DRAFT ENVIRONMENTAL IMPACT REPORT

FOR THE

LEBARON RANCH
(SCH # 2023070657)

AUGUST 2024

Prepared for:

City of Stockton
345 N. El Dorado Street
Stockton, CA 95202

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762
(916) 580-9818

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

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DRAFT EIR

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INTRODUCTION

The City of Stockton, as the lead agency, determined that the proposed project, LeBaron Ranch, is a "project" within the definition of CEQA. CEQA requires the preparation of an environmental impact report (EIR) prior to approving any project, which may have a significant impact on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

The EIR contains a description of the Project, description of the environmental setting, identification of Project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of Project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This EIR identifies issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the Notice of Preparation (NOP) were considered in preparing the analysis in this EIR.

PROJECT DESCRIPTION

The LeBaron Ranch Project site (proposed Project site) is located in the northern portion of the City of Stockton Metropolitan Area, within the unincorporated area of San Joaquin County. The Project site is adjacent to the City of Stockton's northern city limits, within the City of Stockton (City) Sphere of Influence (SOI) (as defined in the Envision Stockton 2040 General Plan), and within the City of Stockton Urban Services Boundary.

The proposed Project is primarily a residential development anticipated to provide up to 1,411 units (assuming school site is developed with single-family residential units). Total parkland and open space areas total 30.7 acres. Part of the open space acreage will come from a series of streets with an enhanced right of way to accommodate a pedestrian "wellness walk." Other uses to support and compliment the proposed residential development include underground wet and dry utility infrastructure, roadways, curb/gutters/sidewalks, bicycle/pedestrian facilities, street lighting, and street signage.

The proposed Project includes a vesting tentative map that would subdivide the Development Area consistent with the proposed land uses. The Development Area would have 1,217 single family residential units with lot sizes that would range from 3,375 to 6,000 sf. Additionally, the Development Area would include 194 high density residential units on 9.5 acres to the west of the proposed single family residential area, for a total residential unit count of 1,411 units.

The proposed Project establishes a site for a 12.0-acre K-8 school to be developed by Lodi Unified School District (LUSD). The development of a K-8 school at this site is the discretionary decision of the LUSD, and while the proposed Project has planned for a school at this location, it will be determined by LUSD at a later date through their decision-making process. If the LUSD decides to not pursue building a school at this site, then the site would be developed with 79 single family

residential units. Construction of homes in this location would increase the number of units by 79 units when compared to the proposed Project with the school site. The total combined units would increase from 1,332 under the proposed Project to 1,411 units under this variation (i.e., no school).

The proposed Project would require a City of Stockton General Plan Amendment to the Land Use Element to change land uses on the Project site. Changes to the General Plan Land Use Map are largely a reorganization of the precise locations for each land use within the boundary of the Project site as opposed to land use changes. Additionally, the proposed Project includes a request for pre-zoning of the Development Area and Non-development Area, as described below. The pre-zoning would go into effect upon annexation into the City of Stockton. The pre-zoning request is for an RL District, RM District, RH District and PF District.

The principal purpose of the proposed Project is the annexation of the Project site into the City of Stockton, and approval and subsequent development of the Development Area for residential and park uses.

AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

This Draft EIR addresses environmental impacts associated with the proposed Project that are known to the City of Stockton, were raised during the NOP process, or raised during preparation of the Draft EIR. This Draft EIR discusses potentially significant impacts associated with aesthetics and visual resources, agricultural resources, air quality, biological resources, cultural and tribal resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and population, noise, public services, transportation and circulation, and utilities.

The City of Stockton received written comment letters on the NOP for the proposed Project. Copies of those letters are provided in Appendix A of this Draft EIR. The commenting agency/citizen is provided below. The City also held a public scoping meeting on August 22, 2023. No written or verbal comments were provided at that scoping meeting.

- California Department of Conservation, Division of Land Resource Protection;
- California Department of Fish and Wildlife;
- California Water Board, Central Valley Regional Water Quality Control Board;
- Melvin Corren;
- Pacific Gas and Electric;
- Native American Heritage Commission;
- San Joaquin Council of Governments, Inc.; and
- San Joaquin County.

ALTERNATIVES TO THE PROPOSED PROJECT

The CEQA Guidelines require an EIR to describe a reasonable range of alternatives to the Project or to the location of the Project which would reduce or avoid significant impacts, and which could feasibly accomplish the basic objectives of the proposed Project. Three alternatives to the proposed

Project were developed based on input from City staff and the technical analysis performed to identify the environmental effects of the proposed Project. The alternatives analyzed in this EIR include the following three alternatives in addition to the proposed Project.

