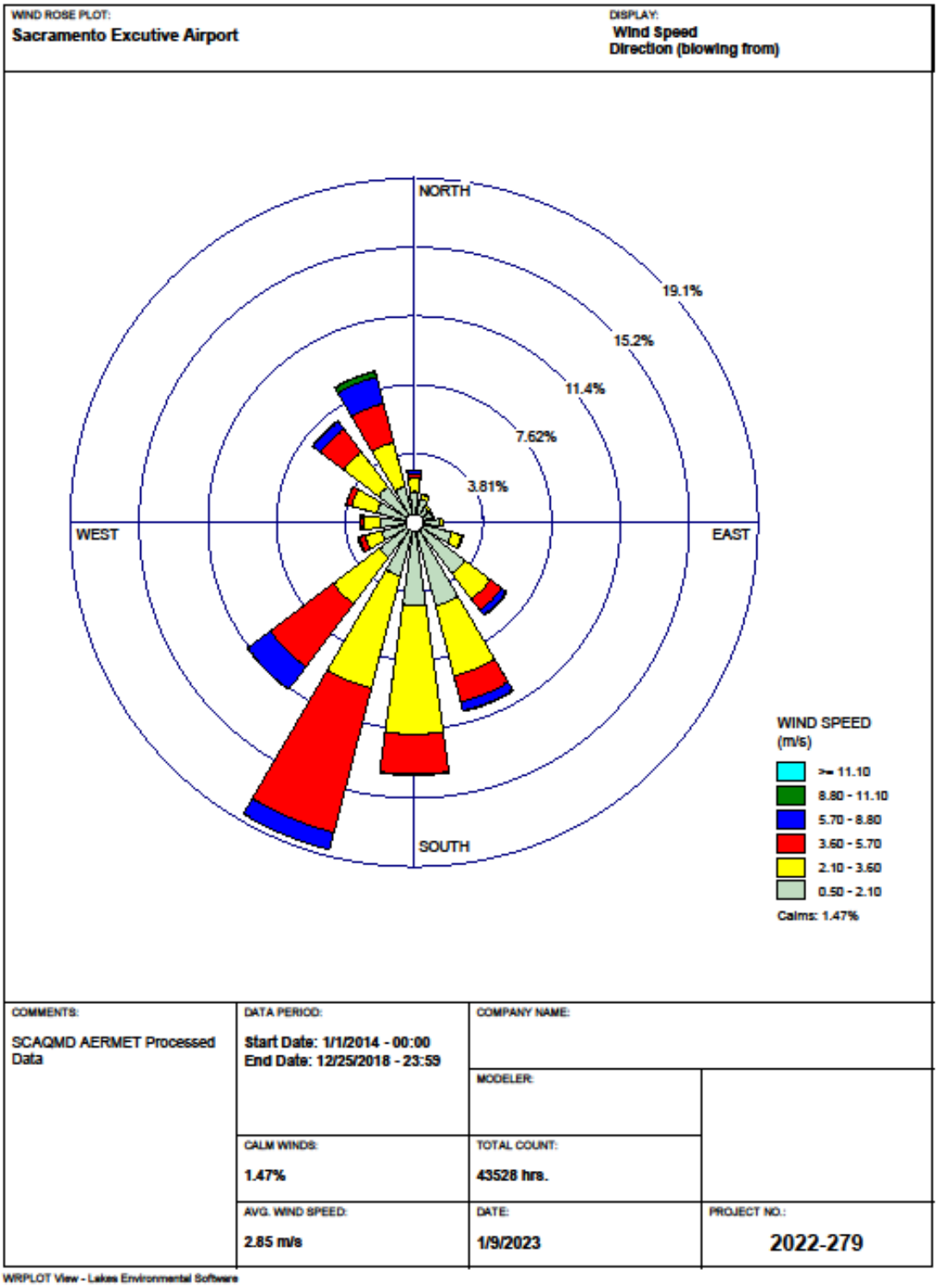

Figure A-3. Sacramento Executive AP Wind Rose

2022-279 Leisure Lane-Expo Parkway Gas Station Project

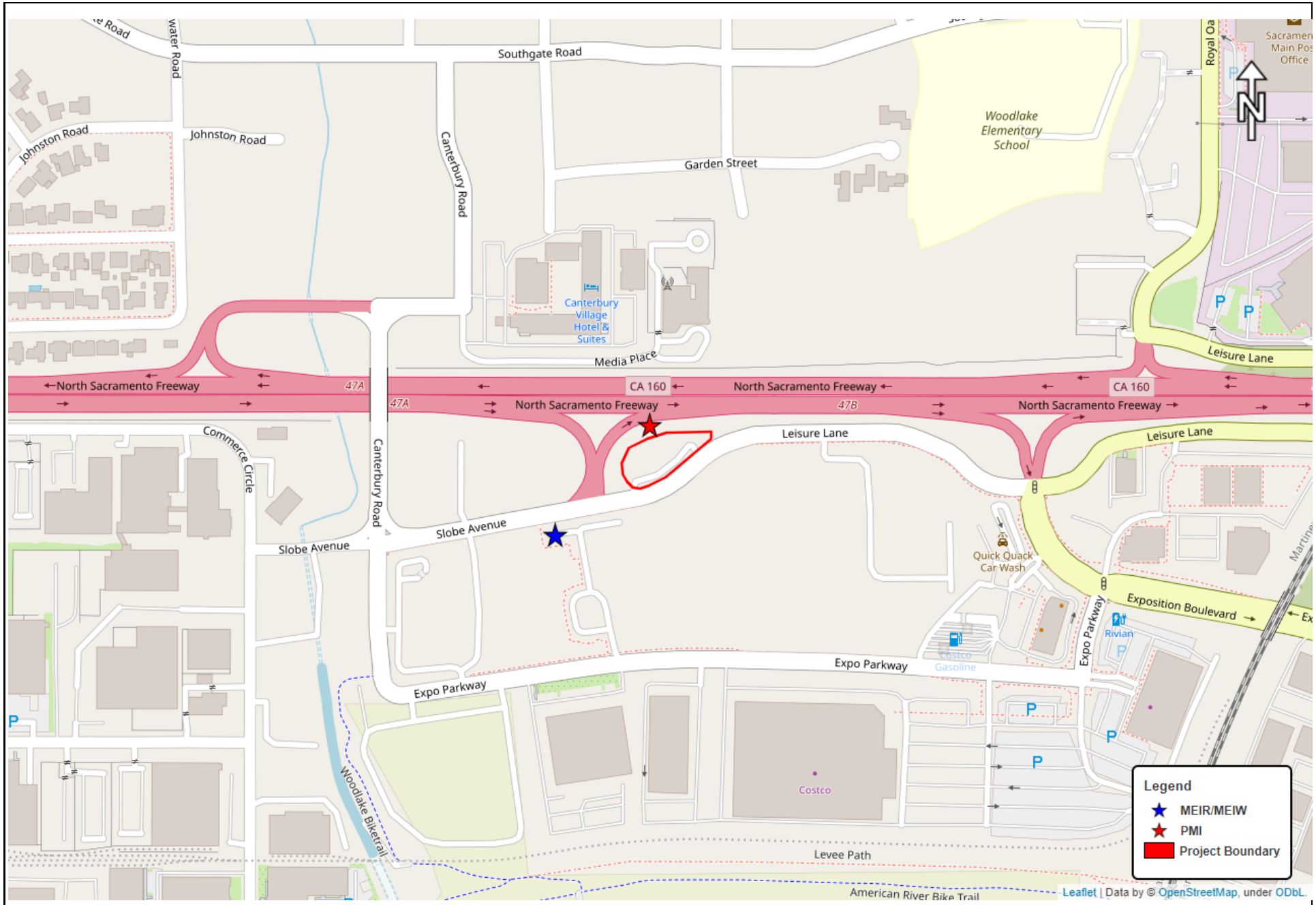

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Figure A-4. Maximum Resident and Worker Offsite Cancer and Chronic Risk

2022-279 Leisure Lane-Expo Parkway Gas Station Project

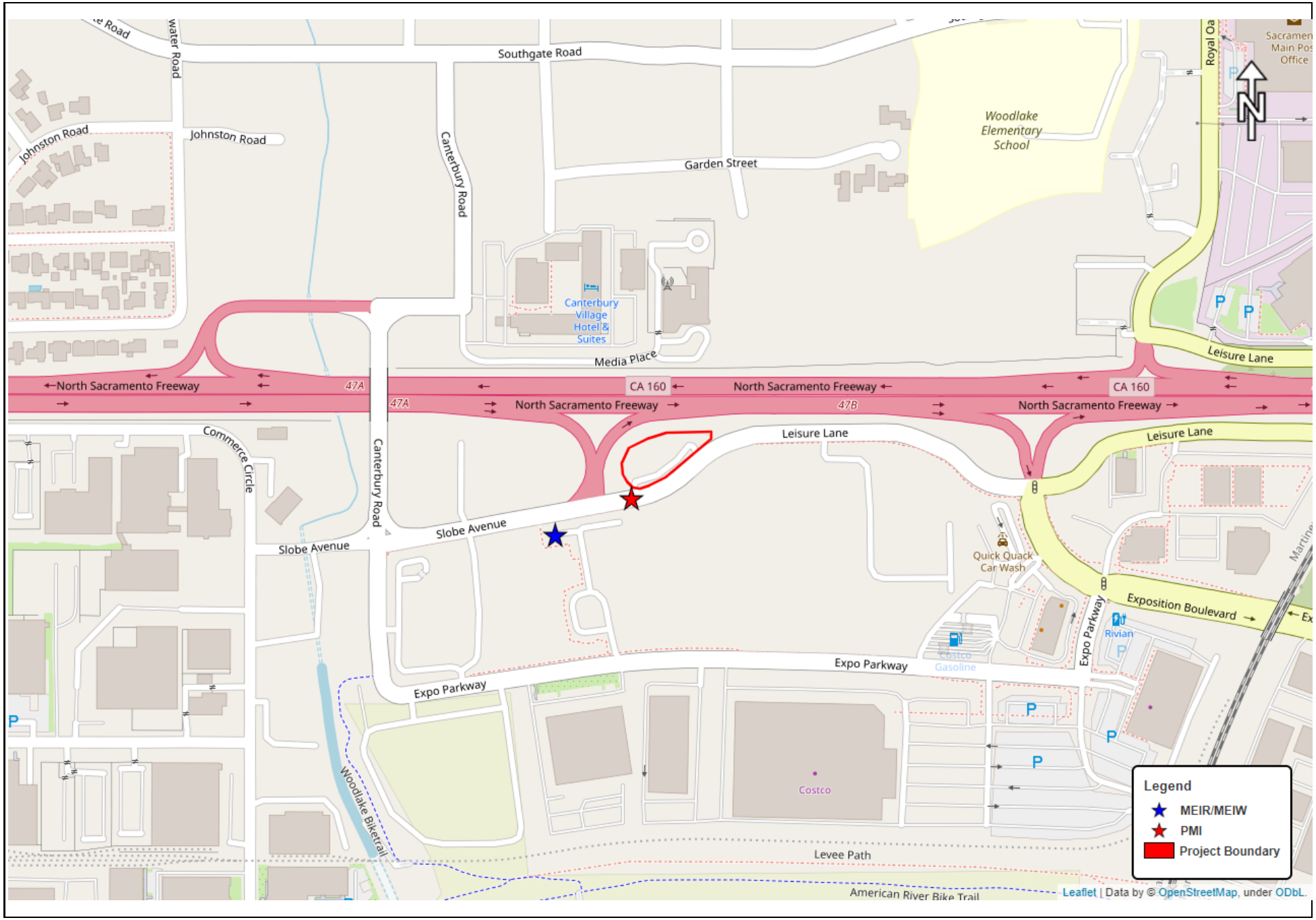

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Figure A-5. Maximum Resident and Worker Offsite Acute Risk

2022-279 Leisure Lane-Expo Parkway Gas Station Project

ATTACHMENT B

Health Risk Analysis Output Files

Leisure Lane-Expo Parkway
Gasoline Vapor Emission Calculations

Table B-1. Fueling Information

Fuel Tank[1]	Gasoline Throughput (gallons)
Annual Throughput	100,000
Peak Hourly Loading[1]	8,800
Peak Hourly Dispensing[2]	500

(1) Peak hourly filling conservatively estimated as 6,000 gallons per estimated Tank Volume.
(2) Peak hourly throughput = pumps * 20 gallons per fill * 12 fills an hour.
Notes: Evaporative emissions from diesel are considered negligible.

Table B-2. TOG Emission Factor by Category

	Total Organic Gas (TOG) Emission Factors (lb/1,000 gal)				
Scenario	**Loading**	**Breathing**	**Fueling[1]**	**Spillage**	**Hose Permeation**
EVR Phase 1 and II	0.15	0.092	0.089	0.24	0.009

Source: Table 9. Emission Factors per Gas Station Scenario (CARB & CAPCOA, 2022)
(1) Assumes 88% of vehicles have ORVR in 2021 per CARB Revised Phase II Doc (2013)

Table B-3. Peak Hourly and Annual Emissions by Activity

Activity	Peak Hourly[1] (lbs/hr)	Annual[2] (lbs/yr)
Gasoline UST (Point Sources)	**ROG Station Total**	
Filling Storage Tanks	1.32	15
Storage Tanks Breathing	0.81	9
Station (Volume Sources)	**ROG Station Total**	
Consumer Filling	0.04	9
Spillage	0.12	24
Hose Permeation	0.00	1

(1) Peak Hourly Emissions = Peak Hourly Throughput (gal/hr) * TOG EF (lbs/1,000 gal) / 1,000 gal
(2) Annual Emissions = Annual Throughput (gal/yr) * TOG EF (lbs/1,000 gal) / 1,000 gal

Leisure Lane-Expo Parkway
Gasoline Vapor Emission Calculations

Table B-4. Gasoline Speciation

Chemical	Weight Percentage
Benzene	0.457%
Ethyl Benzene	0.107%
n-Hexane	0.0182%
Naphthalene	0.0445%
Propylene (propene)2	0.0359%
Toluene	1.11%
Xylenes	0.4090%

Source: Table 11. Content of Gasoline (Combined Winter/Summer) (CARB & CAPCOA, 2022)

Table B-5. Total VOC Emissions by HARP2 Source

HARP2 Source	Max Hourly VOC (lbs/hr)	Annual VOC (lbs/yr)
Tank 1 Filling + Breathing	2.13	24
Station Volume Source 1	0.08	17
Station Volume Source 2	0.08	17

Table B-6. Peak Hourly HARP2 Emissions Input

	Max Hourly Emissions (lbs/hr)						
HARP2 Source	Benzene	Ethyl Benzene	n-Hexane	Naphthalene	Propylene	Toluene	Xylenes
Station 1 Filling + Breathing	0.0097	0.0023	0.0004	0.0009	0.0008	0.0236	0.0087
Volume Source 1	0.0004	0.0001	0.0000	0.0000	0.0000	0.0009	0.0003
Volume Source 2	0.0004	0.0001	0.0000	0.0000	0.0000	0.0009	0.0003

Table B-7. Annual HARP2 Emissions Input

	Annual Emissions (lbs/yr)						
HARP2 Source	Benzene	Ethyl Benzene	n-Hexane	Naphthalene	Propylene	Toluene	Xylenes
Station 1 Filling + Breathing	0.11	0.03	0.00	0.01	0.01	0.3	0.1
Volume Source 1	0.08	0.02	0.00	0.01	0.01	0.2	0.1
Volume Source 2	0.08	0.02	0.00	0.01	0.01	0.2	0.1

Control Pathway

Dispersion Options

Titles

W:\Projects\2022\2022-279 Leisure Lane-Expo Parkway Gas Station Proj

Dispersion Options

☑ Regulatory Default ☐ Non-Default Options

Dispersion Coefficient

Rural

Output Type

☑ Concentration
☐ Total Deposition (Dry & Wet)
☐ Dry Deposition
☐ Wet Deposition

Plume Depletion

☐ Dry Removal
☐ Wet Removal

Output Warnings

☐ No Output Warnings
☐ Non-fatal Warnings for Non-sequential Met Data

Pollutant / Averaging Time / Terrain Options

Pollutant Type

Averaging Time Options

Hours ☑ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 6 ☐ 8 ☐ 12 ☐ 24

☐ Month ☑ Period ☐ Annual

Exponential Decay

Option not available

Terrain Height Options

☐ Flat ☑ Elevated

SO: Meters
RE: Meters
TG: Meters

Flagpole Receptors

☐ Yes ☑ No

Default Height = 0.00 m

Control Pathway

Optional Files

Re-Start File	Init File	Multi-Year Analyses	Event Input File	Error Listing File
☐	☐	☐	☐	■

Detailed Error Listing File

Filename: dispersion.err

Receptor Pathway

Receptor Networks

Note: Terrain Elavations and Flagpole Heights for Network Grids are in Page RE2 - 1 (If applicable)
Generated Discrete Receptors for Multi-Tier (Risk) Grid and Receptor Locations for Fenceline Grid are in Page RE3 - 1 (If applicable)

Uniform Cartesian Grid

Receptor Network ID	Grid Origin X Coordinate [m]	Grid Origin Y Coordinate [m]	No. of X-Axis Receptors	No. of Y-Axis Receptors	Spacing for X-Axis [m]	Spacing for Y-Axis [m]
UCART1	634046.98	4273005.06	21	21	50.00	50.00

Discrete Receptors

Plant Boundary Receptors

Cartesian Plant Boundary

Primary

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	634619.58	4273509.88	FENCEPRI	7.62	
2	634618.21	4273522.20	FENCEPRI	7.69	
3	634525.08	4273510.56	FENCEPRI	7.62	
4	634493.57	4273478.38	FENCEPRI	7.87	
5	634494.26	4273448.25	FENCEPRI	7.62	
6	634513.43	4273448.93	FENCEPRI	7.62	
7	634570.27	4273487.28	FENCEPRI	7.62	

Receptor Groups

Record Number	Group ID	Group Description
1	FENCEPRI	Cartesian plant boundary Primary Receptors
2	UCART1	Receptors generated from Uniform Cartesian Grid

Source Pathway - Source Inputs

Point Sources

Source Type	Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation (Optional)	Release Height [m]	Emission Rate [g/s]	Gas Exit Temp. [K]	Gas Exit Velocity [m/s]	Stack Inside Diameter [m]
POINT	STCK1	634520.72	4273478.98	7.65	3.66	1.00000	291.00	0.00	0.05

Volume Sources

Source Type	Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation (Optional)	Release Height [m]	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dim. [m]	Initial Vertical Dim. [m]
VOLUME	VOL1	634529.18 Pumps (East)	4273482.61	7.62	1.50	1.00000	13.00		3.02	1.86
VOLUME	VOL2	634544.89 Pumps (West)	4273490.26	7.62	1.50	1.00000	13.00		3.02	1.86

APPENDIX B: Air Quality Emissions Model – CalEEMod.2022.1

Leisure Lane Gas Station Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Leisure Lane Gas Station
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50
Precipitation (days)	35.4
Location	38.5996904682693, -121.4549942111308
County	Sacramento
City	Sacramento
Air District	Sacramento Metropolitan AQMD
Air Basin	Sacramento Valley
TAZ	521
EDFZ	13
Electric Utility	Sacramento Municipal Utility District
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Fast Food Restaurant with Drive Thru	2.00	1000sqft	0.00	2,280	0.00	0.00	—	—
Parking Lot	14.0	Space	0.13	0.00	0.00	0.00	—	—

Convenience Market with Gas Pumps	12.0	Pump	0.04	1,640	1,000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.56	1.31	12.6	11.9	0.02	0.60	5.39	5.99	0.55	2.59	3.14	—	1,801	1,801	0.07	0.02	0.39	1,809
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.72	14.5	5.98	7.09	0.01	0.28	0.18	0.40	0.26	0.04	0.27	—	1,339	1,339	0.05	0.01	0.02	1,345
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.12	0.18	0.97	1.14	< 0.005	0.05	0.04	0.08	0.04	0.02	0.06	—	210	210	0.01	< 0.005	0.01	211
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.03	0.18	0.21	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	34.8	34.8	< 0.005	< 0.005	< 0.005	35.0

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.56	1.31	12.6	11.9	0.02	0.60	5.39	5.99	0.55	2.59	3.14	—	1,801	1,801	0.07	0.02	0.39	1,809
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.72	14.5	5.98	7.09	0.01	0.28	0.18	0.40	0.26	0.04	0.27	—	1,339	1,339	0.05	0.01	0.02	1,345
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.12	0.18	0.97	1.14	< 0.005	0.05	0.04	0.08	0.04	0.02	0.06	—	210	210	0.01	< 0.005	0.01	211
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.02	0.03	0.18	0.21	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	34.8	34.8	< 0.005	< 0.005	< 0.005	35.0

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	28.3	25.9	26.5	252	0.52	0.41	16.5	16.9	0.39	2.94	3.33	16.7	53,588	53,605	3.80	2.16	557	54,902
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	25.6	23.1	31.2	210	0.48	0.41	16.5	16.9	0.39	2.94	3.33	16.7	48,949	48,965	4.08	2.39	349	50,129
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	19.7	18.5	15.0	109	0.21	0.19	6.90	7.09	0.18	1.23	1.41	16.7	21,585	21,602	3.04	1.17	382	22,410
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.60	3.37	2.73	19.9	0.04	0.03	1.26	1.29	0.03	0.22	0.26	2.77	3,574	3,576	0.50	0.19	63.3	3,710

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	28.2	25.8	26.4	252	0.52	0.41	16.5	16.9	0.38	2.94	3.32	—	53,311	53,311	2.26	2.16	213	54,225
Area	0.03	0.12	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.70	0.70	< 0.005	< 0.005	—	0.70
Energy	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	275	275	0.01	< 0.005	—	275
Water	—	—	—	—	—	—	—	—	—	—	—	1.57	2.06	3.62	0.01	< 0.005	—	4.78
Waste	—	—	—	—	—	—	—	—	—	—	—	15.2	0.00	15.2	1.51	0.00	—	53.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	344	344
Total	28.3	25.9	26.5	252	0.52	0.41	16.5	16.9	0.39	2.94	3.33	16.7	53,588	53,605	3.80	2.16	557	54,902
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	25.6	23.0	31.1	210	0.48	0.41	16.5	16.9	0.38	2.94	3.32	—	48,672	48,672	2.54	2.39	5.53	49,452
Area	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	275	275	0.01	< 0.005	—	275
Water	—	—	—	—	—	—	—	—	—	—	—	1.57	2.06	3.62	0.01	< 0.005	—	4.78
Waste	—	—	—	—	—	—	—	—	—	—	—	15.2	0.00	15.2	1.51	0.00	—	53.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	344	344
Total	25.6	23.1	31.2	210	0.48	0.41	16.5	16.9	0.39	2.94	3.33	16.7	48,949	48,965	4.08	2.39	349	50,129
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	19.7	18.4	14.9	109	0.21	0.18	6.90	7.08	0.17	1.23	1.40	—	21,308	21,308	1.51	1.17	38.6	21,732
Area	0.02	0.11	< 0.005	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.48	0.48	< 0.005	< 0.005	—	0.48
Energy	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	275	275	0.01	< 0.005	—	275
Water	—	—	—	—	—	—	—	—	—	—	—	1.57	2.06	3.62	0.01	< 0.005	—	4.78

Waste	—	—	—	—	—	—	—	—	—	—	—	15.2	0.00	15.2	1.51	0.00	—	53.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	344	344
Total	19.7	18.5	15.0	109	0.21	0.19	6.90	7.09	0.18	1.23	1.41	16.7	21,585	21,602	3.04	1.17	382	22,410
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.59	3.35	2.72	19.9	0.04	0.03	1.26	1.29	0.03	0.22	0.26	—	3,528	3,528	0.25	0.19	6.39	3,598
Area	< 0.005	0.02	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.08	0.08	< 0.005	< 0.005	—	0.08
Energy	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	45.5	45.5	< 0.005	< 0.005	—	45.6
Water	—	—	—	—	—	—	—	—	—	—	—	0.26	0.34	0.60	< 0.005	< 0.005	—	0.79
Waste	—	—	—	—	—	—	—	—	—	—	—	2.51	0.00	2.51	0.25	0.00	—	8.78
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	56.9	56.9
Total	3.60	3.37	2.73	19.9	0.04	0.03	1.26	1.29	0.03	0.22	0.26	2.77	3,574	3,576	0.50	0.19	63.3	3,710

3. Construction Emissions Details

3.1. Site Preparation (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.54	5.02	5.57	0.01	0.27	—	0.27	0.25	—	0.25	—	858	858	0.03	0.01	—	861
Dust From Material Movement	—	—	—	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.35	2.35	< 0.005	< 0.005	—	2.36
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.39	0.39	< 0.005	< 0.005	—	0.39
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.35	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	59.0	59.0	< 0.005	< 0.005	0.26	59.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.15	0.15	< 0.005	< 0.005	< 0.005	0.15
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.52	1.28	12.6	11.4	0.02	0.60	—	0.60	0.55	—	0.55	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	5.31	5.31	—	2.57	2.57	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.39	9.39	< 0.005	< 0.005	—	9.42

Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.55	1.55	< 0.005	< 0.005	—	1.56
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.52	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	88.5	88.5	< 0.005	< 0.005	0.39	89.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.07	0.07	< 0.005	< 0.005	< 0.005	0.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.58	5.93	7.00	0.01	0.28	—	0.28	0.26	—	0.26	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.58	5.93	7.00	0.01	0.28	—	0.28	0.26	—	0.26	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.81	0.96	< 0.005	0.04	—	0.04	0.04	—	0.04	—	179	179	0.01	< 0.005	—	179
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.15	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	29.6	29.6	< 0.005	< 0.005	—	29.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	17.5	17.5	< 0.005	< 0.005	0.08	17.8
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	19.3	19.3	< 0.005	< 0.005	0.05	20.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.5	15.5	< 0.005	< 0.005	< 0.005	15.7
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	19.3	19.3	< 0.005	< 0.005	< 0.005	20.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.18	2.18	< 0.005	< 0.005	< 0.005	2.21
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.64	2.64	< 0.005	< 0.005	< 0.005	2.76
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.36	0.36	< 0.005	< 0.005	< 0.005	0.37
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.46
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.53	4.61	5.32	0.01	0.22	—	0.22	0.20	—	0.20	—	823	823	0.03	0.01	—	826
Paving	—	0.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.3
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.87
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	0.90	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	183	183	< 0.005	0.01	0.02	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.57	2.57	< 0.005	< 0.005	0.01	2.61
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.43	0.43	< 0.005	< 0.005	< 0.005	0.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Architectural Coating (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	0.93	1.15	< 0.005	0.04	—	0.04	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	14.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.73	0.73	< 0.005	< 0.005	—	0.73
Architectural Coatings	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.12	0.12	< 0.005	< 0.005	—	0.12
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.10	3.10	< 0.005	< 0.005	< 0.005	3.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	6.82	6.22	6.37	60.9	0.13	0.10	3.98	4.08	0.09	0.71	0.80	—	12,875	12,875	0.55	0.52	51.6	13,096
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	21.4	19.5	20.0	191	0.40	0.31	12.5	12.8	0.29	2.23	2.52	—	40,436	40,436	1.72	1.64	162	41,129
Total	28.2	25.8	26.4	252	0.52	0.41	16.5	16.9	0.38	2.94	3.32	—	53,311	53,311	2.26	2.16	213	54,225
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	6.18	5.56	7.52	50.6	0.12	0.10	3.98	4.08	0.09	0.71	0.80	—	11,755	11,755	0.61	0.58	1.34	11,943
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Convenie Market with Gas Pumps	19.4	17.5	23.6	159	0.36	0.31	12.5	12.8	0.29	2.23	2.52	—	36,917	36,917	1.93	1.81	4.20	37,509
Total	25.6	23.0	31.1	210	0.48	0.41	16.5	16.9	0.38	2.94	3.32	—	48,672	48,672	2.54	2.39	5.53	49,452
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	0.75	0.70	0.63	4.55	0.01	0.01	0.31	0.31	0.01	0.05	0.06	—	853	853	0.05	0.04	1.56	869
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	2.84	2.65	2.09	15.3	0.03	0.03	0.95	0.98	0.02	0.17	0.19	—	2,675	2,675	0.19	0.15	4.83	2,729
Total	3.59	3.35	2.72	19.9	0.04	0.03	1.26	1.29	0.03	0.22	0.26	—	3,528	3,528	0.25	0.19	6.39	3,598

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	91.5	91.5	< 0.005	< 0.005	—	91.7

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	4.94	4.94	< 0.005	< 0.005	—	4.95
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	79.9	79.9	< 0.005	< 0.005	—	80.1
Total	—	—	—	—	—	—	—	—	—	—	—	—	176	176	0.01	< 0.005	—	177
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	91.5	91.5	< 0.005	< 0.005	—	91.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	4.94	4.94	< 0.005	< 0.005	—	4.95
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	79.9	79.9	< 0.005	< 0.005	—	80.1
Total	—	—	—	—	—	—	—	—	—	—	—	—	176	176	0.01	< 0.005	—	177
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	15.1	15.1	< 0.005	< 0.005	—	15.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.82	0.82	< 0.005	< 0.005	—	0.82
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	13.2	13.2	< 0.005	< 0.005	—	13.3

Total	—	—	—	—	—	—	—	—	—	—	—	—	29.2	29.2	< 0.005	< 0.005	—	29.3

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	87.9	87.9	0.01	< 0.005	—	88.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Convenience Market with Gas Pumps	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.6	10.6	< 0.005	< 0.005	—	10.6
Total	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	98.5	98.5	0.01	< 0.005	—	98.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	87.9	87.9	0.01	< 0.005	—	88.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Convenience Market with Gas Pumps	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.6	10.6	< 0.005	< 0.005	—	10.6
Total	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	98.5	98.5	0.01	< 0.005	—	98.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.6	14.6	< 0.005	< 0.005	—	14.6
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Convenience Market with Gas Pumps	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.75	1.75	< 0.005	< 0.005	—	1.76
Total	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.3	16.3	< 0.005	< 0.005	—	16.4

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landsca Equipment	0.03	0.03	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.70	0.70	< 0.005	< 0.005	—	0.70
Total	0.03	0.12	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.70	0.70	< 0.005	< 0.005	—	0.70
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.08	0.08	< 0.005	< 0.005	—	0.08
Total	< 0.005	0.02	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.08	0.08	< 0.005	< 0.005	—	0.08

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	1.30	1.69	2.98	< 0.005	< 0.005	—	3.94
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.27	0.37	0.64	< 0.005	< 0.005	—	0.84
Total	—	—	—	—	—	—	—	—	—	—	—	1.57	2.06	3.62	0.01	< 0.005	—	4.78
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	1.30	1.69	2.98	< 0.005	< 0.005	—	3.94
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.27	0.37	0.64	< 0.005	< 0.005	—	0.84
Total	—	—	—	—	—	—	—	—	—	—	—	1.57	2.06	3.62	0.01	< 0.005	—	4.78
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	0.21	0.28	0.49	< 0.005	< 0.005	—	0.65
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.04	0.06	0.11	< 0.005	< 0.005	—	0.14
Total	—	—	—	—	—	—	—	—	—	—	—	0.26	0.34	0.60	< 0.005	< 0.005	—	0.79

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	12.4	0.00	12.4	1.24	0.00	—	43.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	2.74	0.00	2.74	0.27	0.00	—	9.59

Total	—	—	—	—	—	—	—	—	—	—	—	15.2	0.00	15.2	1.51	0.00	—	53.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	12.4	0.00	12.4	1.24	0.00	—	43.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	2.74	0.00	2.74	0.27	0.00	—	9.59
Total	—	—	—	—	—	—	—	—	—	—	—	15.2	0.00	15.2	1.51	0.00	—	53.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	2.06	0.00	2.06	0.21	0.00	—	7.19
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.45	0.00	0.45	0.05	0.00	—	1.59
Total	—	—	—	—	—	—	—	—	—	—	—	2.51	0.00	2.51	0.25	0.00	—	8.78

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.56	3.56
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	340	340
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	344	344
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.56	3.56
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	340	340
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	344	344
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.59	0.59

Convenie Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	56.3	56.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	56.9	56.9

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	9/16/2023	9/17/2023	5.00	1.00	—
Grading	Grading	9/18/2023	9/20/2023	5.00	2.00	—
Building Construction	Building Construction	9/21/2023	11/29/2023	5.00	50.0	—
Paving	Paving	11/30/2023	12/6/2023	5.00	5.00	—
Architectural Coating	Architectural Coating	12/7/2023	12/8/2023	5.00	2.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37

Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	7.50	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1.48	14.3	LDA,LDT1,LDT2

Building Construction	Vendor	0.64	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	14.3	LDA,LDT1,LDT2
Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.30	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	5,880	1,960	329

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)

Site Preparation	—	—	0.50	0.00	—
Grading	—	—	1.50	0.00	—
Paving	0.00	0.00	0.00	0.00	0.59

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Fast Food Restaurant with Drive Thru	0.00	0%
Parking Lot	0.59	100%
Convenience Market with Gas Pumps	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	375	0.01	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Fast Food Restaurant with Drive Thru	942	1,232	945	359,103	3,386	14,256	10,935	2,196,402
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	3,870	3,870	3,870	1,412,550	8,271	44,773	44,773	6,825,438

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	5,880	1,960	329

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Fast Food Restaurant with Drive Thru	89,060	375	0.0129	0.0017	274,384
Parking Lot	4,808	375	0.0129	0.0017	0.00
Convenience Market with Gas Pumps	77,804	375	0.0129	0.0017	32,994

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Fast Food Restaurant with Drive Thru	607,067	0.00
Parking Lot	0.00	0.00
Convenience Market with Gas Pumps	125,486	13,966

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Fast Food Restaurant with Drive Thru	23.0	0.00
Parking Lot	0.00	0.00
Convenience Market with Gas Pumps	5.08	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Convenience Market with Gas Pumps	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Convenience Market with Gas Pumps	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.2	annual days of extreme heat
Extreme Precipitation	6.00	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	2	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	2	1	1	3
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	50.5
AQ-PM	37.6
AQ-DPM	69.9
Drinking Water	16.8
Lead Risk Housing	79.0
Pesticides	0.00
Toxic Releases	29.2
Traffic	32.4
Effect Indicators	—
CleanUp Sites	87.2
Groundwater	93.8
Haz Waste Facilities/Generators	80.2
Impaired Water Bodies	77.3
Solid Waste	22.1
Sensitive Population	—
Asthma	99.5
Cardio-vascular	97.1

Low Birth Weights	76.1
Socioeconomic Factor Indicators	—
Education	60.6
Housing	93.6
Linguistic	—
Poverty	94.1
Unemployment	95.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	11.54882587
Employed	2.989862697
Median HI	2.951366611
Education	—
Bachelor's or higher	43.64172976
High school enrollment	0.551777236
Preschool enrollment	67.11151033
Transportation	—
Auto Access	6.467342487
Active commuting	37.39253176
Social	—
2-parent households	13.17849352
Voting	40.74169126
Neighborhood	—
Alcohol availability	30.25792378

Park access	81.35506224
Retail density	79.26344155
Supermarket access	52.34184525
Tree canopy	89.20826383
Housing	—
Homeownership	23.32862826
Housing habitability	26.71628384
Low-inc homeowner severe housing cost burden	9.149236494
Low-inc renter severe housing cost burden	31.63095085
Uncrowded housing	51.79006801
Health Outcomes	—
Insured adults	22.55870653
Arthritis	4.4
Asthma ER Admissions	1.4
High Blood Pressure	5.4
Cancer (excluding skin)	22.7
Asthma	8.7
Coronary Heart Disease	3.6
Chronic Obstructive Pulmonary Disease	2.8
Diagnosed Diabetes	13.8
Life Expectancy at Birth	3.0
Cognitively Disabled	17.4
Physically Disabled	3.8
Heart Attack ER Admissions	4.0
Mental Health Not Good	20.5
Chronic Kidney Disease	10.6
Obesity	14.4

Pedestrian Injuries	96.6
Physical Health Not Good	14.8
Stroke	6.5
Health Risk Behaviors	—
Binge Drinking	78.7
Current Smoker	10.2
No Leisure Time for Physical Activity	30.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	72.4
Elderly	39.7
English Speaking	27.5
Foreign-born	35.6
Outdoor Workers	71.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	46.6
Traffic Density	33.0
Traffic Access	73.9
Other Indices	—
Hardship	86.5
Other Decision Support	—
2016 Voting	22.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	94.0

Healthy Places Index Score for Project Location (b)	2.00
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

Measure Title	Co-Benefits Achieved
CR-1: Adapt and Re-use Vacant Lots for Green Infrastructure	Enhanced Energy Security, Enhanced Food Security, Improved Ecosystem Health, Improved Public Health, Social Equity

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	—
Construction: Construction Phases	2 month construction time, plus holiday
Construction: Paving	Parcel Size