- **No Project (No Build) Alternative**: Under this alternative, development of the Project site would not occur, and the Project site would remain in its current existing condition.
- **Reduced Density Alternative:** Under the Reduced Density Alternative, the proposed Project would be developed with the same types of residential, open space, and parks and recreational facility uses as described in the Project Description, but the residential unit count would decrease by 25 percent, the amount of proposed, and the on-site open space would decrease by 25 percent. The school site would not be provided under this alternative, and the high-density residential portion of the Project would be removed.
- **Agriculture Protection Alternative:** Under this alternative, the proposed Project would be developed in such a way to protect some of the on-site Important Farmland by reducing the overall footprint of the developed areas.

Alternatives are described in detail in Chapter 5.0. Table ES-1 provides a comparison of the alternatives using a qualitative matrix that compares each alternative relative to the other Project alternatives.

TABLE ES-1: COMPARISON SUMMARY OF ALTERNATIVES TO THE PROPOSED PROJECT

ENVIRONMENTAL ISSUE	*NO PROJECT (NO BUILD) ALTERNATIVE*	*REDUCED DENSITY ALTERNATIVE*	*AGRICULTURE PROTECTION ALTERNATIVE*
Aesthetics and Visual Resources	Less (Best)	Slightly Less (3rd Best)	Less (2nd Best)
Agricultural Resources	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Air Quality	Less (Best)	Less (2nd Best)	Equal (3rd Best)
Biological Resources	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Cultural and Tribal Resources	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Geology and Soils	Less (Best)	Slightly Less (2nd Best)	Equal (3rd Best)
Greenhouse Gases, Climate Change and Energy	Less (Best)	Less (2nd Best)	Equal (3rd Best)
Hazards and Hazardous Materials	Less (Best)	Equal (2nd Best)	Equal (2nd Best)
Hydrology and Water Quality	Less (Best)	Slightly Less (3rd Best)	Less (2nd Best)
Land Use and Population	Less (Best)	Less (2nd Best)	Equal (3rd Best)
Noise	Less (Best)	Slightly Less (2nd Best)	Equal (3rd Best)
Public Services and Recreation	Less (Best)	Equal (2nd Best)	Equal (3rd Best)
Transportation and Circulation	Less (Best)	Slightly Less (2nd Best)	Equal (3rd Best)
Utilities	Less (Best)	Less (2nd Best)	Equal (3rd Best)

GREATER = GREATER IMPACT THAN THAT OF THE PROPOSED PROJECT

LESS = LESS IMPACT THAN THAT OF THE PROPOSED PROJECT

EQUAL = NO SUBSTANTIAL CHANGE IN IMPACT FROM THAT OF THE PROPOSED PROJECT

As shown in the table, the No Project (No Build) Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project (No Build) Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, the Reduced Density Alternative and Agriculture Protection Alternative both rank higher than the proposed Project. The Reduced Density Alternative would have equal impacts in five areas, slightly less impacts in five areas, and less impacts in nine areas. The Agriculture Protection Alternative would have equal impacts in nine areas and less impacts in

five areas. Therefore, the Reduced Density Alternative would be the next environmentally superior alternative. It is noted that neither the Agriculture Protection Alternative nor the Reduced Density Alternative fully meet all of the Project objectives. See Section 5.4 below for a comparative evaluation of the objectives for each alternative.

SUMMARY OF IMPACTS AND MITIGATION MEASURES

In accordance with the CEQA Guidelines, this EIR focuses on the significant effects on the environment. The CEQA Guidelines defines a significant effect as a substantial adverse change in the physical conditions which exist in the area affected by the proposed Project. A less than significant effect is one in which there is no long or short-term significant adverse change in environmental conditions. Some impacts are reduced to a less than significant level with the implementation of mitigation measures and/or compliance with regulations.

The environmental impacts of the proposed Project, the impact level of significance prior to mitigation, the proposed mitigation measures and/or adopted policies and standard measures that are already in place to mitigate an impact, and the impact level of significance after mitigation are summarized in Table ES-2.