APPENDIX C: CNDDB, USFWS, CNPS, and NMFS Database Results

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Rio Linda (3812164) OR Taylor Monument (3812165) OR Sacramento West (3812155) OR Sacramento East (3812154))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
bank swallow *Riparia riparia*	ABPAU08010	None	Threatened	G5	S2	
black-crowned night heron *Nycticorax nycticorax*	ABNGA11010	None	None	G5	S4	
Boggs Lake hedge-hyssop *Gratiola heterosepala*	PDSCR0R060	None	Endangered	G2	S2	1B.2
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
California black rail *Laterallus jamaicensis coturniculus*	ABNME03041	None	Threatened	G3T1	S1	FP
California linderiella *Linderiella occidentalis*	ICBRA06010	None	None	G2G3	S2S3	
chinook salmon - Central Valley spring-run ESU *Oncorhynchus tshawytscha pop. 11*	AFCHA0205L	Threatened	Threatened	G5T2Q	S2	
chinook salmon - Sacramento River winter-run ESU *Oncorhynchus tshawytscha pop. 7*	AFCHA0205B	Endangered	Endangered	G5T1Q	S2	
Cooper's hawk *Accipiter cooperii*	ABNKC12040	None	None	G5	S4	WL
dwarf downingia *Downingia pusilla*	PDCAM060C0	None	None	GU	S2	2B.2
Elderberry Savanna *Elderberry Savanna*	CTT63440CA	None	None	G2	S2.1	
Ferris' milk-vetch *Astragalus tener var. ferrisiae*	PDFAB0F8R3	None	None	G2T1	S1	1B.1
giant gartersnake *Thamnophis gigas*	ARADB36150	Threatened	Threatened	G2	S2	
great blue heron *Ardea herodias*	ABNGA04010	None	None	G5	S4	
great egret *Ardea alba*	ABNGA04040	None	None	G5	S4	
Great Valley Cottonwood Riparian Forest *Great Valley Cottonwood Riparian Forest*	CTT61410CA	None	None	G2	S2.1	
green sturgeon - southern DPS *Acipenser medirostris pop. 1*	AFCAA01031	Threatened	None	G2T1	S1	
hoary bat *Lasiurus cinereus*	AMACC05032	None	None	G3G4	S4	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
least Bell's vireo *Vireo bellii pusillus*	ABPBW01114	Endangered	Endangered	G5T2	S2	
legenere *Legenere limosa*	PDCAM0C010	None	None	G2	S2	1B.1
longfin smelt *Spirinchus thaleichthys*	AFCHB03010	Candidate	Threatened	G5	S1	
Northern Claypan Vernal Pool *Northern Claypan Vernal Pool*	CTT44120CA	None	None	G1	S1.1	
Northern Hardpan Vernal Pool *Northern Hardpan Vernal Pool*	CTT44110CA	None	None	G3	S3.1	
purple martin *Progne subis*	ABPAU01010	None	None	G5	S3	SSC
Sacramento perch *Archoplites interruptus*	AFCQB07010	None	None	G1	S1	SSC
Sacramento splittail *Pogonichthys macrolepidotus*	AFCJB34020	None	None	G3	S3	SSC
Sacramento Valley tiger beetle *Cicindela hirticollis abrupta*	IICOL02106	None	None	G5TH	SH	
Sanford's arrowhead *Sagittaria sanfordii*	PMALI040Q0	None	None	G3	S3	1B.2
snowy egret *Egretta thula*	ABNGA06030	None	None	G5	S4	
song sparrow ("Modesto" population) *Melospiza melodia pop. 1*	ABPBXA3013	None	None	G5T3?Q	S3?	SSC
steelhead - Central Valley DPS *Oncorhynchus mykiss irideus pop. 11*	AFCHA0209K	Threatened	None	G5T2Q	S2	
stinkbells *Fritillaria agrestis*	PMLIL0V010	None	None	G3	S3	4.2
Suisun Marsh aster *Symphyotrichum lentum*	PDASTE8470	None	None	G2	S2	1B.2
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S3	
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened	None	G3T2T3	S3	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	
vernal pool tadpole shrimp *Lepidurus packardi*	ICBRA10010	Endangered	None	G4	S3	
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
western ridged mussel	IMBIV19010	None	None	G3	S1S2	
Gonidea angulata						
western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Coccyzus americanus occidentalis						
white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Elanus leucurus						
woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Hibiscus lasiocarpos var. occidentalis						

Record Count: 44

Search Results

10 matches found. Click on scientific name for details

Search Criteria: Quad is one of [**3812164:3812154:3812155:3812165**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
Astragalus tener var. *ferrisiae*	Ferris' milk-vetch	Fabaceae	annual herb	Apr-May	None	None	G2T1	S1	1B.1	No Photo Available
Brodiaea rosea ssp. *vallicola*	valley brodiaea	Themidaceae	perennial bulbiferous herb	Apr-May(Jun)	None	None	G5T3	S3	4.2	 © 2011 Steven Perry
Centromadia parryi ssp. *rudis*	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	None	None	G3T3	S3	4.2	No Photo Available
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	None	None	GU	S2	2B.2	No Photo Available
Fritillaria agrestis	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun	None	None	G3	S3	4.2	 © 2016 Aaron Schusteff
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	None	CE	G2	S2	1B.2	 ©2004 Carol W. Witham
Hibiscus lasiocarpos var. *occidentalis*	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	None	None	G5T3	S3	1B.2	 © 2020 Steven Perry
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	None	None	G2	S2	1B.1	 ©2000 John Game
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	 ©2013 Debra L.

Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	None	None	G2	S2	1B.2	No Photo Available

Showing 1 to 10 of 10 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website https://www.rareplants.cnps.org [accessed 20 December 2022].

Arianna Sarchi Flood

Quad Name **Taylor Monument**
Quad Number **38121-F5**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - **X**
SRWR Chinook Salmon ESU (E) - **X**
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat - **X**
SRWR Chinook Salmon Critical Habitat - **X**
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH - **X**
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Rio Linda**
Quad Number **38121-F4**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - X
SRWR Chinook Salmon ESU (E) - X
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - X
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - X
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Sacramento West**
Quad Number **38121-E5**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - **X**
SRWR Chinook Salmon ESU (E) - **X**
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -

CCV Steelhead DPS (T) - X
Eulachon (T) -
sDPS Green Sturgeon (T) - X

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat - X
SRWR Chinook Salmon Critical Habitat - X
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - X
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH - **X**
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Sacramento East**
Quad Number **38121-E4**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - **X**
SRWR Chinook Salmon ESU (E) - **X**
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat - X
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - X
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH - X

Groundfish EFH - X

Coastal Pelagics EFH -

Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -

MMPA Pinnipeds -

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Project Code: 2023-0026824
Project Name: Leisure Lane Gas Station

December 20, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Project Code: 2023-0026824
Project Name: Leisure Lane Gas Station
Project Type: New Constr - Above Ground
Project Description: Leisure Lane Gas Station
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.59970235,-121.45063314848812,14z

Counties: Sacramento County, California

Endangered Species Act Species

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Amphibians

NAME	STATUS
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

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APPENDIX D: Traffic Noise Modelling Data

Table D-1. Existing Hourly Traffic Volumes Used in TNM Calibration

	Segment	Direction	Number of Lanes	Total Hourly Traffic	Auto #	MT #	HT #	Bus #	Moto #	Speed (A/MT/HT/B/M)
SR-160	North of Leisure Lane	WB	2	688	640	32	8	4	4	65/65/65/65/65
	North of Leisure Lane	EB	2	1528	1488	28	8	0	4	65/65/65/0/65
	Eastbound Offramp	EB	1	120	108	8	0	0	4	30/30/0/0/30
	Eastbound Onramp	EB	1	136	136	0	0	0	0	65/0/0/0/0
Leisure Lane	Exposition Blvd to Expo Pkwy	WB	1	180	168	12	0	0	0	30/30/0/0/0
	Expo Pkwy to Exposition Blvd	EB	*1*	168	168	0	0	0	0	30/0/0/0/0

Table D-2. Existing Average Daily Traffic Volumes Used in TNM

	Segment	Direction	Number of Lanes	Total Average Daily Traffic	Auto %	MT %	HT %	Speed (A/MT/HT)
SR-160	North of Leisure Lane	WB	2	19,476	97	1	2	65/65/65
	North of Leisure Lane	EB	2	19,476	97	1	2	65/65/65
	Eastbound Offramp	EB	1	890	97	1	2	65/65/65
	Eastbound Onramp	EB	1	1220	97	1	2	65/65/65
Leisure Lane	Exposition Blvd to EB Onramp	WB	1	2330	97	1	2	30/30/30
	EB OffRamp to Expo Pkway	WB	1	2340	97	1	2	30/30/30
	Expo Pkway to EB Offramp	EB	1	3060	97	1	2	30/30/30
	EB Onramp to Exposition Blvd	EB	1	3060	97	1	2	30/30/30
Expo Pkwy	Leisure Lane to Canterbury Rd	NB	1	2740	97	1	2	25/25/25
	Canterbury Rd to Leisure Lane	SB	1	2060	97	1	2	25/25/25
	Costco to Leisure Lane	WB	1	1990	97	1	2	25/25/25
	Leisure Lane to Costco	EB	1	1490	97	1	2	25/25/25

Table D-3. Baseline No-Project Average Daily Traffic Volumes Used in TNM

	Segment	Direction	Number of Lanes	Total Average Daily Traffic	Auto %	MT %	HT %	Speed (A/MT/HT)
SR-160	North of Leisure Lane	WB	2	19,476	97	1	2	65/65/65
	North of Leisure Lane	EB	2	19,476	97	1	2	65/65/65
	Eastbound Offramp	EB	1	1360	97	1	2	65/65/65
	Eastbound Onramp	EB	1	1390	97	1	2	65/65/65
Leisure Lane	Exposition Blvd to EB Onramp	WB	1	2960	97	1	2	30/30/30
	EB OffRamp to Expo Pkway	WB	1	2960	97	1	2	30/30/30
	Expo Pkway to EB Offramp	EB	1	3280	97	1	2	30/30/30
	EB Onramp to Exposition Blvd	EB	1	2350	97	1	2	30/30/30
Expo Pkwy	Leisure Lane to Canterbury Rd	NB	1	4070	97	1	2	25/25/25
	Canterbury Rd to Leisure Lane	SB	1	2290	97	1	2	25/25/25
	Costco to Leisure Lane	WB	1	2080	97	1	2	25/25/25
	Leisure Lane to Costco	EB	1	1610	97	1	2	25/25/25

Table D-4. Baseline With Project Average Daily Traffic Volumes Used in TNM

	Segment	Direction	Number of Lanes	Total Average Daily Traffic	Auto %	MT %	HT %	Speed (A/MT/HT)
SR-160	North of Leisure Lane	WB	2	19,476	97	1	2	65/65/65
	North of Leisure Lane	EB	2	19,476	97	1	2	65/65/65
	Eastbound Offramp	EB	1	1680	97	1	2	65/65/65
	Eastbound Onramp	EB	1	1700	97	1	2	65/65/65
Leisure Lane	Exposition Blvd to EB Onramp	WB	1	2670	97	1	2	30/30/30
	EB OffRamp to Expo Pkway	WB	1	3270	97	1	2	30/30/30
	Expo Pkway to EB Offramp	EB	1	3550	97	1	2	30/30/30
	EB Onramp to Exposition Blvd	EB	1	2930	97	1	2	30/30/30
Expo Pkwy	Leisure Lane to Canterbury Rd	NB	1	4200	97	1	2	25/25/25
	Canterbury Rd to Leisure Lane	SB	1	2380	97	1	2	25/25/25
	Costco to Leisure Lane	WB	1	2170	97	1	2	25/25/25
	Leisure Lane to Costco	EB	1	1700	97	1	2	25/25/25

APPENDIX E: Transportation Operations Review. Fehr & Peers, January 2023

Transportation Operations Review of Chevron Gas Station & Krispy Krunchy Chicken Restaurant on Leisure Lane

Prepared for:
City of Sacramento, Department of Public Works

FEHR PEERS

January 19, 2023

SA22-0175

Table of Contents

List of Figures

List of Tables

Executive Summary

Purpose

This study analyzes transportation operations associated with development of a proposed Chevron gas station, convenience market, and Krispy Krunchy Chicken fast-food restaurant, which would be located in the northeast quadrant of the Leisure Lane/State Route (SR) 160 intersection in the City of Sacramento. This study describes existing conditions, analyzes the project's expected travel characteristics, reviews how the project would affect travel conditions near the site vicinity, and recommends improvements to better accommodate all modes of travel and on-site circulation.

Project Description

According to the project site plan (*Leisure Ln. Expo Parkway*, Boulevard Construction, July 2022), the proposed project would consist of the following land uses:

- Chevron gas station with 12 vehicle fueling positions (passenger vehicles/SUVs/small trucks) and a 2,280 square foot convenience market
- 1,650 square foot Krispy Krunchy Chicken restaurant with drive-through lane
- 14 parking stalls (excluding vehicle fueling pump parking)

Vehicular access would be provided by one driveway on Leisure Lane located approximately 320 feet east of the Leisure Lane/SR 160 Eastbound Ramps intersection.

Existing Conditions

Morning and evening peak hour traffic operations were analyzed at the following five study intersections.

- Leisure Lane/Slobe Avenue/Expo Parkway/Canterbury Road
- Leisure Lane/SR 160 Eastbound Ramps
- Leisure Lane/Exposition Boulevard/SR 160 Eastbound Ramps
- Expo Parkway/Exposition Boulevard
- Leisure Lane/Project Driveway

All study intersections were analyzed using a state-of-the-practice microsimulation model and were found to operate at Level of Service (LOS) C or better during the AM and PM peak hours. Vehicle queues at the SR 160 Eastbound ramp terminal intersections did not spill back to the SR 160 mainline.

Baseline Conditions

Peak hour traffic operations were analyzed under baseline conditions, which represents existing conditions with the addition of trips generated by two approved projects near the study area. The approved projects did not result in deficient LOS, and queuing at critical turn movements increased marginally.

Project Travel Characteristics

The proposed project would generate approximately 266 AM peak hour and 276 PM peak hour gross trips. About 22% and 36% of these trips would be pass-by during the AM and PM peak hours, respectively, meaning they are not new trips added to the surrounding roadways, but rather existing trips on Leisure Lane that enter/exit the site. After accounting for pass-by trips, the proposed project would generate approximately 206 AM peak hour and 176 PM peak hour new vehicle trips. A significant proportion of new trips would be diverted from SR 160 given the considerable level of traffic on that adjacent facility and the ease of accessing the project site.

Vehicle Miles Traveled

The proposed project would generate a negligible amount of new VMT based on the proposed uses, the types of trips generated, and the project's location. Because the project would not generate a substantial amount of new VMT, impacts related to VMT are considered less than significant.

Baseline Plus Project Conditions

The project would cause minor increases in vehicle delay at the study intersections but would not cause any intersection LOS to degrade below LOS C. Based on City of Sacramento General Plan Policy M 1.2.2, LOS D or better conditions is considered the operating objective for the study intersections. Microsimulation showed that maximum queues for critical movements would increase by 50 feet or less compared to baseline conditions and would not cause spill back to the SR 160 mainline. Because the project would exacerbate vehicle queues, it is recommended that the signal be retimed at the Leisure Lane/SR 160 Eastbound Ramps/Exposition Boulevard intersection.

The peak hour and four-hour signal warrants (as described in the *California Manual on Uniform Traffic Control Devices,* Caltrans, 2014) were evaluated at the Leisure Lane/Slobe Avenue/Expo Parkway/Canterbury Road intersection. The warrants were not met for existing, baseline, or baseline plus project conditions. All-way stop control is therefore recommended to remain.

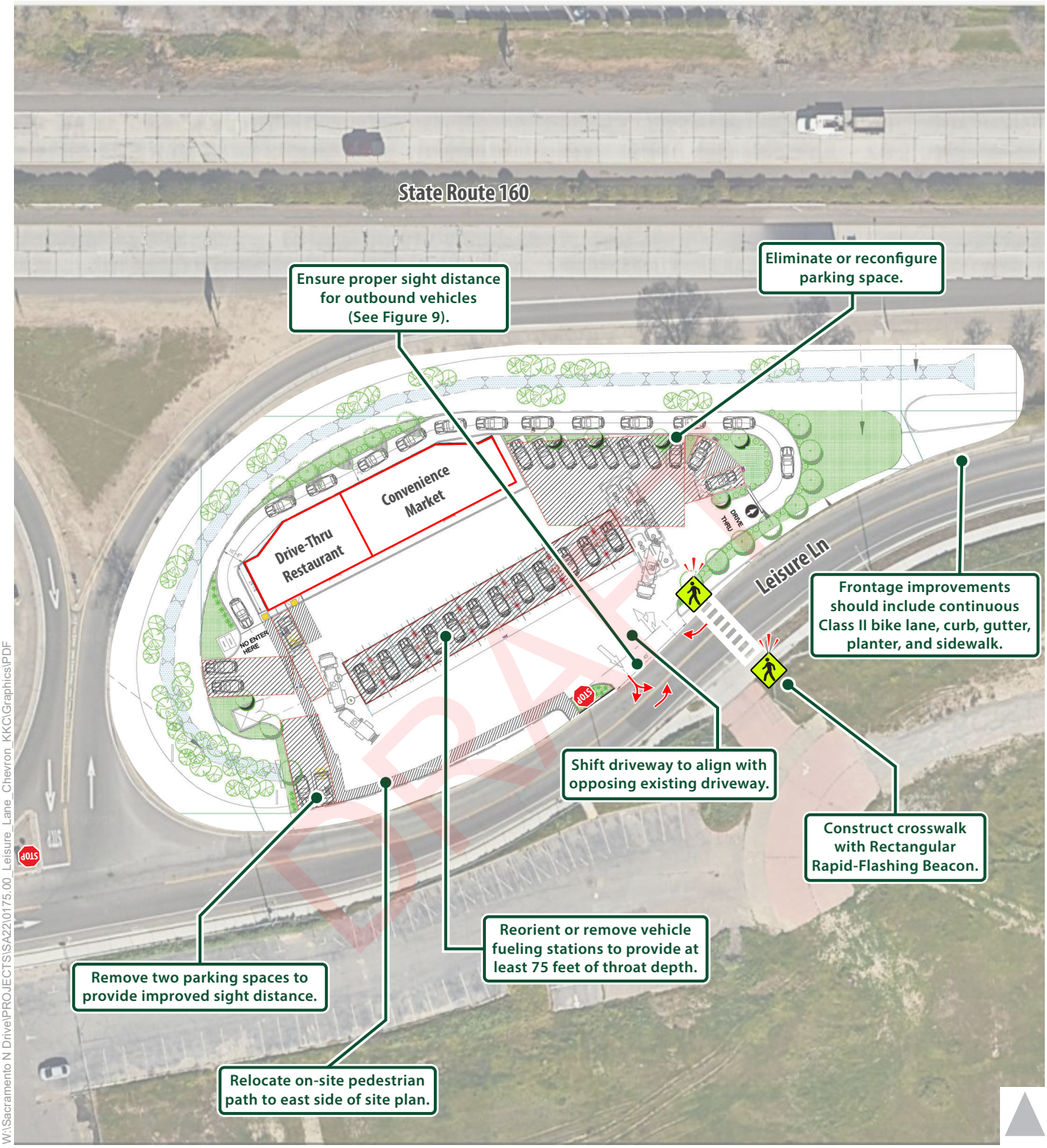
Project Access and On-Site Circulation

City of Sacramento *Street Design Standards* (2009) were compared to the project site plan for consistency. The project was found to be consistent in 4 topical areas and inconsistent in 4 other areas. Recommendations are made in Section 5.3 (also summarized below) to achieve consistency.

Recommended improvements include the following (See Table 10 for additional details):

- Pay fair share cost of signal retiming at the Leisure Lane/SR 160 Eastbound Ramps/Exposition Boulevard intersection;
- Construct frontage improvements consistent with a minor collector (i.e., a continuous Class II bike lane, curb, gutter, planter, and sidewalk);
- Shift the project driveway approximately 25 feet to the east to align with the existing driveway south of Leisure Lane.
- Ensure adequate sight distance is provided for vehicles exiting the relocated project driveway (see Figure 9). This includes removing/relocating two parking spaces and a monument sign in the southwest corner of the project site to be outside the line of sight;
- Construct a crosswalk across Leisure Lane (with Rectangular Rapid-Flashing Beacon) immediately east of the project driveway;
- Revise the site plan to reorient and/or remove vehicle fueling stations, thereby resulting in at least 75 feet of throat depth for outbound traffic;
- Relocate the on-site pedestrian path to begin at Leisure Lane east of the project driveway (at Leisure Lane crosswalk) and extend into the site to provide pedestrian access to the buildings; and
- Eliminate or reconfigure the specified parking space in Figure ES-1.

Figure ES-1 illustrates the study recommendations at or near the project site.



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Permitted Movement

Stop Sign

Rectangular Rapid-Flashing Beacon

Figure ES-1

Recommendations

1. Introduction

1.1 Purpose

This study analyzes transportation operations associated with development of a proposed Chevron gas station, convenience market, and Krispy Krunchy Chicken fast-food restaurant, to be located in the northeast quadrant of the Leisure Lane/State Route (SR) 160 Eastbound Ramps intersection in the City of Sacramento. This study describes existing conditions, analyzes the project's expected travel characteristics, reviews how the project would affect travel conditions near the site vicinity, and recommends improvements to better accommodate all modes of travel and on-site circulation.

1.2 Project Description

According to the project site plan (*Leisure Ln. Expo Parkway*, Boulevard Construction, July 2022), the proposed project would consist of the following land uses:

- Chevron gas station with 12 vehicle fueling positions (passenger vehicles/SUVs/small trucks) and a 2,280 square foot convenience market
- 1,650 square foot Krispy Krunchy Chicken restaurant with drive-through lane; the restaurant building would be attached to the convenience market
- 14 parking stalls (excluding vehicle fueling pump parking)

Access to the project would be provided by one 45 foot wide, full-access driveway located approximately 320 feet east of the Leisure Lane/SR 160 Eastbound Ramps intersection (center line to center line). This driveway would be opposite, though slightly offset from, an existing driveway on the south side of Leisure Lane. The area south of the project site is approved for a development that will include retail, hotel, and residential uses. Consideration of nearby approved developments is addressed in Chapters 3 and 4.

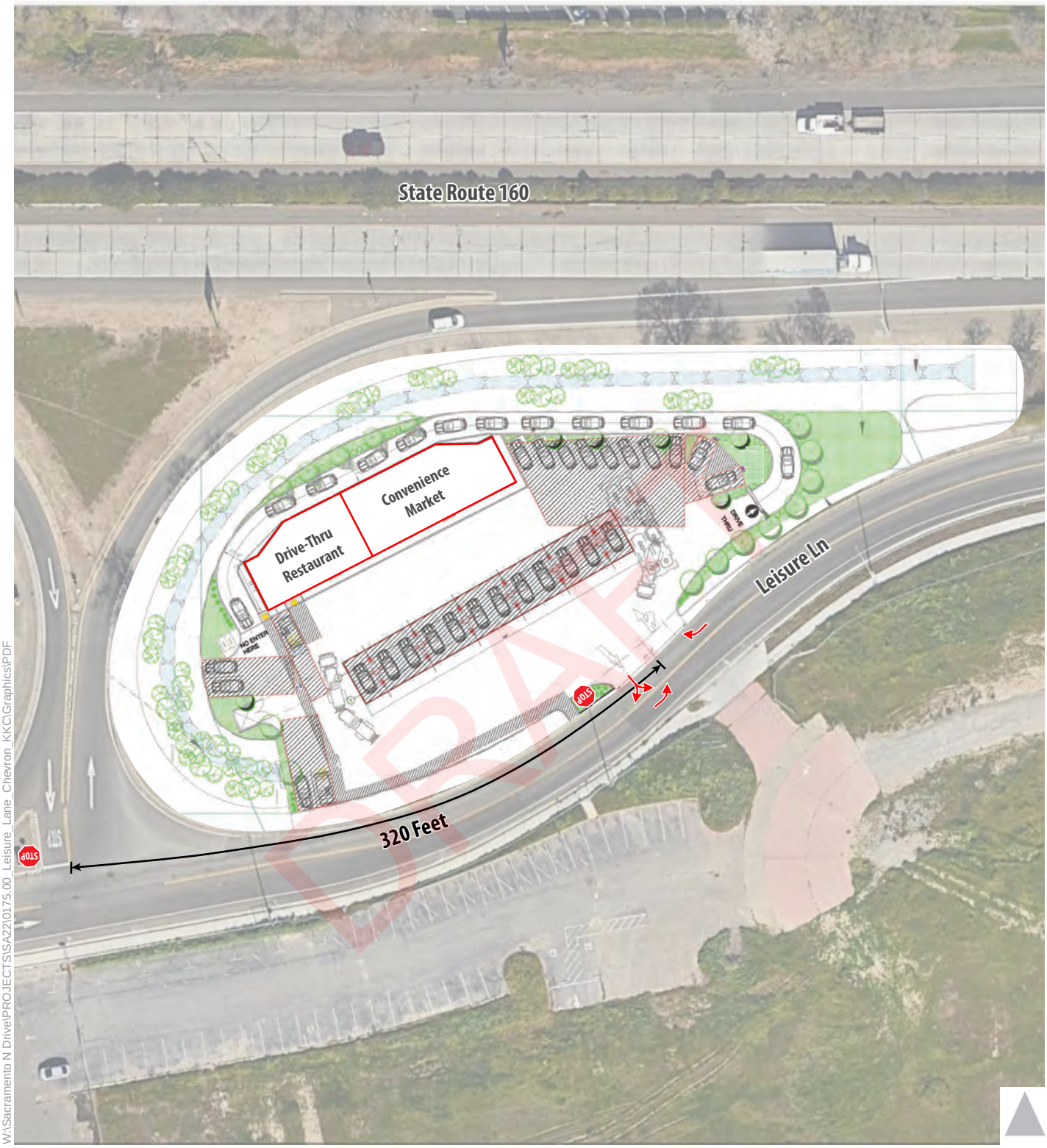
Refer to **Figure 1** for the project site plan.

1.3 Study Intersections and Time Periods

Through coordination with City of Sacramento staff, it was determined that the following study intersections should be analyzed for weekday AM and PM peak hour conditions:

1. Expo Parkway/Canterbury Road/Slobe Avenue/Leisure Lane (#1)
2. SR 160 Eastbound Ramps/Leisure Lane (#2)
3. SR 160 Eastbound Ramps/Exposition Boulevard (#3)
4. Expo Parkway/Exposition Boulevard (#4)

Operations are also evaluated at the project driveway on Leisure Lane (#5).



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Permitted Movement

Stop Sign

Figure 1

Project Site Plan

1.4 Analysis Scenarios

The following scenarios are analyzed in this study:

- **Existing Conditions** – represents October 2022 conditions.
- **Baseline Conditions** – represents existing conditions with the addition of vehicle trips generated by approved projects in the study area vicinity. This is the baseline condition upon which project effects are evaluated.
- **Baseline Plus Project Conditions** – represents changes in travel conditions from baseline conditions associated with implementation of the proposed project.

1.5 Analysis Methodology

This study uses the SimTraffic microsimulation software to analyze traffic operations (i.e., delay, level of service, and queuing) at the study intersections. SimTraffic considers the effects of lane utilization, heavy vehicle composition, turn pocket storage lengths, upstream/downstream queue spillbacks, and coordinated signal timings on intersection queuing and delays. Reported results are based on an average of 10 runs. The following procedures and assumptions were applied in the development of the SimTraffic model:

- Roadway geometric data were gathered using aerial photographs and field observations.
- Peak hour traffic volumes were entered into the model according to the peak hour of the study area.
- The peak hour factor (PHF) was set at 1.0 in accordance with City of Sacramento Traffic Impact Study Guidelines.
- Counted pedestrian and bicycle volumes were entered into the model according to peak hour measurements.
- Signal phasing and timings were based on existing signal timing plans provided by the City of Sacramento and field observations.
- Roadway speeds for the model network were based on posted speed limits.

1.6 Regulatory Setting

On March 3, 2015, the Sacramento City Council adopted the *2035 General Plan*. The Mobility Element of the City of Sacramento's *2035 General Plan* outlines goals and policies that coordinate the transportation and circulation system with planned land uses. The following LOS policy is relevant to this study:

> *Policy M 1.2.2 The City shall implement a flexible context-sensitive Level of Service (LOS) standard, and will measure traffic operations against the vehicle LOS thresholds established in this policy. The City will measure vehicle LOS based on the methodology contained in the latest version of the Highway Capacity Manual (HCM) published by the Transportation Research Board. The City's specific vehicle LOS thresholds have been defined based on community values with respect to modal priorities, land use context, economic*

development, and environmental resources and constraints. As such, the City has established variable LOS thresholds appropriate for the unique characteristics of the City's diverse neighborhoods and communities. The City will strive to operate the roadway network at LOS D or better for vehicles during typical weekday conditions including AM and PM peak hour with certain exceptions mapped on Figure M1 (and listed in the General Plan document).

A. Core Area (Central City Community Plan Area) – LOS F allowed

B. Priority Investment Areas – LOS F allowed

C. LOS E Roadways (11 distinct segments listed). LOS E is also allowed on all roadway segments and associated intersections located within ½ mile walking distance of light rail stations.

D. LOS F roadways (24 distinct segments listed)

E. If maintaining the above LOS standards would, in the City's judgment, be infeasible and/or conflict with the achievement of other goals, LOS E or F conditions may be accepted provided that provisions are made to improve the overall system, promote non-vehicular transportation and/or implement vehicle trip reduction measures as part of a development project or a city-initiated project. Additionally, the City shall not expand the physical capacity of the planned roadway network to accommodate a project beyond that identified in Figure M4 and M4a (2035 General Plan Roadway Classification and Lanes).

None of the roadways in the study area are included in the list of exceptions. Thus, in accordance with General Plan Policy M 1.2.2, LOS D is considered the operating objective for this study.

2. Existing Conditions

This chapter describes the existing physical and operational characteristics of the transportation system within the study area including the roadway, bicycle, pedestrian, and transit components of the system.

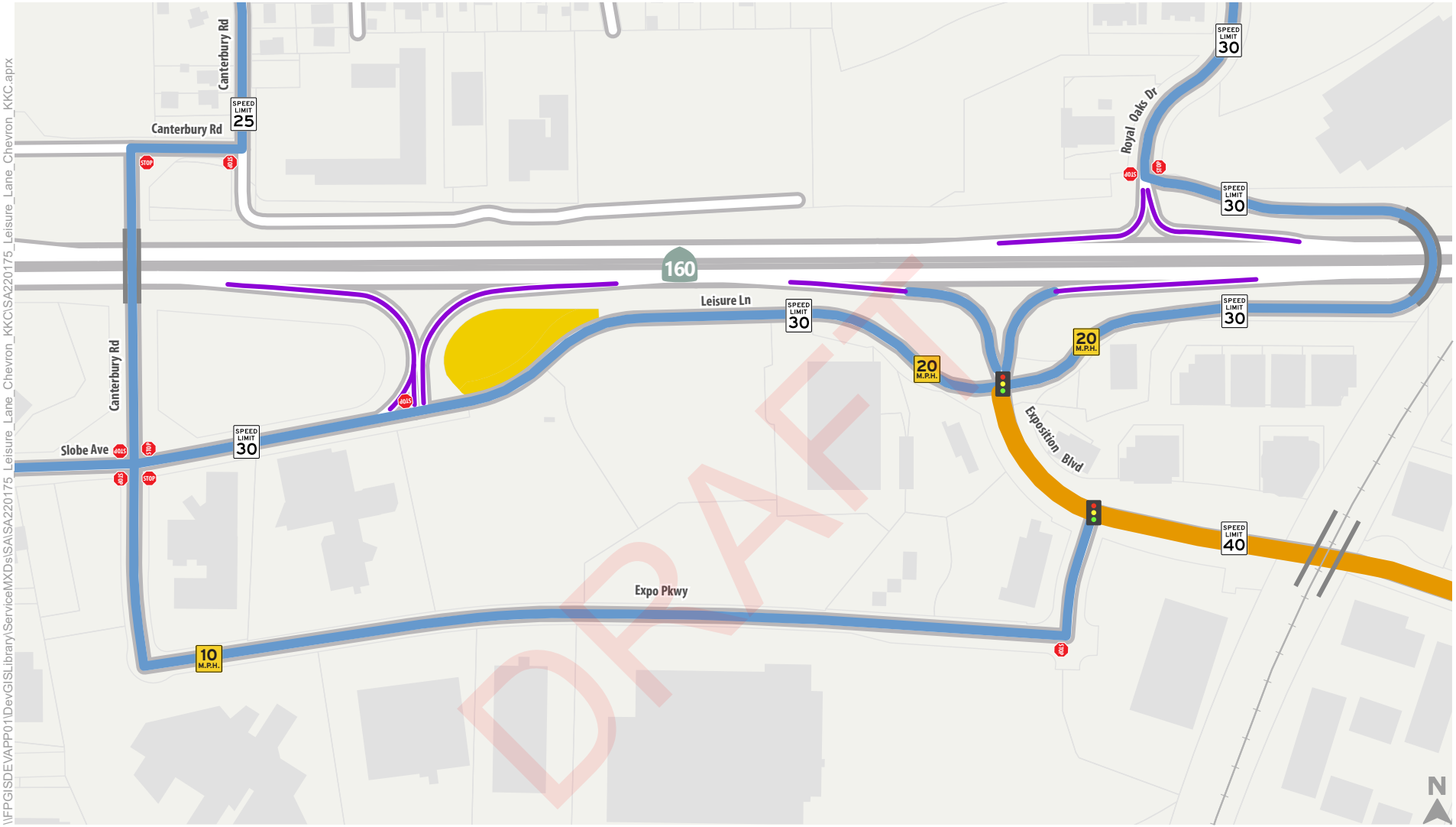
2.1 Roadway System

The project site is situated on the north side of Leisure Lane between two State Route (SR) 160 Eastbound ramp terminal intersections. **Figure 2** shows the study area roadway network. Key streets are described below:

- **SR 160** is a four-lane east/west freeway extending from the American River crossing at N. 12th Street/N. 16th Street to I-80 Business (Capital City Freeway) at Arden Way. As shown in Figure 2, SR 160 has two eastbound and two westbound ramp terminal intersections within a ¾ mile stretch in the study area.
- **Leisure Lane** is a two-lane east-west street that begins at Canterbury Road, extends easterly through the study area, and crosses over SR 160 before terminating at Royal Oaks Drive. It provides access to the two Eastbound SR 160 on/off-ramps and to one Westbound SR 160 on/off-ramp (at Royal Oaks Drive). Leisure Lane has a posted speed limit of 30 miles per hour (MPH) near the project site.
- **Exposition Boulevard** is an east-west arterial that begins at the SR 160 Eastbound Ramps/Exposition Boulevard/Leisure Lane (#3) intersection and extends easterly until it becomes Arden Way. In the study area, Exposition Boulevard is a four-lane arterial with a raised median and posted speed limit of 40 MPH.
- **Canterbury Road** is a two-lane north-south local road that begins north of SR 160 at Arden Way and reaches its terminus at the Leisure Lane/Slobe Avenue/Expo Parkway/Canterbury Road (#1) intersection. It provides access to the SR 160 Westbound Ramps on the west end of the study area.
- **Expo Parkway** is a two-lane local road that serves medical, residential, and retail land uses between Leisure Lane/Slobe Avenue and Exposition Boulevard.

The City of Sacramento has established City-designated truck routes as well as Surface Transportation Assistance Act (STAA) truck routes throughout the City.[1] STAA routes allow large trucks (longer than California legal trucks) to operate on the interstate freeway system. According to the City's website, SR 160 is designated as an STAA route and Canterbury Road north of the SR 160 Westbound ramps is designated as a "weight restricted route." Signs are posted near each end of Canterbury Road prohibiting truck travel.

[1] https://www.cityofsacramento.org/Public-Works/Transportation/Traffic-Data-Maps



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Project Site

10 M.P.H. Advisory Speed Limit

SPEED LIMIT 30 Regulatory Speed Limit

Number of Lanes

One

Two

Four

Figure 2

Existing Roadway Network

2.2 Bicycle and Pedestrian System

Figure 3 displays the existing bicycle and pedestrian facilities in the study area. This data is derived from aerial imagery and field observations. As shown, Class II bike lanes are present on Exposition Boulevard, as well as a portion of the south side of Leisure Lane (though it is noted that markings and signage are not present). Within the study area, sidewalks are generally continuous on the south side of Leisure Lane and Slobe Avenue, as well as both sides of Exposition Boulevard and Expo Parkway. Sidewalks are not present on the north side of Leisure Lane between the two SR 160 Eastbound ramps. Only one Leisure Lane intersection (SR 160 Eastbound Ramps/Exposition Boulevard on the south leg) features a marked crosswalk. There are no existing bicycle or pedestrian facilities on the project frontage.

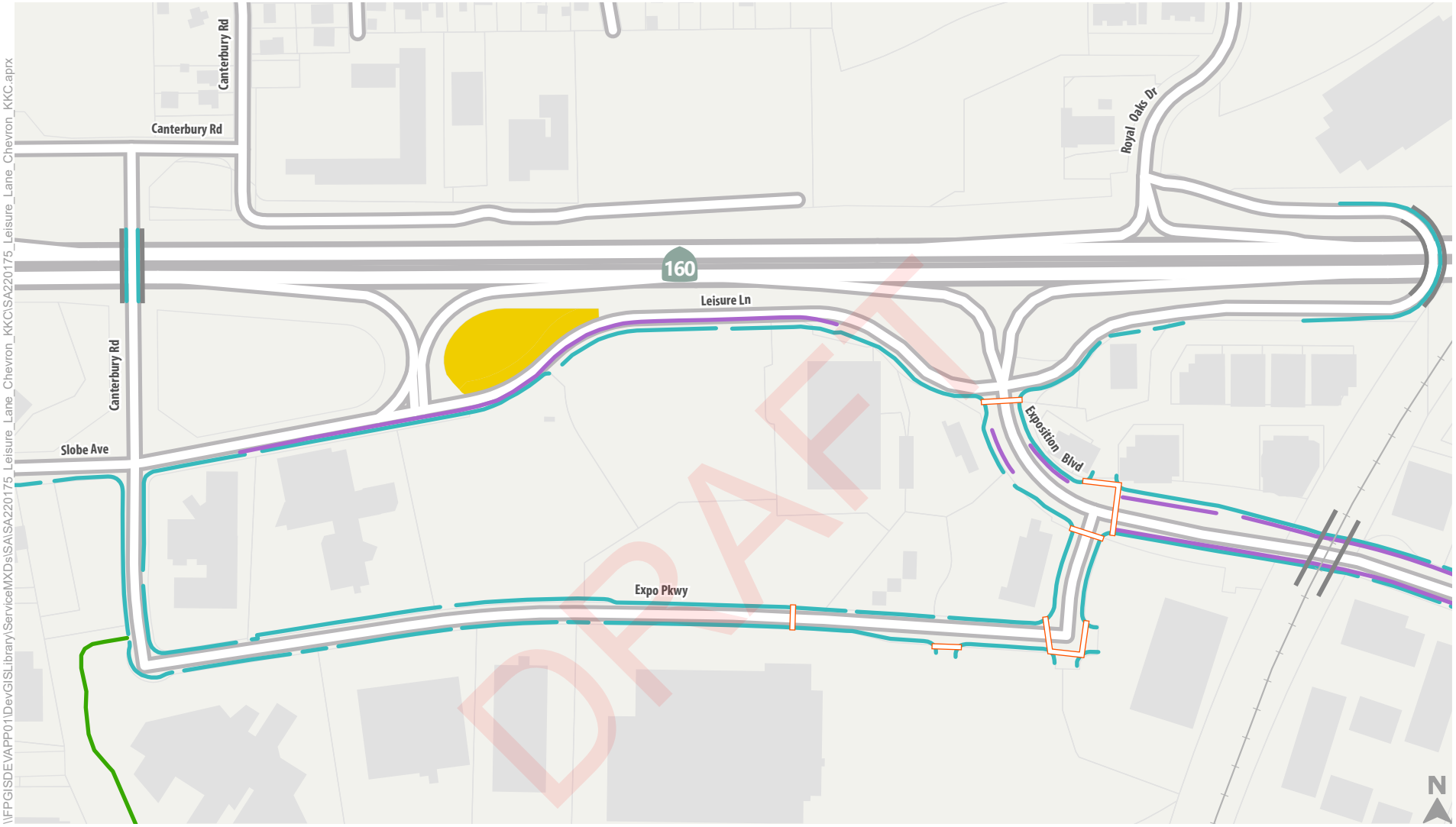
2.3 Transit System

There are no transit facilities or services within the immediate project vicinity. Sacramento Regional Transit (SacRT) operates Routes 13 and 23 along Arden Way, as well as the Arden/Del Paso and Royal Oaks light rail stations, which are all approximately 0.8 miles away from the project site. Routes 67 and 68 have stops on Exposition Boulevard; however, the nearest stop is approximately 1 mile away, east of I-80 Business.