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
AESTHETICS AND VISUAL RESOURCES			
Impact 3.1-1: Project implementation may result in substantial adverse effects on scenic vistas and resources or substantial degradation of visual character	SU	*None feasible.*	SU
Impact 3.1-2: Project implementation would not substantially damage scenic resources within a State Scenic Highway	NI	*None required.*	--
Impact 3.1-3: Project implementation may result in light and glare impacts	LS	*None required.*	--
AGRICULTURAL RESOURCES			
Impact 3.2-1: The proposed Project would result in the conversion of Farmlands, including Prime Farmland and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses	PS	***Mitigation Measure 3.2-1:*** *Prior to the conversion of Important Farmland on the Project site, the Project applicant shall participate in the City's Agricultural Lands Mitigation Program, under which developers of the property shall contribute agricultural mitigation land or shall pay the Agricultural Land Mitigation Fee to the City. Participation in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) that results in agricultural land mitigation may also be considered as the functional equivalent of mitigation for the loss of Important Farmland.*	SU
Impact 3.2-2: The proposed Project would conflict with existing zoning for agricultural use, or Williamson Act contracts	PS	*None feasible.*	SU
Impact 3.2-3: The proposed Project may involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use	LS	*None required.*	--
AIR QUALITY			
Impact 3.3-1: Project operation has the potential to result in a cumulatively considerable net increase of any criteria pollutant for which the	PS	***Mitigation Measure 3.3-1:*** *The project shall comply with SJVAPCD Rule 4101, which prohibits emissions of visible air contaminants to the atmosphere and applies to any source operation that emits or may emit air contaminants.*	SU

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Project region is in non-attainment, or conflict or obstruct implementation of the District's air quality plan		***Mitigation Measure 3.3-2:*** *The project shall comply with SJVAPCD Rule 4601, which limits project has agreed to abide by more stringent VOC emissions requirements. Emissions of volatile organic compounds from architectural coatings by specifying storage, clean up and labeling requirements. (The project has agreed to abide by more stringent VOC emissions requirements.)* ***Mitigation Measure 3.3-3:*** *The project shall utilize low-VOC paints, equivalent to 10 g/L of ROG, if commercially available.*	
Impact 3.3-2: Proposed Project construction activities would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment, or conflict or obstruct implementation of the District's air quality plan	PS	***Mitigation Measure 3.3-4:*** *Prior to the issuance of a Grading Permit for each phase of the Project, the Project Proponent shall prepare and submit a Dust Control Plan that meets all of the applicable requirements of APCD Rule 8021, Section 6.3, for the review and approval of the APCD Air Pollution Control Officer.* ***Mitigation Measure 3.3-5:*** *During all construction activities, the Project Proponent shall implement dust control measures, as required by APCD Rules 8011-8081, to limit Visible Dust Emissions to 20% opacity or less. Dust control measures shall include application of water or chemical dust suppressants to unpaved roads and graded areas, covering or stabilization of transported bulk materials, prevention of carryout or trackout of soil materials to public roads, limiting the area subject to soil disturbance, construction of wind barriers, access restrictions to inactive sites as required by the applicable rules.* ***Mitigation Measure 3.3-6:*** *During all construction activities, the Project proponent shall implement the following dust control practices identified in Tables 6-2 and 6-3 of the GAMAQI (2002).* *a. All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover.* *b. All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.* *c. All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall control fugitive dust emissions by application of water or by presoaking.*	LS

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		d. When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained. *e. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.* *f. Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.* *g. Limit traffic speeds on unpaved roads to 5 mph.* *h. Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.* ***Mitigation Measure 3.3-7:*** *Asphalt paving shall be applied in accordance with APCD Rule 4641, the purpose of which is to limit VOC emissions by restricting the application and manufacturing of certain types of asphalt for paving and maintenance operations. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations. The Project Applicant shall coordinate with the APCD, prior to Project asphalt paving activities, to ensure all Project asphalt paving would comply with this rule. The Project Applicant shall provide the City of Stockton with evidence of consultation with the APCD, including confirmation of compliance with APCD Rule 4641.*	
Impact 3.3-3: The proposed Project would not generate carbon monoxide hotspot impacts	LS	*None required.*	--
Impact 3.3-4: The proposed Project has the potential for public exposure to toxic air contaminants	LS	*None required.*	--
Impact 3.3-5: The proposed Project would not cause exposure to other emissions (such as those leading to odors) adversely affecting a substantial number of people	LS	*None required.*	--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
BIOLOGICAL RESOURCES			
Impact 3.4-1: The proposed Project would not have a direct or indirect effect on special-status invertebrate species	LS	*None required.*	--
Impact 3.4-2: The proposed Project has the potential to have direct or indirect effects on special-status reptile and amphibian species	PS	***Mitigation Measure 3.4-1:*** *Prior to commencement of any grading activities, the Project proponent shall seek coverage under the San Joaquin County Multi-Species Habitat Conservation Plan (SJMSCP) to mitigate for habitat impacts to covered special status species. Coverage involves compensation for habitat impacts on covered species through implementation of incidental take and minimization measures (ITMMs) and payment of fees for conversion of lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. Obtaining coverage for a Project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a), California Fish and Game Code Section 2081, and the Migratory Bird Treaty Act (MBTA). Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species.*	LS
Impact 3.4-3: The proposed Project has the potential to have direct or indirect effects on special-status bird species	PS	*Implement* ***Mitigation Measure 3.4-1.***	LS
Impact 3.4-4: The proposed Project has the potential to result in direct or indirect effects on special-status mammal species.	PS	*Implement* ***Mitigation Measure 3.4-1.***	LS
Impact 3.4-5: The proposed Project would not result in direct or indirect effects on candidate, sensitive, or special-status plant species	LS	*None required.*	--
Impact 3.4-6: The proposed Project would not result in direct or indirect effects on candidate, sensitive, or special-status fish species	LS	*None required.*	--
Impact 3.4-7: The proposed Project would not affect protected wetlands and jurisdictional waters	LS	*None required.*	--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.4-8: The proposed Project would not result in adverse effects on riparian habitat or a sensitive natural community	LS	*None required.*	--
Impact 3.4-9: The proposed Project would not result in interference with the movement of native fish or wildlife species or with established wildlife corridors, or impede the use of native wildlife nursery sites	LS	*None required.*	--
Impact 3.4-10: The proposed Project would not conflict with an adopted Habitat Conservation Plan	LS	*None required.*	--
Impact 3.4-11: The proposed Project has the potential to conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	PS	***Mitigation Measure 3.4-2:*** *If removal of any oak tree on the project site is required, a certified arborist shall survey the oak trees proposed for removal to determine if they are Heritage Trees as defined in Stockton Municipal Code Chapter 16.130. The arborist report with its findings shall be submitted to the City's Community Development Department. If Heritage Trees are determined to exist on the property, removal of any such tree shall require a permit to be issued by the City in accordance with Stockton Municipal Code Chapter 16.130. The permittee shall comply with all permit conditions, including tree replacement at specified ratios.*	LS
CULTURAL AND TRIBAL RESOURCES			
Impact 3.5-1: Project implementation would not cause a substantial adverse change to a significant historical resource, as defined in CEQA Guidelines §15064.5	LS	*None required.*	--
Impact 3.5-2: Project implementation has the potential to cause a substantial adverse change to a significant archaeological resource, as defined in CEQA Guidelines §15064.5, or a significant tribal cultural resource, as defined in Public Resources Code §21074	PS	***Mitigation Measure 3.5-1:*** *Prior to any ground-disturbing activities on the Project site, a qualified archaeologist and native American monitor shall conduct pre-construction worker cultural resources sensitivity training. The training session shall focus on the recognition of the types of historical and cultural, including Native American, resources that could be encountered, procedures to be followed if resources are found, and pertinent laws protecting these resources. Those in attendance shall be recorded, with records maintained on-site. Any new workers that were not part of the initial training shall be required to undergo a new training session.*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		Mitigation Measure 3.5-2: *If any cultural resources, including prehistoric or historic artifacts, or other indications of archaeological resources, are found during grading and construction activities during any phase of the Project, all work shall be halted immediately within a 200-foot radius of the discovery until an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, has evaluated the find(s).* *Work shall not continue at the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR; or 3) not a significant Public Trust Resource.* *If Native American resources are identified, a Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage Commission, may also be required and, if required, shall be retained at the Project applicant's expense.*	
Impact 3.5-3: Project implementation has the potential to disturb human remains, including those interred outside of formal cemeteries	LS	*None required.*	--
GEOLOGY AND SOILS			
Impact 3.6-1: The proposed Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, strong seismic ground shaking, seismic related ground failure, or landslides	LS	*None required.*	--
Impact 3.6-2: Implementation and construction of the proposed Project may result in substantial soil erosion or the loss of topsoil	LS	*None required.*	--
Impact 3.6-3: The proposed Project has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of Project implementation, and	LS	*None required.*	--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse			
Impact 3.6-4: The proposed Project has the potential for expansive soils to create substantial risks to life or property	LS	*None required.*	--
Impact 3.6-5: The proposed Project has the potential to directly or indirectly destroy a unique geological feature or paleontological resource	PS	***Mitigation Measure 3.6-1**: If any paleontological resources are found during grading and construction activities of the Project, all work shall be halted immediately within a 200-foot radius of the discovery until a qualified paleontologist has evaluated the find.* *Work shall not continue at the discovery site until the paleontologist evaluates the find and makes a determination regarding the significance of the resource and identifies recommendations for conservation of the resource, including preserving in place or relocating on the Project site, if feasible, or collecting the resource to the extent feasible and documenting the find with the University of California Museum of Paleontology.*	LS
GREENHOUSE GASES, CLIMATE CHANGE AND ENERGY			
Impact 3.7-1: Project implementation would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases	LS	*None required.*	--
Impact 3.7-2: Project implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources, and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency	LS	*None required.*	--
HAZARDS AND HAZARDOUS MATERIALS			
Impact 3.8-1: Project implementation has the potential to create a significant hazard through the routine transport, use, or disposal of	PS	***Mitigation Measure 3.8-1:** In the event that hazardous materials are encountered during construction, a Soils Management Plan (SMP) shall be submitted and approved by the San Joaquin County Department of Environmental Health. The SMP shall establish*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment		*management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. The approved SMP shall be posted and maintained onsite during construction activities and all construction personnel shall acknowledge that they have reviewed and understand the plan.* ***Mitigation Measure 3.8-2:*** *Prior to initiation of any ground disturbance activities, evenly distributed soil samples shall be conducted throughout the Development Area for analysis of pesticides and heavy metals. The samples shall be submitted for laboratory analysis of pesticides and heavy metals per DTSC and EPA protocols. The results of the soil sampling shall be submitted to the City of Stockton. If elevated levels of pesticides or heavy metals are detected during the laboratory analysis of the soils, a soil cleanup and remediation plan shall be prepared and implemented prior to the commencement of grading activities.*	
Impact 3.8-2: Project implementation has the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	LS	*None required.*	--
Impact 3.8-3: Project implementation has the potential to result in impacts from being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5	NI	*None required.*	--
Impact 3.8-4: Project implementation has the potential to result in a safety hazard for people residing or working on the Project site as a result of public airport or public use airport	LS	*None required.*	--
Impact 3.8-5: Project implementation has the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	LS	*None required.*	--
Impact 3.8-6: Project implementation has the potential to expose people or structures to a risk of loss, injury or death from wildland fires	LS	*None required.*	--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
HYDROLOGY AND WATER QUALITY			
Impact 3.9-1: The proposed Project has the potential to violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality	LS	*None required.*	--
Impact 3.9-2: The proposed Project has the potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin	LS	*None required.*	--
Impact 3.9-3: The proposed Project would not alter the existing drainage pattern of the site or area, including the alteration of the course of a river or through the addition of impervious surfaces, in a manner which would result in substantial erosion, siltation, surface runoff, flooding, or polluted runoff	LS	*None required.*	--
Impact 3.9-4: The proposed Project has the potential to, in a flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation	PS	***Mitigation Measure 3.9-1:*** *All residential and non-residential structures within the Project site shall meet the urban level of flood protection, as required by the State of California Central Valley Flood Protection Act of 2008 (Senate Bill 5). Finished floor elevations of proposed residential structures shall be elevated to or above the prescribed 200-year floodplain elevation, or proposed nonresidential structures shall be floodproofed, consistent with the City of Stockton's Criteria for Development in 200-year Floodplains and City of Stockton Municipal Code. Code compliance shall be documented in materials prepared by licensed professionals and submitted to the Community Development Director.*	LS
Impact 3.9-5 The proposed Project has the potential to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan	LS	*None required.*	--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
LAND USE, POPULATION AND HOUSING			
Impact 3.10-1: The proposed Project would not physically divide an established community.	LS	*None required.*	--
Impact 3.10-2: The proposed Project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project adopted to avoid or mitigate an environmental effect.	LS	*None required.*	--
Impact 3.10-3: The proposed Project would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).	LS	*None required.*	--
Impact 3.10-4: The proposed Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere	NI	*None required.*	--
NOISE			
Impact 3.11-1: The proposed Project has the potential to generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies	PS	***Mitigation Measure 3.11-1:*** *To reduce potential construction noise impacts during Project construction, the following multi-part mitigation measure shall be implemented for the Project:* • *All construction equipment powered by internal combustion engines shall be properly muffled and maintained.* • *Quiet construction equipment, particularly air compressors, shall be selected whenever possible.* • *All stationery noise-generating construction equipment such as generators or air compressors shall be located as far as is practical from existing residences. In addition, the Project contractor shall place such stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project site.*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		• *Unnecessary idling of internal combustion engines shall be prohibited.* • *The construction contractor shall, to the maximum extent practical, locate on-site equipment staging areas so as to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all Project construction.* • *Construction shall be limited to 7:00 a.m. to 10:00 p.m.* • *Staging areas on the Project site shall be located in areas that maximize, to the extent feasible, the distance between staging activity and sensitive receptors.* *These requirements shall be noted on the Project improvement plans as part of the submittal for grading or building permit, whichever shall occur first, to the City of Stockton Building and Life Safety Division.*	
Impact 3.11-2: The proposed Project would not generate excessive groundborne vibration or groundborne noise levels	LS	*None required.*	--
Impact 3.11-3: The proposed Project would not expose people residing or working in the Project area to excessive noise levels	LS	*None required.*	--
PUBLIC SERVICES AND RECREATION			
Impact 3.12-1: The proposed Project would not require the construction of police department facilities which may cause substantial adverse physical environmental impacts	LS	*None required.*	--
Impact 3.12-2: The proposed Project would not require the construction of fire department facilities which may cause substantial adverse physical environmental impacts	LS	*None required.*	--
Impact 3.12-3: The proposed Project would not require the construction of school facilities which may cause substantial adverse physical environmental impacts	LS	*None required.*	--
Impact 3.12-4: The proposed Project would not have effects on other public facilities	LS	*None required.*	--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.12-5: The proposed Project would not require the construction of park and recreational facilities which may cause substantial adverse physical environmental impacts	LS	*None required.*	--
Impact 3.12-6: The proposed Project would not increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated	LS	*None required.*	--
TRANSPORTATION AND CIRCULATION			
Impact 3.13-1: Project implementation would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	PS	***Mitigation Measure 3.13-1:*** *The Project applicant shall work with the City of Stockton to implement feasible Transportation Demand Management (TDM) strategies, which would decrease the VMT generated by the Project. Specific potential TDM strategies include, but are not limited to, the following:* • *Provide public transit service, including improving San Joaquin Rapid Transit District (RTD) transit service connecting workers with existing and future residential developments;* • *Implement a fair value commuting program or other pricing of vehicle travel and parking;* • *TDM coordinator for large employers, such as the LUSD, should the school site be developed;* • *Provide carpool and/or vanpool incentive programs;* • *Provide on-site lockers and showers for workers who take alternative transportation, such as those employed by the LUSD, should the school site be developed;* • *Promote walking and bicycling for employees who live and/or work in the area through the preparation of an Active Transportation Plan;* • *Incentivize the use of alternative travel modes for travel within the project site through shared use of e-bikes and e-scooters;* • *Allow flexible work hours and schedule classes to reduce arrivals/departures during peak hours; and* • *Employer coordination to SJCOG's DIBs program for workers.*	SU