2.4 Traffic Volumes

Fehr & Peers collected AM and PM peak period traffic counts at the study intersections on Tuesday, October 25, 2022. The system peak hours occurred from 7:45 to 8:45 AM and 4:30 to 5:30 PM. The counts included passenger vehicles/SUVs, heavy vehicles, bicyclists, and pedestrians. Trucks represented about 3% of total traffic at study intersections during the morning peak hour and 1% during the evening peak hour. Pedestrian and bicycle activity was low (i.e., 3 or less pedestrian crossings per hour and 3 or less bicycles per hour), except at the Leisure Lane/Slobe Avenue/Expo Parkway/Canterbury Road (#1) intersection, which experienced 4 pedestrians in the PM peak hour and 11 bicyclists in the AM peak hour. At the time of the counts, weather conditions were dry and schools were in session.

Figure 4 displays the existing weekday AM and PM peak hour traffic volumes, lane configurations, and traffic controls at the study intersections.



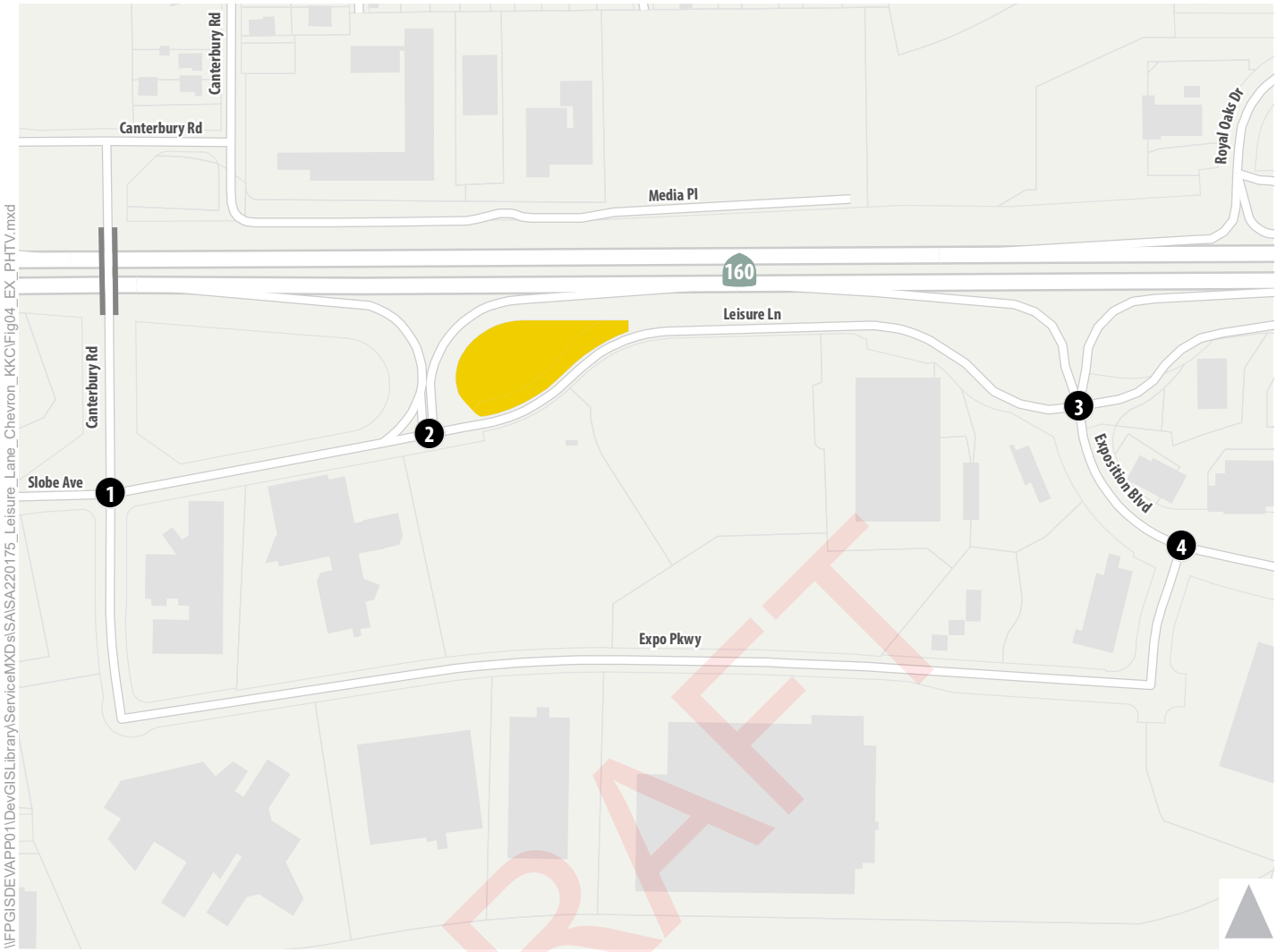
Bike Facilities
- Class I Bike Path
- Class II Bike Lane

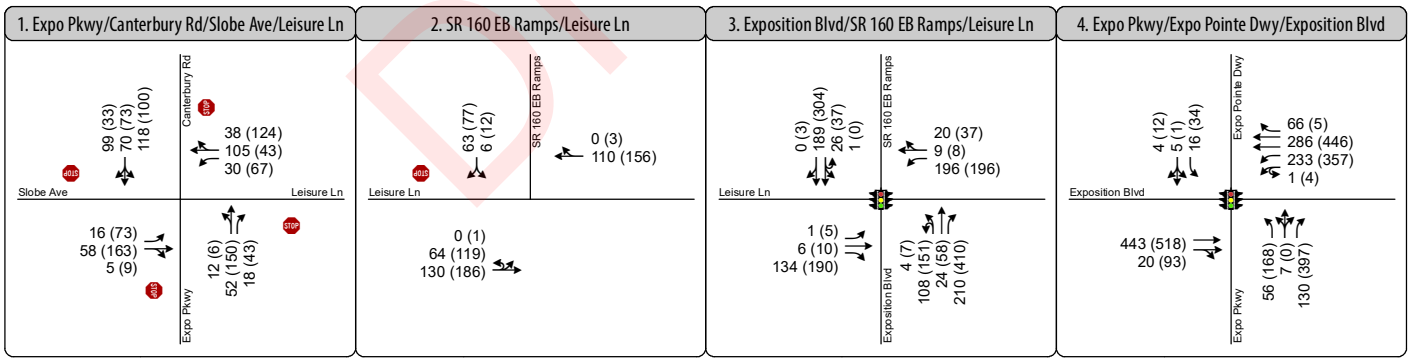
- Sidewalk
- Marked Crosswalk
- Project Site

Figure 3

Note: Only showing bicycle and pedestrian facilities south of State Route 160.

Existing Bicycle and Pedestrian Facilities





1 Study Intersection

Project Site

Turn Lane

AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

Figure 4

Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

2.5 Intersection Operations

Queue spillbacks at both SR 160 Eastbound off-ramps was studied in detail given the following:

- The SR 160 Eastbound off-ramp approach at the Leisure Lane/SR 160 Eastbound Ramps (#2) intersection is side-street stop-controlled (see **Image 1**)
- The Leisure Lane/Exposition Boulevard/SR 160 Eastbound Ramps (#3) intersection operates with northbound/southbound split phasing. Split phasing is typically associated with greater intersection cycle length and delay. This intersection is also proximate to the signalized Exposition Boulevard/Expo Parkway (#4) intersection, which serves retail uses anchored by Costco. Consistent with signal timing data received from the City, field observations confirmed that these two intersections are not coordinated.
- Fehr & Peers staff observed that eastbound Exposition Boulevard vehicle queues at Expo Parkway (i.e., the eastbound queue at #4) spilled back to the Exposition Boulevard/Leisure Lane/SR 160 Eastbound Ramps (#3) intersection several times during both AM and PM peak hours (see **Image 2**). The spillback occurred in the outside (through/right-turn) lane and was more frequent during the PM peak hour.

The data collection effort on Tuesday, October 25, 2022, included observations of maximum vehicle queues for selected movements. These are shown in **Table 1**. As shown, vehicles at the SR 160 off-ramps at Intersections 2 and 3 (i.e., the southbound approaches) do not spill back to the freeway mainline during peak hours. The only movement shown that exceeds available storage length is the westbound left at the Leisure Lane/SR 160 Eastbound Ramps/Exposition Boulevard (#3) intersection, where a PM peak hour queue of 10 vehicles spills out of the turn pocket. As described below, this queue is not caused by queue spillback from the Exposition Boulevard/Expo Parkway (#4) intersection.

As Image 2 shows, eastbound Exposition Boulevard vehicles at Expo Parkway filled the distance between Intersections 3 and 4 (on the outside lane), and this occurred during both peak hours. However, on the day of the counts, this vehicle queue spillback was observed to not affect operations on Leisure Lane or the SR 160 Eastbound off-ramp. Supplemental observations conducted on December 7, 2022, confirmed that queue spill back between Intersections 3 and 4 occurs several times during the PM peak hour, but no southbound through or westbound left-turn vehicles at Intersection 3 were forced to wait an additional cycle to complete their movements. During one observed cycle, three vehicles taking a right turn from eastbound Leisure Lane were forced to wait until the queue cleared before completing their turn onto southbound Exposition Boulevard. In general, the entire eastbound queue at Intersection 4 dissipates with every signal cycle.

Image 1: View of the southbound off-ramp at the Leisure Lane/SR 160 Eastbound Ramps (#2) intersection.

Image 2: View of the Exposition Boulevard eastbound queue extending back from Expo Parkway (i.e., from Intersection 4) toward Intersection 3.

Table 1: Observed Maximum Vehicle Queues - Existing Conditions

Intersection	Movement	Available Storage[1]	Maximum Queue[2]	
			AM Peak Hour	PM Peak Hour
2. Leisure Lane / SR 160 Eastbound Ramps	Southbound Left-Turn	560 ft	25 ft	25 ft
	Southbound Right-Turn	560 ft	50 ft	50 ft
3. Leisure Lane / Exposition Boulevard / SR 160 Eastbound Ramps	Northbound Left-Turn	210 ft	125 ft	200 ft
	Northbound Through	275 ft	50 ft	125 ft
	Northbound Right-Turn	275 ft	75 ft	150 ft
	Southbound Left-Turn/Through	290 ft	75 ft	100 ft
	Southbound Through/Right-Turn	390 ft	125 ft	200 ft
	Eastbound Left-Turn	100 ft	25 ft	25 ft
	Eastbound Through	>1,000 ft	50 ft	25 ft
	Eastbound Right-Turn	150 ft	50 ft	150 ft
	Westbound Left-Turn	190 ft	150 ft	**250 ft**
	Westbound Through/Right-Turn	>1,000 ft	25 ft	50 ft

Notes: **Bold** and underlined indicates exceedance of available storage length.
For above descriptions, Leisure Lane defined as east-west, SR 160 Eastbound ramps and Exposition Boulevard defined as north-south.

1. Defined as length of turn pocket, distance to upstream public street intersection, or distance to freeway diverge gore point.
2. Maximum queue calculated assuming 25 feet of storage per passenger vehicle. All reported values are on a "per lane" basis.
Source: Observations performed on Tuesday, October 25, 2022.

Settings within SimTraffic were calibrated to match (to the extent possible) the maximum queues shown in Table 1.[2] The following critical movements were compared:

Intersection	Movement	Observed	SimTraffic
2	Southbound Left (AM Peak Hour):	25 feet	50 feet
3	Southbound Through (AM Peak Hour):	125 feet	125 feet
3	Northbound Left (AM Peak Hour):	125 feet	150 feet
3	Westbound Left (AM Peak Hour):	150 feet	175 feet
2	Southbound Left (PM Peak Hour):	25 feet	50 feet
3	Southbound Through (PM Peak Hour):	200 feet	200 feet
3	Northbound Left (PM Peak Hour):	200 feet	175 feet
3	Westbound Left (PM Peak Hour):	250 feet	200 feet

[2] Perfect calibration is not possible due to random nature of actual arriving traffic (and the assumption of a 1.0 PHF in SimTraffic, versus the slightly more peaked condition in the field).

Table 2 displays the existing LOS and delay during the AM and PM peak hours at the study intersections. Technical calculations are provided in **Appendix A**. As shown, study intersections operate at LOS C or better during both peak hours.

Table 2: Peak Hour Intersection Level of Service - Existing Conditions

Intersection	Control	Average Delay[1]/LOS	
		AM Peak Hour	PM Peak Hour
1. Expo Parkway / Canterbury Road / Slobe Avenue / Leisure Lane	AWSC	7 / A	7 / A
2. Leisure Lane / SR 160 Eastbound Ramps	SSSC	2 (3) / A (A)	2 (6) / A (A)
3. Leisure Lane / Exposition Boulevard / SR 160 Eastbound Ramps	Signal	13 / B	15 / B
4. Exposition Boulevard / Expo Parkway	Signal	14 / B	23 / C

Notes: LOS = Level of Service. AWSC = All-Way Stop Control. SSSC = Side-Street Stop Control.
1. Intersection analyzed using SimTraffic microsimulation model. Average delay is reported for all approaches. For side-street stop-controlled intersections, delay and LOS for the worst movement are also reported (in parentheses). All results are rounded to the nearest second.
Source: Fehr & Peers, 2022.

3. Baseline Conditions

This chapter describes the development of the baseline conditions scenario, upon which project effects are evaluated.

3.1 Approved Projects

Based on discussions with City staff, a "baseline no project" conditions scenario was developed, which represents existing conditions with the addition of trips generated by two approved projects near the study area (see **Figure 5**). These projects are referenced by their corresponding traffic impact studies, described in more detail as follows:

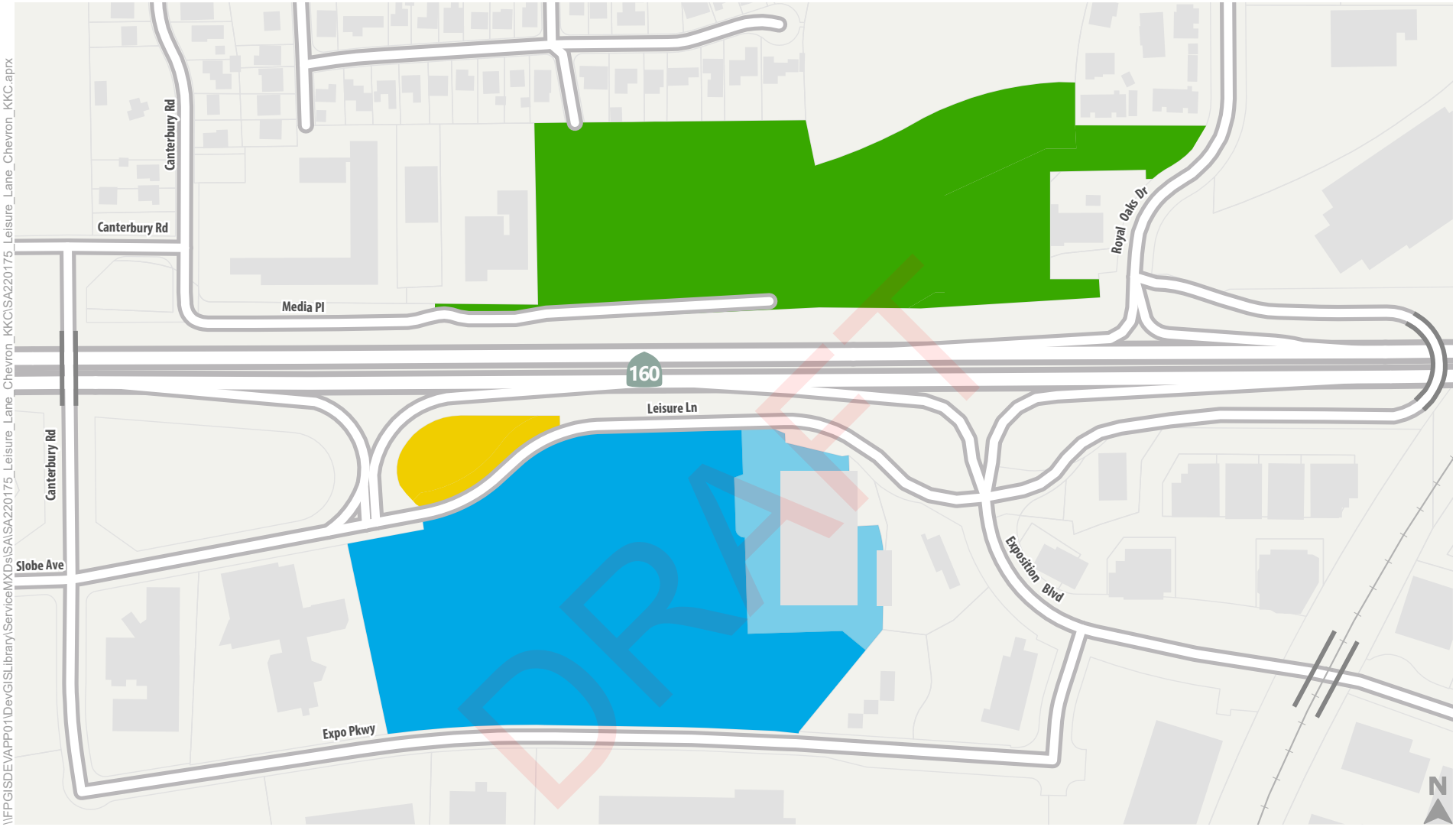
- *Self-Storage Sacramento Traffic Impact Study* (Kimley Horn, 2018) – includes four parcels south of Leisure Lane containing a self-storage facility, 170 units of senior housing, 120-room hotel, and a 50,000 square-foot shopping center. The self-storage facility (CubeSmart) was recently constructed.
- *Media Place Traffic Impact Analysis* (DKS Associates, 2021) – includes two residential developments north of SR 160, adjacent to Media Place and the Royal Oaks Drive/Leisure Lane intersection. These approved developments include a combined 280 units of mid-rise multi-family housing.