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		The TDM Plan shall be submitted to the City for review, and the effectiveness of the TDM Plan shall be evaluated, monitored, and revised, if necessary. The TDM Plan shall include the TDM strategies which will be implemented during the lifetime of the proposed Project and shall outline the anticipated effectiveness of the strategies. The effectiveness of the TDM Plan may be monitored through annual surveys to determine employee travel mode split and travel distance for home-based work trips, and/or the implementation of technology to determine the amount of traffic generated by and home-based work miles traveled by employees, which shall be determined in coordination with the City.	
Impact 3.13-2: Project implementation would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities	LS	*None required.*	--
Impact 3.13-3: Project implementation would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	LS	*None required.*	--
Impact 3.13-4: Project implementation would not result in inadequate emergency access	LS	*None required.*	--
Impact 3.13-5: Project implementation would not cause impacts due to construction.	LS	*None required.*	--
UTILITIES AND SERVICE SYSTEMS			
Impact 3.14-1: The proposed Project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board	LS	*None required.*	--
Impact 3.14-2: The proposed Project would not result in a determination by the wastewater treatment and/or collection provider which serves or may serve the Project that is does not have adequate capacity to serve the Project's	PS	***Mitigation Measure 3.14-1:*** *Prior to occupancy of any building that would require wastewater treatment services, the Project proponent shall secure adequate wastewater treatment capacity/allocation.*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
projected demand in addition to the provider's existing commitments			
Impact 3.14-3: The proposed Project would not require or result in the construction of new wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	LS	*None required.*	--
Impact 3.14-4: The proposed Project would not require construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	LS	*None required.*	--
Impact 3.14-5: The proposed Project would not have insufficient water supplies available to serve the Project from existing entitlements and resources	LS	*None required.*	--
Impact 3.14-6: The proposed Project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	PS	***Mitigation Measure 3.14-2:*** *Prior to the issuance of a building or grading permit, the project applicant shall submit a drainage plan to the City of Stockton for review and approval. The plan shall include an engineered Storm Water Quality Control Criteria Plan (SWQCCP) that demonstrates attainment of pre-project runoff requirements prior to release at the Bear Creek outfall. The plan shall describe the volume reduction measures and treatment controls consistent with City of Stockton requirements.*	LS
Impact 3.14-7: The proposed Project would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs and comply with federal, State, and local statutes and regulations related to solid waste	LS	*None required.*	--
CUMULATIVE IMPACTS			
Impact 4.1: Cumulative Damage to Scenic Resources within a State Scenic Highway	LS and LCC	*None required.*	--

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Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region	PS	*None feasible.*	CC and SU
Impact 4.3: Cumulative Impact on Light and Glare	LS and LCC	*None required.*	--
Impact 4.4: Cumulative Impact on Agricultural Resources	PS	*None feasible.*	CC and SU
Impact 4.5: Cumulative Impact on the Region's Air Quality	PS	*None feasible.*	CC and SU
Impact 4.6: Cumulative Loss of Biological Resources Including Habitats and Special Status Species	LS and LCC	*None required.*	--
Impact 4.7: Cumulative Impacts on Known and Undiscovered Cultural and Tribal Resources	LS and LCC	*None required.*	--
Impact 4.8: Cumulative Impact on Geologic and Soils Resources	LS and LCC	*None required.*	--
Impact 4.9: Cumulative Impact on Climate Change from Increased Project-Related Greenhouse Gas Emissions	LS and LCC	*None required.*	--
Impact 4.10: Cumulative Impact Related to Hazards and Hazardous Materials	LS and LCC	*None required.*	--
Impact 4.11: Cumulative Increases in Peak Stormwater Runoff from the Project site	LS and LCC	*None required.*	--
Impact 4.12: Cumulative Impacts Related to Degradation of Water Quality	LS and LCC	*None required.*	--
Impact 4.13: Cumulative Impacts Related to Degradation of Groundwater Supply or Recharge	LS and LCC	*None required.*	--
Impact 4.14: Cumulative Impacts Related to Flooding	LS and LCC	*None required.*	--
Impact 4.15: Cumulative Impact on Communities and Local Land Uses and Population	LS and LCC	*None required.*	--
Impact 4.16: Cumulative Exposure of Existing and Future Noise-Sensitive Land Uses to Increased Noise Resulting from Cumulative Development	LS and LCC	*None required.*	--