The travel characteristics (i.e., trip generation and trip distribution) from the above traffic studies were used to determine the assignment of trips generated by the two approved projects (excluding the self-storage facility, as those trips would already be captured by the October 2022 data collection). The trips were assigned to the roadway network and layered on top of existing conditions traffic volumes to determine baseline conditions volumes. **Figure 6** displays the traffic volumes under baseline conditions.

3.2 Intersection Operations

Table 3 displays the LOS and delay during the AM and PM peak hours at the study intersections under baseline conditions (technical calculations are provided in **Appendix A**). As shown, average delay increased by up to four seconds at each intersection compared to existing conditions. All study intersections would continue to operate at LOS C or better under baseline conditions.

Baseline conditions would add an average of 40 vehicles per intersection approach during the AM and PM peak hours, which equates to about 1 additional vehicle every 90 seconds. As a result, vehicle queues increased mildly compared to existing conditions. **Table 4** shows the westbound and northbound left-turn queues at Leisure Lane/Exposition Boulevard/SR 160 Eastbound Ramps (#3) exceed available storage under baseline conditions, while the SR 160 Eastbound off-ramp queues continue to be contained within available storage. As in existing conditions, queue spillback on eastbound Exposition Boulevard at Expo Parkway did not appreciably affect upstream operations.



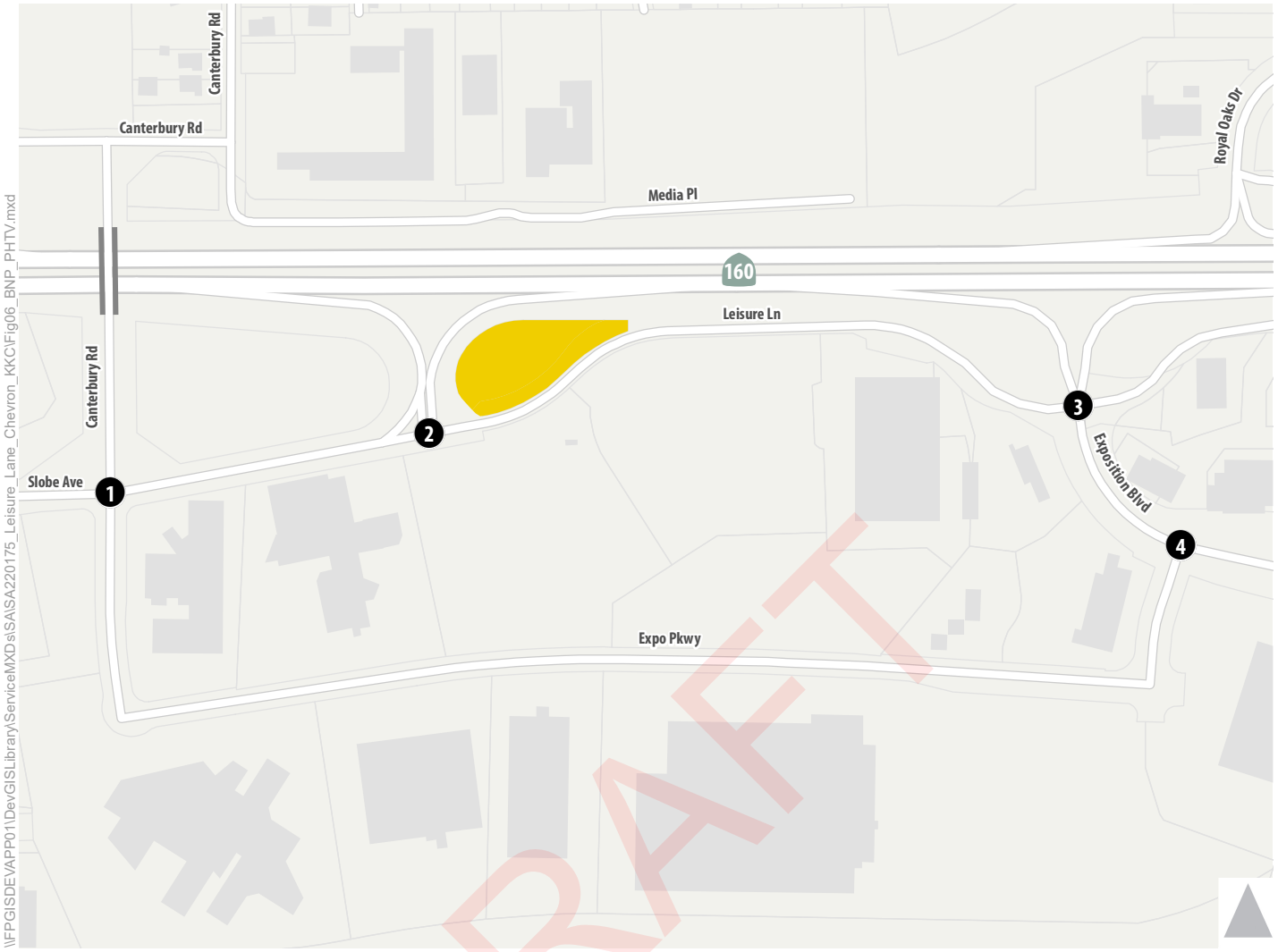
Project Site

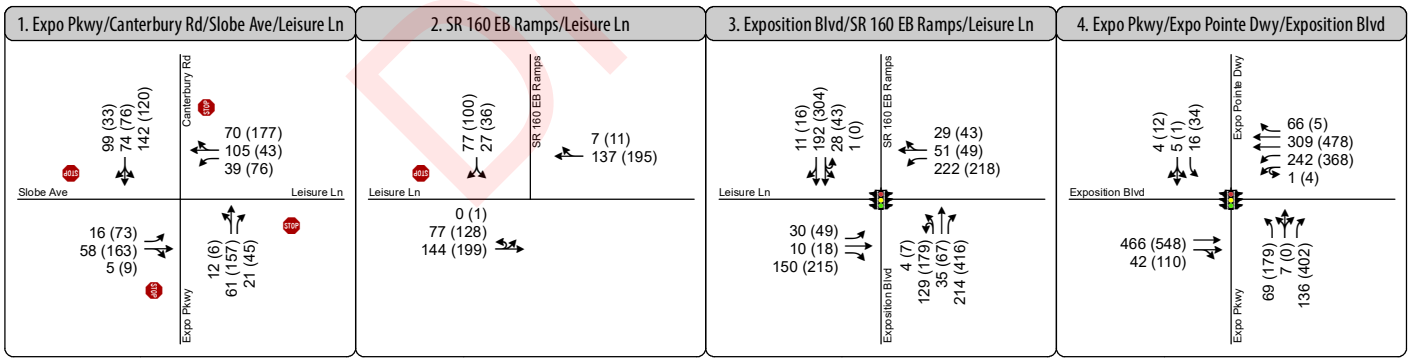
Approved Projects

- Media Place Multi-Family Housing Development
- CubeSmart Storage (Developed)
- BLR Appartments, LLC Development: Senior Housing, Hotel, and Shopping Center

Figure 5

Approved Projects





1 Study Intersection

Project Site

Turn Lane

AM (PM) Peak Hour Traffic Volume

Traffic Signal

Stop Sign

Figure 6

Peak Hour Traffic Volumes and Lane Configurations - Baseline No Project Conditions

Table 3: Peak Hour Intersection Level of Service - Baseline Conditions

Intersection	Control	Average Delay[1]/LOS	
		AM Peak Hour	PM Peak Hour
1. Expo Parkway / Canterbury Road / Slobe Avenue / Leisure Lane	AWSC	7 / A	8 / A
2. Leisure Lane / SR 160 Eastbound Ramps	SSSC	2 (7) / A (A)	3 (7) / A (A)
3. Leisure Lane / Exposition Boulevard / SR 160 Eastbound Ramps	Signal	15 / B	17 / B
4. Exposition Boulevard / Expo Parkway	Signal	14 / B	25 / C

Notes: LOS = Level of Service. AWSC = All-Way Stop Control. SSSC = Side-Street Stop Control.
1. Intersection analyzed using SimTraffic microsimulation model. Average delay is reported for all approaches. For side-street stop-controlled intersections, delay for the worst movement is also reported (in parentheses). All results are rounded to the nearest second.
Source: Fehr & Peers, 2022.

Table 4: Peak Hour Maximum Vehicle Queues – Baseline Conditions

Intersection	Movement	Available Storage[1]	Maximum Queue[2]			
			Baseline Conditions		Increase from Existing	
			AM	PM	AM	PM
2. Leisure Lane / SR 160 Eastbound Ramps	Southbound Left-Turn	560 ft	50 ft	50 ft	+25 ft	+25 ft
	Southbound Right-Turn	560 ft	75 ft	75 ft	+25 ft	+25 ft
3. Leisure Lane / Exposition Boulevard / SR 160 Eastbound Ramps	Northbound Left-Turn	210 ft	125 ft	**225 ft**	-	+25 ft
	Northbound Through	275 ft	75 ft	125 ft	+25 ft	-
	Northbound Right-Turn	275 ft	100 ft	175 ft	+25 ft	+25 ft
	Southbound Left-Turn/Through	290 ft	75 ft	150 ft	-	+50 ft
	Southbound Through/Right-Turn	390 ft	150 ft	225 ft	+25 ft	+25 ft
	Eastbound Left-Turn	100 ft	75 ft	75 ft	+50 ft	+50 ft
	Eastbound Through	>1,000 ft	50 ft	75 ft	-	+50 ft
	Eastbound Right-Turn	150 ft	50 ft	150 ft	-	-
	Westbound Left-Turn	190 ft	**200 ft**	**275 ft**	+50 ft	+25 ft
	Westbound Through/Right-Turn	>1,000 ft	100 ft	150 ft	+75 ft	+100 ft

Notes: **Bold** indicates exceedance of available storage length.
1. Defined as length of turn pocket, distance to upstream public street intersection, or distance to freeway diverge gore point.
2. Increase in maximum queue determined by adding additional queue from the project (estimated by SimTraffic) to the baseline conditions maximum queue. All reported values are on a "per lane" basis.
Source: Fehr & Peers, 2022.

4. Baseline Plus Project Conditions

This chapter analyzes how the proposed project would affect transportation conditions in the study area.

4.1 Project Travel Characteristics

This section describes the project's expected travel characteristics including new and pass-by vehicle trips, and the directionality of those trips.

4.1.1 Trip Generation

Project trip generation estimates were calculated using trip rates from the *Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers, 2021). **Table 5** presents the project's daily, AM peak hour, and PM peak hour trip generation. Table 5 also shows expected pass-by traffic. A pass-by trip is made by a motorist who enters the site to purchase gas or food while en-route to a different primary destination. These trips are already present on Leisure Lane, though they would add trips to the project driveway. The *Trip Generation Manual* contains estimates as high as 76% pass-by for gas stations with 9 to 20 vehicle fueling positions. However, based on a review of peak hour and daily traffic data, the existing traffic volume on Leisure Lane would not support this level of pass-by activity (as it would require an unreasonably high proportion of travelers to pull into the project site). Consistent with standard industry practice, pass-by trips to the site were capped at 15% of the existing, adjacent street traffic flow. All remaining project trips (including diverted trips made by motorists already traveling on SR 160) are new trips and added to the study intersections and project driveway.

After accounting for pass-by trips, the project is expected to generate about 2,522 net new external vehicles on a weekday, with 206 vehicle trips during the AM peak hour, and 176 vehicle trips during the PM peak hour.

Table 5: Project Vehicle Trip Generation

ITE Land Use Category	ITE Code	Quantity	Daily			AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total	In	Out	Total
Convenience Store/Gas Station (2-4k GFA)[1]	945	12 VFP	1,375	1,375	2,750	96	96	192	111	111	222
Fast-Food Restaurant with Drive-Through Window[2]	934	1.65 KSF	386	386	772	38	36	74	28	26	54
Gross Project Trips			**1,761**	**1,761**	**3,522**	**134**	**132**	**266**	**139**	**137**	**276**
Pass-By Trips [3]			500	500	1,000	30	30	60	50	50	100
Net New External Project Trips			**1,261**	**1,261**	**2,522**	**104**	**102**	**206**	**89**	**87**	**176**

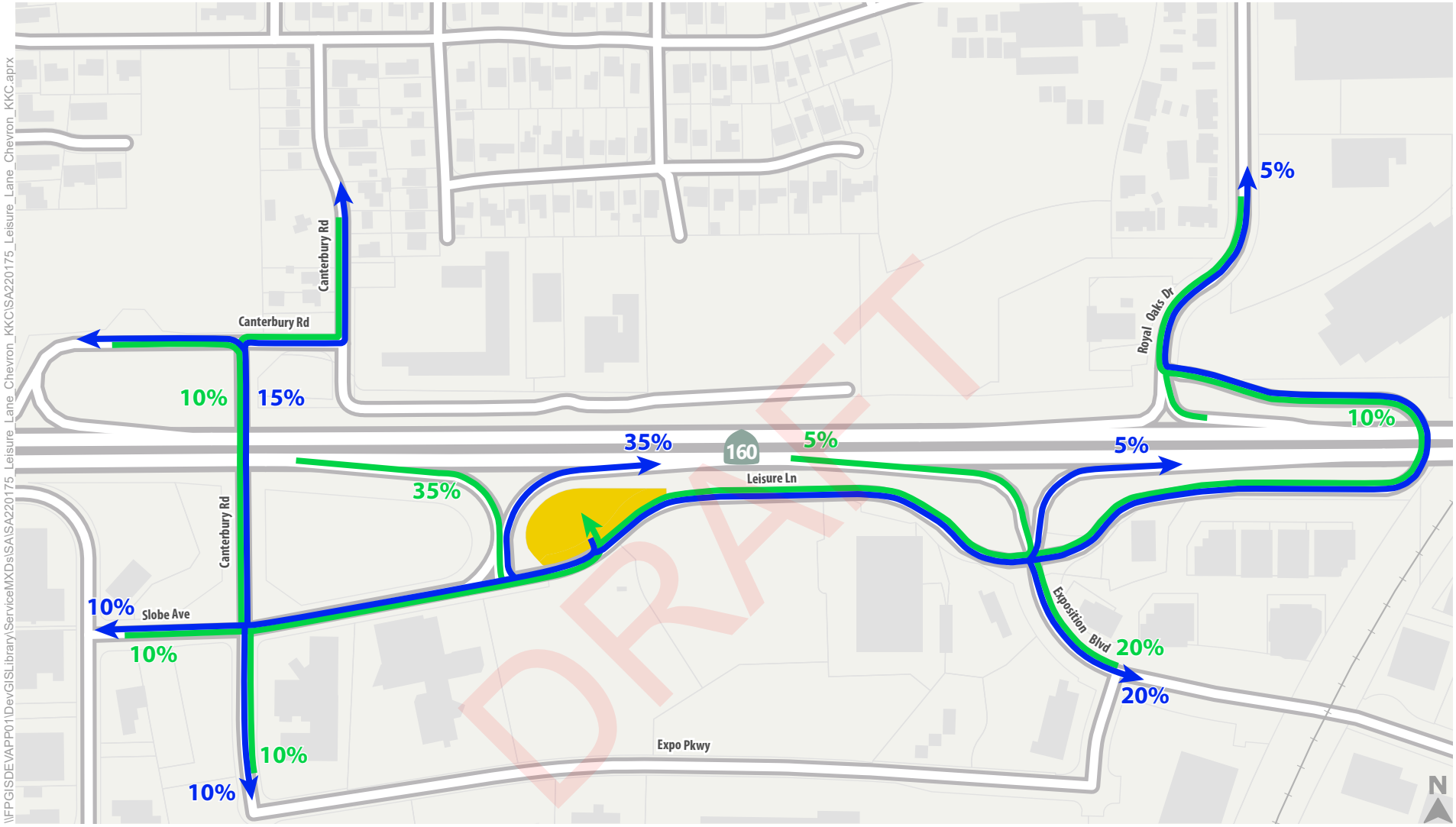
Notes: VFP = vehicle fueling position. KSF = thousand square feet.
[1] Daily trip generation derived from the fitted curve equation of the "Convenience Store/Gas Station" land use category. The AM and PM peak hour trip generation is derived from the weighted average trip rate.
[2] Trip generation derived from weighted average trip rate of the "Fast-Food Restaurant with Drive-Through Window" land use category.
[3] Refer to above text for discussion of pass-by reductions.
Source: *Trip Generation Manual, 11th Edition* (ITE, 2021); Fehr & Peers, 2022.

4.1.2 Vehicle Trip Distribution and Assignment

Based on a review of existing AM and PM peak hour turning movement volumes, the distribution of new project trips was estimated and is shown in **Figure 7**. The project site may be accessed by vehicles on a variety of roads in the study area, including diverted link trips from SR 160. The relative ease of accessing the project site for motorists on eastbound SR 160 (versus westbound SR 160) was considered in the development of trip distribution, as was the location of other Chevron gas stations. The *Trip Generation Manual* indicates that diverted link trips represent 20 to 30% of trips generated by gas stations and fast-food restaurants during peak hours. This, along with the ease of exiting and then re-entering eastbound SR 160, explains why 40% of new project trips are distributed to and from eastbound SR 160. As shown on Figure 7, the remaining trips are distributed across a variety of different roadways including westbound SR 160, Canterbury Road, Slobe Avenue, Expo Parkway, Leisure Lane, and Exposition Boulevard.

Pass-by trips generated by the project are assigned to the project driveway in proportion to adjacent traffic flows on Leisure Lane.

Project trips were assigned to study intersections in accordance with the project's trip generation estimate from Table 5 and trip distribution percentages in Figure 7. Project trips were then added to the baseline conditions volumes to yield the baseline plus project AM and PM peak hour intersection turning movement volume forecasts shown on **Figure 8**.