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Impact 4.17: Cumulative Impact on Public Services	LS and LCC	*None required.*	--
Impact 4.18: Under Cumulative conditions, the proposed Project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)	PS	*None feasible.*	CC and SU
Impact 4.19: Under Cumulative conditions, the proposed Project would not adversely affect pedestrian and bicycle facilities	LS and LCC	*None required.*	--
Impact 4.20: Under Cumulative conditions, the proposed Project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)	LS and LCC	*None required.*	--
Impact 4.21: Under Cumulative conditions, the proposed Project would not result in inadequate emergency access	LS and LCC	*None required.*	--
Impact 4.22: Under Cumulative conditions, the proposed Project would not cause impacts due to construction	LS and LCC	*None required.*	--
Impact 4.23: Cumulative Impact on Wastewater Utilities	LS and LCC	*None required.*	--
Impact 4.24: Cumulative Impact on Water Utilities	LS and LCC	*None required.*	--
Impact 4.25: Cumulative Impact on Stormwater Facilities	LS and LCC	*None required.*	--
Impact 4.26: Cumulative Impact on Solid Waste Facilities	LS and LCC	*None required.*	--

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1.1 PURPOSE AND INTENDED USES OF THE EIR

The City of Stockton, as the lead agency, determined that the proposed project, LeBaron Ranch Project is a "project" within the definition of CEQA. CEQA requires the preparation of an Environmental Impact Report (EIR) prior to approving any project, which may have a significant impact on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

An EIR must disclose the expected environmental impacts, including impacts that cannot be avoided, growth-inducing effects, impacts found not to be significant, and significant cumulative impacts, as well as identify mitigation measures and alternatives to the proposed project that could reduce or avoid its adverse environmental impacts. CEQA requires government agencies to consider and, where feasible, minimize environmental impacts of proposed development, and an obligation to balance a variety of public objectives, including economic, environmental, and social factors.

The City of Stockton, as the lead agency, has prepared this Draft EIR to provide the public and responsible and trustee agencies with an objective analysis of the potential environmental impacts resulting from implementation of the proposed Project. The environmental review process enables interested parties to evaluate the proposed Project in terms of its environmental impacts, to examine and recommend methods to eliminate or reduce potential adverse impacts, and to consider a reasonable range of alternatives to the proposed Project. This EIR will be used by the City of Stockton to determine whether to approve, modify, or deny the proposed Project and associated approvals in light of the Project's environmental effects. The EIR will be used as the primary environmental document to evaluate full development, all associated infrastructure improvements, and permitting actions associated with the proposed Project. All the actions and components of the proposed Project are described in detail in Chapter 2.0, Project Description.