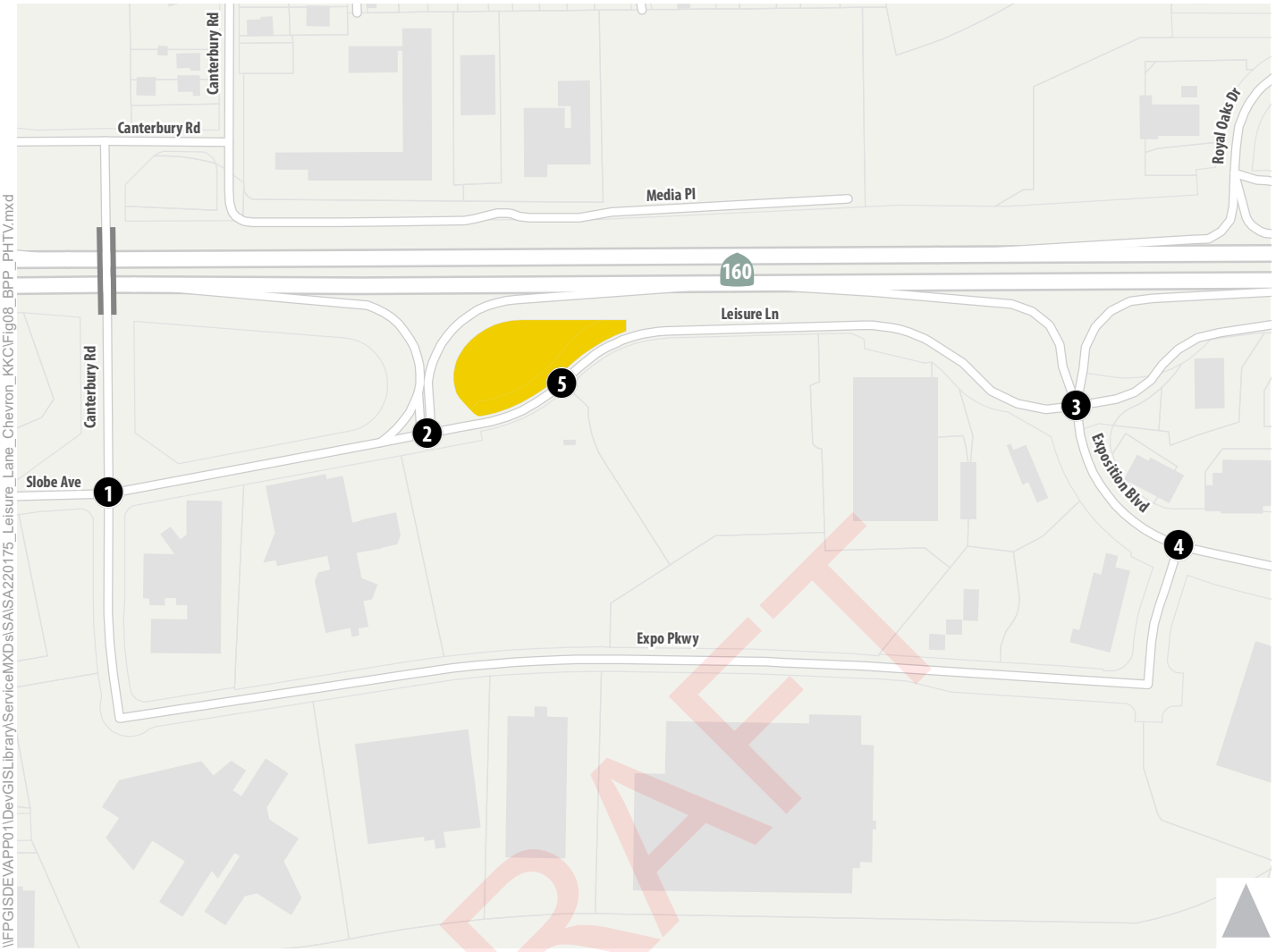
Project Site

Outbound Trip Distribution (%)

Inbound Trip Distribution (%)

Figure 7

Trip Distribution



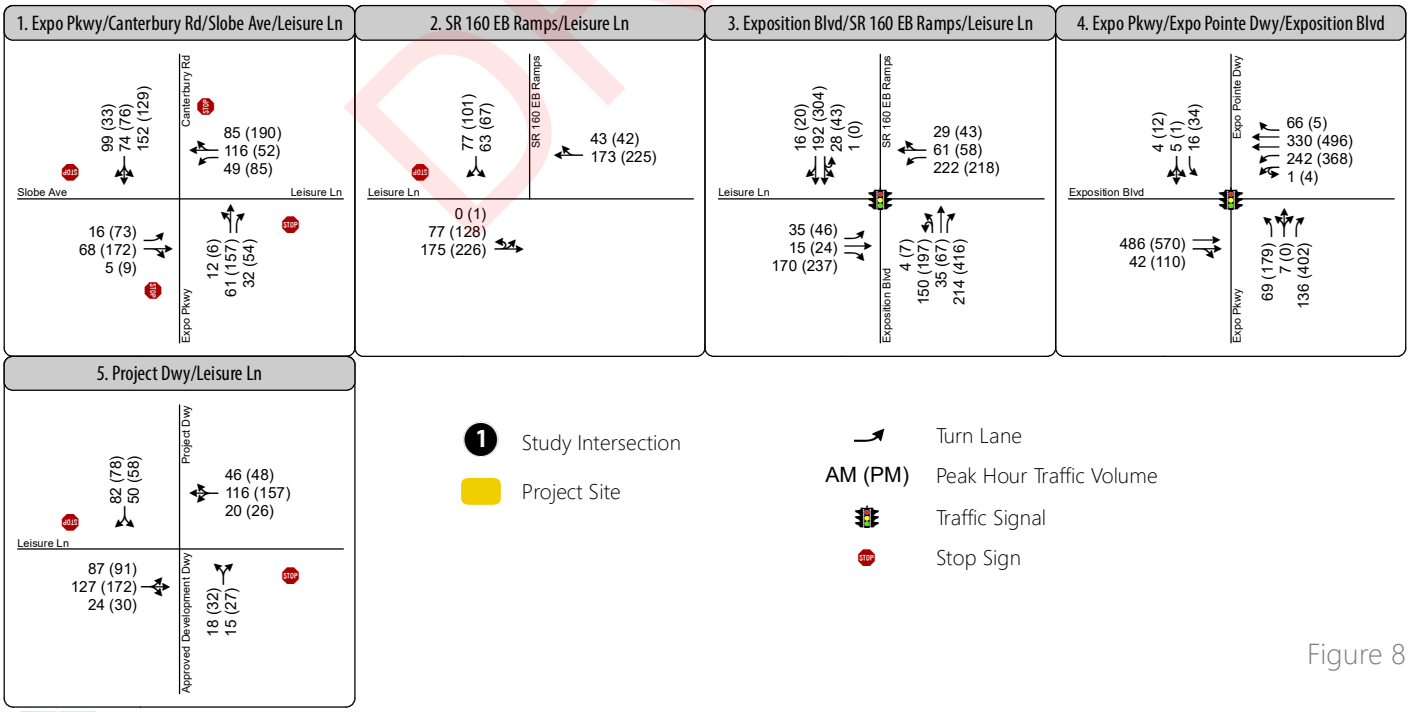


Figure 8

Peak Hour Traffic Volumes and Lane Configurations - Baseline Plus Project Conditions

4.2 Vehicle Miles Traveled (VMT)

The *Transportation Impact Analysis Guidelines* (City of Sacramento, 2020) recommend the use of "screening thresholds" to quickly determine whether a project may be presumed to have a less-than-significant VMT impact without conducting a detailed project generated VMT analysis. Screening can be used for "small projects" based on the definition and project sizes below:

- Absent substantial evidence indicating that a project would generate a potentially significant level of VMT or inconsistency with the regional Sustainable Communities Strategy (SCS) or inconsistency with the adopted General Plan, projects with up to 10 single unit homes, projects with up to 15 multiple unit homes, retail projects up to 50,000 cumulative square feet, light industrial projects up to 20,000 square feet, and office projects up to 10,000 square feet may be assumed to cause a less-than significant transportation impact.

Although far less than 50,000 square feet of building space is proposed on the project site, the project's trip generation is nevertheless considerable given the proposed uses. The *Transportation Impact Analysis Guidelines* (City of Sacramento, 2020) contains the following significance criteria for retail projects:

- Retail projects greater than 50,000 cumulative square feet that do not create a net increase in total VMT should be presumed to have a less than significant impact.

The proposed project would generate a negligible amount of new VMT. This conclusion is based on the following facts:

1. About 28% of trips generated by the project would be 'pass-by' from Leisure Lane. Pass-by traffic, by definition, does not generate VMT as the trip is already on the adjacent street.
2. Of the project trips that are net new (i.e., non-pass-by), a significant proportion will be 'diverted' from SR 160, which is a key commute corridor between downtown Sacramento and eastern Sacramento/Placer Counties. Each day, over 37,000 motorists travel the adjacent segment of SR 160 according to Caltrans. The project site is highly accessible for those motorists to divert off the freeway for gas or convenience market items. In fact, the project provides an "intervening opportunity", whereby a traveling motorist may instead choose to visit this site versus a different site located a greater distance away from SR 160 or the Capital City Freeway. These shifted trips would result in a net reduction in VMT.
3. There are six other Chevron gas stations and convenience markets already constructed within a 3-mile radius of the project site. Hence, the vast majority of new trips that are made to the site will be of short distance.

Therefore, because the project would not generate a substantial amount of new VMT, project impacts related to VMT are considered less than significant.

4.3 Intersection Operations

Table 6 displays the baseline plus project intersection LOS and delay during the AM and PM peak hours at the study intersections and project driveway. Technical calculations are provided in **Appendix A**. As discussed in Chapter 1, LOS D or better conditions is the operating objective for the study intersections. Table 6 indicates that the project would cause minor vehicle delay increases at study intersections and would not cause LOS to degrade below LOS C. This is likely due to the following three factors:

- The project site can be accessed by vehicles on a variety of roads in the study area (e.g., SR 160, Royal Oaks Drive, Canterbury Road, Exposition Boulevard, etc.), which spreads out the effect of project trips.
- The study intersections have reserve capacity, as they operate efficiently under existing and baseline conditions.
- Approximately 23% of AM peak hour trips and 36% of PM peak hour trips generated by the project would be pass-by, meaning they would not be adding vehicles to the surrounding network.

Table 6: Peak Hour Intersection Level of Service – Baseline Plus Project Conditions

Intersection	Control	Average Delay[1]/LOS			
		Baseline Conditions		Baseline Plus Project Conditions	
		AM	PM	AM	PM
1. Expo Parkway / Canterbury Road / Slobe Avenue / Leisure Lane	AWSC	7 / A	8 / A	8 / A	9 / A
2. Leisure Lane / SR 160 Eastbound Ramps	SSSC	2 (7) / A (A)	3 (7) / A (A)	3 (7) / A (A)	4 (9) / A (A)
3. Leisure Lane / Exposition Boulevard / SR 160 Eastbound Ramps	Signal	15 / B	17 / B	16 / B	19 / B
4. Exposition Boulevard / Expo Parkway	Signal	14 / B	25 / C	14 / B	25 / C
5. Leisure Lane/Project Driveway	SSSC	-	-	4 (9) / A (A)[2]	9 (15) / A (B)[2]

Notes: LOS = Level of Service. AWSC = All-Way Stop Control. SSSC = Side-Street Stop Control.
[1] Intersection analyzed using SimTraffic microsimulation model. Average delay is reported for all approaches. For side-street stop-controlled intersections, delay for the worst movement is also reported (in parentheses). All results are rounded to the nearest second.
[2] Worst-case movement is the project driveway approach to Leisure Lane.
Source: Fehr & Peers, 2022.

Table 7 displays the maximum expected queue lengths under baseline plus project conditions for critical turning movements at the study intersections. Vehicle queues increased 50 feet or less compared to baseline conditions for the movements shown. The project exacerbates the northbound left-turn queue at Intersection 3, which already exceeds available storage during the PM peak hour under baseline conditions. Since the project would increase the northbound left turn queue by 50 feet, it is recommended that the signal at this intersection be retimed. The project would be responsible for the fair share cost of signal retiming.

The eastbound Exposition Boulevard vehicle queues at Expo Parkway are marginally worse under baseline plus project conditions. As shown in **Image 3**, vehicles momentarily queue into the Leisure Lane/Exposition Boulevard/SR 160 Eastbound Ramps (#3) intersection. This type of intersection blockage rarely occurred in the microsimulation (i.e., one time or less on an average run) and did not impair operations at Intersection 3 beyond the cycle it occurred. Table 7 shows that off-ramp queuing at Intersection 3 is contained within available storage.

This table shows a maximum queue of four vehicles waiting to exit the project driveway during each peak hour. This occurs as a result of over 130 vehicles per hour attempting to turn out of this driveway, and having to find gaps in Leisure Lane through traffic, which totals 524 vehicles during the PM peak hour. Options for addressing this condition are discussed in Chapter 5. Table 7 also indicates that vehicle queues of two to three vehicles are expected in the shared eastbound left/through/right and westbound left/through/right lanes. This is caused by the lack of dedicated left-turn pockets and the level of through traffic on Leisure Lane.

Table 7: Peak Hour Maximum Vehicle Queues – Baseline Plus Project Conditions

Intersection	Movement	Available Storage[1]	Maximum Queue[2]			
			Baseline Plus Project Conditions		Change from Baseline	
			AM	PM	AM	PM
2. Leisure Lane / SR 160 Eastbound Ramps	Southbound Left-Turn	560 ft	75 ft	75 ft	+25 ft	+25 ft
	Southbound Right-Turn	560 ft	100 ft	100 ft	+25 ft	+25 ft
3. Leisure Lane / Exposition Boulevard / SR 160 Eastbound Ramps	Northbound Left-Turn	210 ft	150 ft	**275 ft**	+25 ft	+50 ft
	Northbound Through	275 ft	75 ft	150 ft	-	+25 ft
	Northbound Right-Turn	275 ft	100 ft	175 ft	-	-
	Southbound Left-Turn/Through	290 ft	100 ft	150 ft	+25 ft	-
	Southbound Through/Right-Turn	390 ft	150 ft	225 ft	-	-
	Eastbound Left-Turn	100 ft	75 ft	75 ft	-	-
	Eastbound Through	>1,000 ft	50 ft	75 ft	-	-
	Eastbound Right-Turn	150 ft	50 ft	150 ft	-	-
	Westbound Left-Turn	190 ft	**200 ft**	**275 ft**	-	-
	Westbound Through/Right-Turn	>1,000 ft	100 ft	150 ft	-	-
5. Leisure Lane / Project Driveway	Southbound Left-Turn/Right-Turn	25 ft	**100 ft**	**100 ft**	-	-
	Eastbound Left-Turn/Through	265 ft	75 ft	75 ft	-	-
	Westbound Through/Right-Turn	1,000 ft	50 ft	50 ft	-	-

Notes: **Bold** and underlined indicates exceedance of available storage length.
For above descriptions, Leisure Lane defined as east-west, SR 160 Eastbound ramps and Exposition Boulevard defined as north-south.

1. Defined as length of turn pocket, distance to upstream public street intersection, or distance to freeway diverge gore point.
2. Increase in maximum queue determined by adding additional queue from the project (estimated by SimTraffic) to the baseline conditions maximum queue. All reported values are on a "per lane" basis.
Source: Fehr & Peers, 2022.

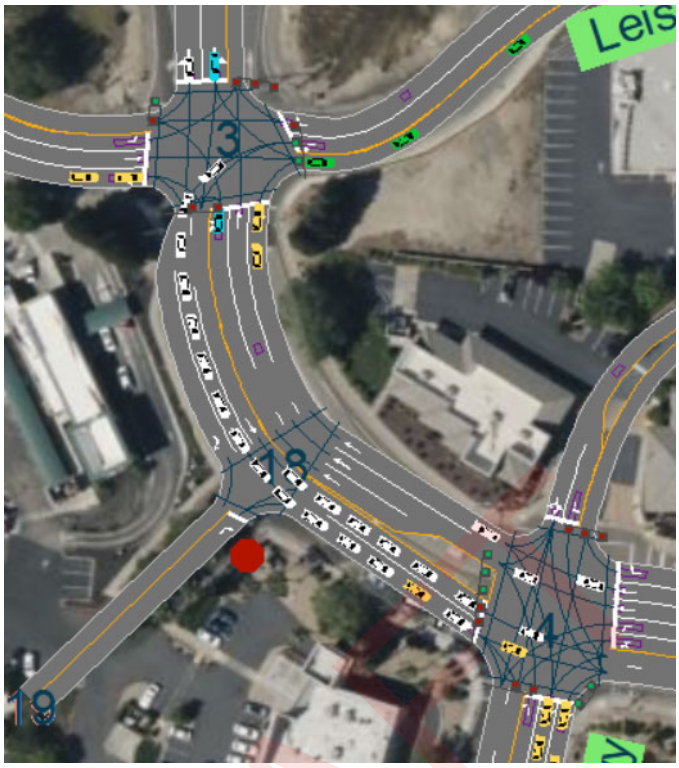


Image 3: SimTraffic modeling shows queue spillback on Exposition Boulevard under baseline plus project conditions. This condition exists currently but is exacerbated to a slight degree by the addition of project trips.

4.4 Signal Warrant Analysis

Per direction received from City staff, the four-hour (Warrant 2) and peak hour (Warrant 3) signal warrants were evaluated at the Leisure Lane/Canterbury Road/Slobe Avenue/Expo Parkway (#1) intersection based on the *California Manual on Uniform Control Devices* (MUTCD) (Caltrans, 2014). The signal warrant analysis was completed for existing, baseline, and baseline plus project conditions. To develop volume estimates, projections of background traffic (i.e., traffic from the two approved projects) and project trips were performed for 4 specific peak hours using 24-hour temporal arrival/departure patterns for the various land uses, as described in the *Trip Generation Manual, 11th Edition*.

A review of 24-hour volumes at the Leisure Lane/Canterbury Road/Slobe Avenue/Expo Parkway (#1) intersection showed that the designation of "major street" and "minor street" varied by hour, and volumes during several hours were similar between the eastbound/westbound and northbound/southbound approaches. Therefore, the warrants were completed twice, each assuming either Leisure Lane/Slobe Avenue or Canterbury Road/Expo Parkway as the "major street."

The following guidance in the MUTCD (Section 4C.01) is particularly relevant to the signal warrants analysis:

> *…[For] an approach with one lane for through and right-turning traffic plus a left-turn lane, if engineering judgment indicates that it should be considered a one-lane approach because the traffic using the left-turn*

lane is minor, the total traffic volume approaching the intersection should be applied against the signal warrants as a one-lane approach. The approach should be considered two lanes if approximately half of the traffic on the approach turns left and the left-turn lane is of sufficient length to accommodate all left-turn vehicles.

Similar engineering judgment and rationale should be applied to a street approach with one through/left-turn lane plus a right-turn lane. In this case, the degree of conflict of minor-street right-turn traffic with traffic on the major street should be considered. Thus, right-turn traffic should not be included in the minor-street volume if the movement enters the major street with minimal conflict. The approach should be evaluated as a one-lane approach with only the traffic volume in the through/left-turn lane considered.

Based on this guidance and the projected intersection volumes, the signal warrants were applied assuming a one-lane approach on both major and minor streets. In addition, for the case where Leisure Lane/Slobe Avenue was considered the minor street, westbound right-turning vehicles were not included in the side-street volume, as they are channelized and enter the major street with "minimal conflict."

Table 8 displays the results of the signal warrant analysis (see **Appendix C** for signal warrant inputs and outputs). The analysis shows that neither Warrant 2 nor Warrant 3 are met under any scenario analyzed. All-way stop control is therefore recommended to remain.

Table 8: Signal Warrant Analysis – Leisure Lane/Slobe Avenue/Canterbury Road/Expo Parkway Intersection

Scenario	Number of Hours Warrant 2 Met[1]	Warrant 2 Met?	Warrant 3 Met?[2]	
			AM Peak Hour	PM Peak Hour
Existing Conditions	0	No	No	No
Baseline Conditions	1	No	No	No
Baseline Plus Project Conditions	2	No	No	No

Notes:
[1] To meet Warrant 2 (Four-Hour Warrant), the warrant must be met during 4 non-overlapping hours in a 24-hour period.
[2] Warrant 3 (Peak Hour Warrant) results reflect both Warrant 3A and 3B.
Source: Fehr & Peers, 2022.

5. Project Access and On-Site Circulation Evaluation

This chapter evaluates access to the project site as well as internal circulation within the site. Recommendations are offered to improve circulation for all modes of travel.

5.1 Project Consistency with Applicable City Roadway Design Standards

The *City of Sacramento Design and Procedures Manual: Section 15 Street Design Standard* (2009) includes various standards pertaining to the design of roadways, driveways, bicycle, pedestrian, and transit facilities. Additional design standards can be found in the City's municipal code.[3] Each applicable standard from the above resources is described below, followed by an evaluation of the extent to which the project conforms to it.

For purposes of evaluating required frontage improvements, City of Sacramento staff directed Fehr & Peers to consider Leisure Lane to be a minor collector. Therefore, the standards below are applied for minor collectors, where applicable.

Driveway Design Elements

1. *Offset intersections (i.e., spaced across the street from each other) that permit full access should be located at least 120 feet apart (relative to each driveway's centerline).*

   Evaluation: A driveway has recently been constructed on the south side of Leisure Lane across from the project site. If the project driveway was constructed in its currently proposed location, it would be offset by about 25 feet.

   Consistent: No.

2. *Non-residential driveways shall be designed in accordance with the "Sight Distance" requirements as defined by the Caltrans Highway Design Manual, HDM, Sections 201 and 405.*

   Evaluation: Based on discussions with City staff, a "stopping sight distance (SSD)" value was used to evaluate sight distance for motorists exiting the project driveway looking to the left and right. This is necessary given the horizontal curvature of Leisure Lane and proposed landscaping along the project frontage. A SSD value of 250 feet was applied based on a design speed of 35 MPH (*Highway Design Manual*, Table 201.1), which is 5 MPH above the posted speed limit. An adequate SSD is achieved if a motorist exiting the project site has an unimpeded view of an approaching vehicles for a distance of at least 250 feet (measured along Leisure Lane). The HDM has other specific measurement requirements (e.g., vehicle setback distance from edge of

[3] https://library.qcode.us/lib/sacramento_ca/pub/city_code/item/title_17-division_v-chapter_17_508-17_508_050

traveled way), which were followed in this analysis. **Figure 9** displays the line of sight for a motorist exiting the project driveway looking to the left and right. Just west of the project driveway is an area highlighted in green, which is shown as a planter strip on the project site plan. Figure 9 indicates that any plantings in this area should be restricted to low height landscaping (six inches or less) or hardscaping. A similar exercise was performed for outbound motorists looking to the left.

Figure 9 indicates that the two parking spaces proposed in the southwest corner of the project site do not preclude the minimal SSD from being achieved. However, parking vehicles in these spaces would become the limiting factor in terms of what initially blocks the line of sight of an oncoming eastbound vehicle. The HDM includes a second type of sight distance, known as "Corner Sight Distance". While not required for project driveways, CSD is often desired to provide an improved line of sight of oncoming traffic. As shown on Figure 9, if the two parking spaces were removed, a much-improved line of sight of oncoming traffic would be provided. It is therefore recommended that these two parking spaces be relocated to a different part of the project site.

Consistent: No.

3. *No driveways shall be allowed within the corner radius of an intersection, nor areas of turn lanes or tapers at freeway ramps. Additionally, no driveways shall be allowed within 10 feet of a pedestrian ramp.*

   Evaluation: The project would not construct a driveway within the corner radius of an intersection, a turn lane or taper at a freeway ramp, or within 10 feet of a pedestrian ramp.

   Consistent: Yes.

4. *Unless approved by the city traffic engineer, no gates or other obstructions may be placed within 20 feet of the public right-of-way on entrance driveways.*

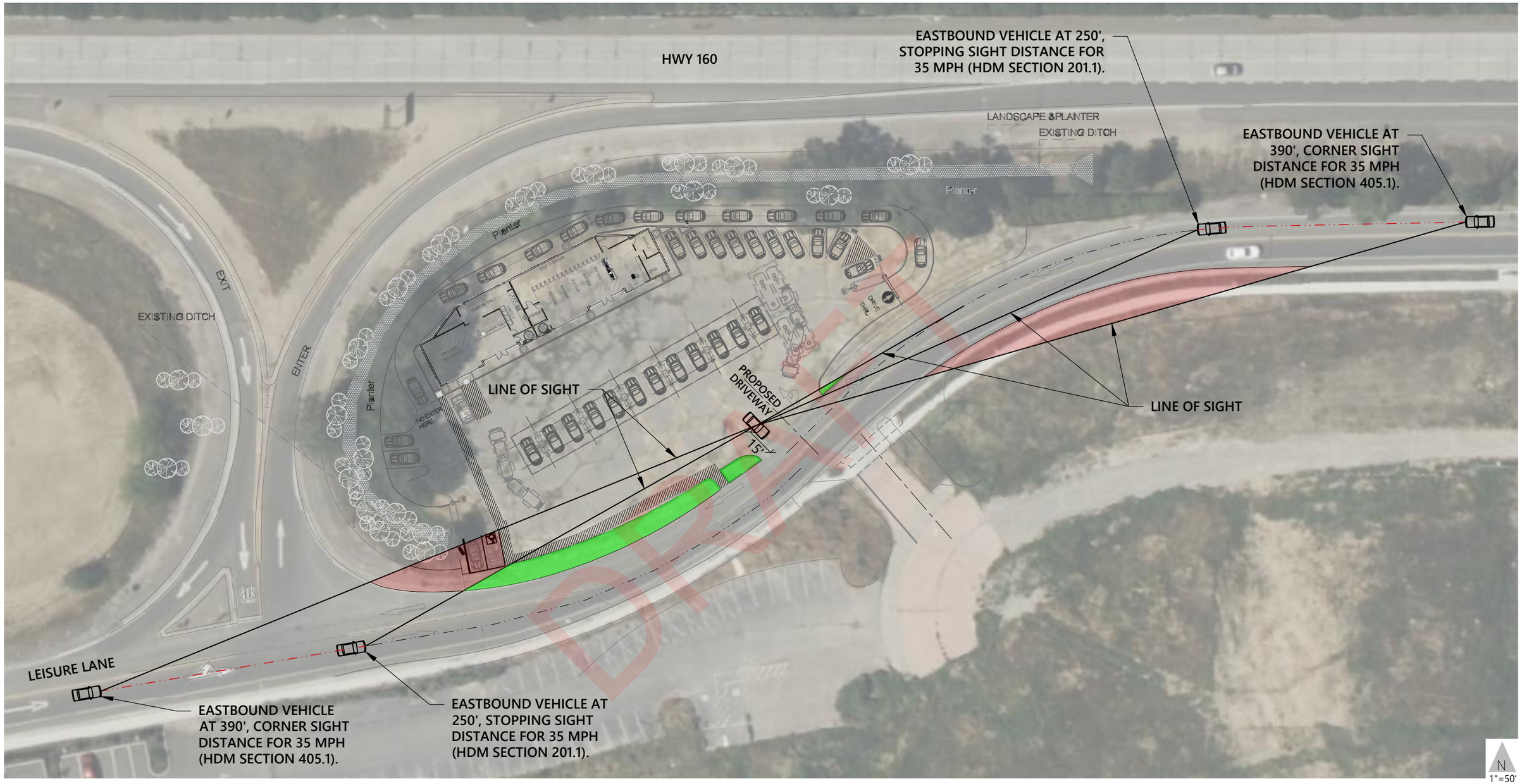
   Evaluation: The project would place fueling pumps more than 20 feet away from the public right-of-way.

   Consistent: Yes.

5. *Except on minor local streets where the size or shape of the lot is such that development would be otherwise precluded, no commercial driveway, industrial driveway, or parking area shall be designed to require a vehicle to back into or out of the public right-of-way.*

   Evaluation: The project would not require vehicles to back into or out of the public right-of-way.

   Consistent: Yes.



LEGEND

SIGHT DISTANCE

DESIGN OF VERTICAL ELEMENTS IN THIS AREA TO CONSIST OF MINIMAL HEIGHT LANDSCAPING OR HARDSCAPING.

50 0 50 100

1" = 50' GRAPHIC SCALE

Figure 9

Sight Distance

Leisure Lane and Proposed Project Driveway

CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

6. *Acceleration and deceleration lanes may be required at driveways and minor intersections based on the street designation, design speed, and projected volumes. These lanes may be required on narrow or high-speed roads or for large shopping centers, industrial developments, or other large developments.*

   Evaluation: The project site plan does not show acceleration or deceleration lanes at the driveway. Based on discussions with City staff, these lanes are not feasible given that construction of such turn lanes would require reconstruction of the frontage for the parcel south of Leisure Lane and/or the lanes would encroach into Caltrans' right-of-way. Additionally, it is noted that acceleration and deceleration lanes are not present at private driveways along the rest of Leisure Lane.

   Consistent: Yes.

Bicycle Facility Design Elements

7. *Bike lanes are required on Minor Collector streets (according to Plate 15-5) and are to be 6 feet in width. Bike lane placement is to be coordinated with the City's Bike/Pedestrian Coordinator, as designated in the City/County Bikeway Master Plan and approved by the City Traffic Engineer.*

   Evaluation: The site plan does not show a Class II bike lane along the project frontage. The City's Bike Master Plan facilities map[4] shows a planned Class II bike lane along the entirety of Leisure Lane.

   Consistent: No.

Pedestrian Facility Design Elements

8. *Sidewalks are required on Minor Collector streets (according to Plate 15-5) and are to be 5 feet in width.*

   Evaluation: The site plan shows a pedestrian walkway behind the planter island west of the project driveway. However, no pedestrian facilities are shown east of the project driveway (or across the driveway).

   Consistent: No.

Overall, the project is found to be consistent in 4 topical areas and inconsistent in 4 areas. Recommendations to address the inconsistencies in items 1, 2, 7, and 8 are presented in Section 5.3.

5.2 Maximum Queues at Project Driveway

Table 9 displays the maximum expected queue lengths under baseline plus project conditions at the project driveway. As shown, a maximum outbound queue of 100 feet (4 vehicles) is expected. The values shown in the table were compared to outputs calculated using the methodology described in *Estimation of Maximum Queue Lengths at Unsignalized Intersections* (ITE Journal, 2001). This method produced a similar, if not slightly less lengthy, result of a maximum of 3 outbound vehicles queued at the driveway during the PM peak hour.

The site plan does not show any type of vertical curb that would extend into the project site to create driveway throat depth. Instead, the 45-foot driveway opens up to a wide but shallow swath of pavement that may be used

[4] https://saccity.maps.arcgis.com/apps/webappviewer/index.html?id=eef65d0ab1e04f8e997726d1a8c84ced

for travel in all directions. Fueling pumps are positioned about 50 feet from the driveway opening. In summary, the project site plan provides insufficient throat depth to serve outbound traffic at this driveway. This could cause inbound traffic to spill onto Leisure Lane. Recommendations to address throat depth and on-site storage are presented in Section 5.3.

Table 9: Maximum Vehicle Queues at Project Driveway – Baseline Plus Project Conditions

Movement	Available Storage [1]	Maximum Queue [2]	
		AM Peak Hour	PM Peak Hour
Eastbound Left/Through	270 ft	75 ft	75 ft
Westbound Through/Right	>1,000 ft	50 ft	50 ft
Southbound Left/Through/Right	-[3]	**100 ft**[4]	**100 ft**[4]

Notes: Bolded cells represent queues that exceeds available storage.
1. Based on project site plan or aerial imagery.
2. Maximum queue estimated by SimTraffic model. Rounded up to the nearest 25 feet.
3. The site plan shows minimal throat depth (i.e., insufficient throat depth for even one vehicle) at the project driveway.
4. These values were compared to outputs using the methodology described in *Estimation of Maximum Queue Lengths at Unsignalized Intersections* (ITE Journal, 2001), which estimated maximum southbound queues of 50 feet and 75 feet during the AM and PM peak hours, respectively.
Source: Fehr & Peers, 2022.

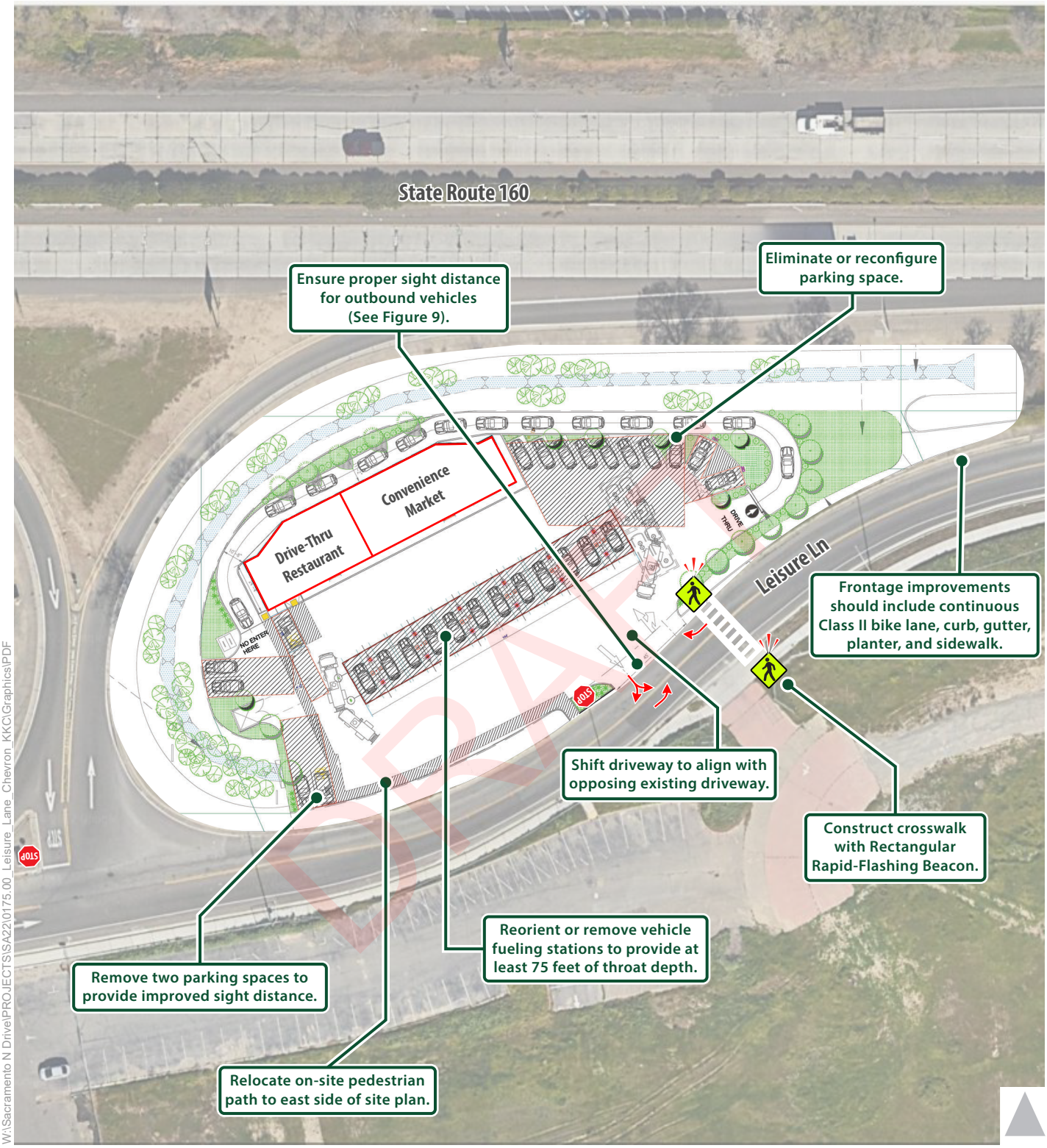
5.3 Recommendations

Table 10 summarizes each recommendation and provides additional background, reasoning, effectiveness, and/or other information. **Figure 10** illustrates the recommendations at or near the project site.

Table 10: Recommendations

Recommendation	Notes
Along Leisure Lane	
Pay fair share cost of signal retiming at the Leisure Lane/SR 160 Eastbound Ramps/Exposition Boulevard (#3) intersection.	The project would increase the northbound left turn queue at Intersection 3 by more than 1 vehicle during the PM peak hour under baseline plus project conditions. This queue would already exceed available storage under baseline conditions and the project would exacerbate this condition.
Construct frontage improvements consistent with City standards for minor collectors with no on-street parking. This would include a continuous Class II bike lane, curb, gutter, planter, and sidewalk, constructed to the specifications shown in Plate 15-5 of the City's Street Design Standards.	This would provide consistency with the City's standards for minor collectors, as well as the Bikeway Master Plan. If right-of-way restrictions exist, the applicant should coordinate with City staff on variances (e.g., an attached sidewalk).
Shift the project driveway approximately 25 feet to the east to align with existing driveway on the south side of Leisure Lane.	This is recommended to comply with City design standards and to reduce conflicts between left-turns on Leisure Lane that would otherwise occupy the same area to turn into each driveway.
Ensure that adequate sight distance is provided for vehicles exiting the relocated driveway. This includes removing the two parking spaces in the southwest corner of the project site and relocating the monument to be outside the line of sight.	Once an updated site plan is prepared, a revised sight distance analysis should be conducted to ensure that adequate sight distance is provided. One of the parking spaces to be relocated is designated as ADA, which should be situated closer to the buildings.
Construct a crosswalk across Leisure Lane directly east of the project driveway and also install a Rectangular Rapid-Flashing Beacon (RRFB). The crosswalk should include pedestrian curb ramps consistent with guidance in Section 15.15 of the City's Street Design Standards.	There are no marked crosswalks near the project site. This recommendation is intended to provide a visible pedestrian crossing for pedestrians traveling between the project and residential/lodging land use located on the south of Leisure Lane.
Within Project Site	
Revise the site plan to reorient and/or remove vehicle fueling stations, thereby resulting in at least 75 feet of throat depth for outbound traffic.	Options for completing this modification include relocating the pumps to the west part of the site and facing in an east/west direction (potentially two rows). The site plan modifications (i.e., relocated driveway with greater throat depth) should also explicitly plan for how motorists would enter the fast-food drive-through lane after turning into the site from Leisure Lane. The project architect should confirm the site plan accommodates trucks.
Relocate the on-site pedestrian walkway to begin at Leisure Lane east of the project driveway (at Leisure Lane crosswalk) and extend into the site to provide pedestrian access to the convenience market and fast-food restaurant.	This provides a more direct connection than the current plan with less interactions with fueling vehicles.
Eliminate or reconfigure specified parking space in Figure 10 (adjacent to the drive through lane).	The horizontal curvature of parking spaces in this area could result in vehicles blocking adjacent spaces or underutilized parking.

Source: Fehr & Peers, 2022.



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Permitted Movement

Stop Sign

Rectangular Rapid-Flashing Beacon

Figure 10

Recommendations