1.2 TYPE OF EIR

The State CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a Project-level EIR and is described in State CEQA Guidelines § 15161 as: "The most common type of EIR (which) examines the environmental impacts of a specific development project. This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project including planning, construction, and operation. The project-level analysis considers the broad environmental effects of the proposed Project."

1.3 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

The term "Responsible Agency" includes all public agencies other than the Lead Agency that have discretionary approval power over the proposed Project or an aspect of the proposed Project (CEQA Guidelines Section 15381). For the purpose of CEQA, a "Trustee" agency has jurisdiction by law over

natural resources that are held in trust for the people of the State of California (CEQA Guidelines Section 15386).

The following agencies are considered "Responsible Agencies" or "Trustee Agencies" for the proposed Project, and may be required to issue permits or approve certain aspects of the proposed Project:

- California Department of Fish and Wildlife (CDFW) – should a 1600 Streambed Alteration Agreement, or 401/404 Permit be required;
- Central Valley Flood Protection Board (CVFPB) – should offsite work impact Pixley Slough (which is not anticipated);
- Central Valley Regional Water Quality Control Board (CVRWQCB) – Storm Water Pollution Prevention Plan (SWPPP) approval pursuant to the Clean Water Act;
- CVRWQCB – Water quality certification pursuant to Section 401 of the Clean Water Act;
- San Joaquin County Flood Control and Water Conservation District;
- Native American Heritage Commission (NAHC);
- San Joaquin Local Agency Formation Commission (LAFCo) – Annexation;
- San Joaquin Valley Air Pollution Control District (SJVAPCD) – Construction-related permits;
- San Joaquin Valley Air Pollution Control District (SJVAPCD) – Authority to Construct, Permit to Operate for stationary sources of air pollution;
- Stockton Fire Department – Plan check of the site plan and roadway improvements for adequate emergency vehicle access and fire flow capabilities;
- San Joaquin Council of Governments (SJCOG) – Issuance of incidental take permit under the San Joaquin Multi-Species Habitat Conservation and Open Space Plan (SJMSCP);
- United States Army Corps. Of Engineers (USACE) – Permitting of federal jurisdictional areas pursuant to Section 404 of the Clean Water Act;
- Woodbridge Irrigation District.

1.4 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the EIR has involved, or will involve, the following general procedural steps:

NOTICE OF PREPARATION

The City of Stockton circulated a Notice of Preparation (NOP) of an EIR for the proposed Project on July 31, 2023, to the State Clearinghouse, State Responsible Agencies, State Trustee Agencies, Other Public Agencies, Organizations, and Interested Persons. A public scoping meeting was held via Microsoft Teams on August 22, 2023 to present the Project description to the public and interested agencies, and to receive comments from the public and interested agencies regarding the scope of the environmental analysis to be included in the Draft EIR. There were seven participants in attendance at the scoping meeting. This included the City staff, city consultants, and applicant team. Concerns raised in response to the NOP were considered during preparation of the Draft EIR. The NOP and comments received on the NOP by interested parties are presented in Appendix A.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the proposed Project, description of the environmental setting, identification of project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This Draft EIR identifies issues determined to have no impact or a less than significant impact and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP were considered in preparing the analysis in this EIR. Upon completion of the Draft EIR, the City of Stockton will file the Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research to begin the public review period. Additionally, the City of Stockton will file the Notice of Availability with the County Clerk and have it published in a newspaper of regional circulation to begin the local public review period.

PUBLIC NOTICE/PUBLIC REVIEW

The City of Stockton will provide a public notice of availability for the Draft EIR, and invite comment from the general public, agencies, organizations, and other interested parties. Consistent with CEQA, the review period for this Draft EIR is forty-five (45) days. Public comment on the Draft EIR will be accepted in written form. All comments or questions regarding the Draft EIR should be addressed to:

Attn: Nicole D. Moore, LEED AP – Contract Planner
City of Stockton
345 N. El Dorado Street
Stockton, CA 95202
(209) 937-8561

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period of the Draft EIR, a Final EIR will be prepared. The Final EIR will respond to written comments received during the public review period and to oral comments received at a public hearing during such review period.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The City of Stockton will review and consider the Final EIR. If the City of Stockton finds that the Final EIR is "adequate and complete," the City of Stockton will certify the Final EIR in accordance with CEQA. The rule of adequacy generally holds that an EIR can be certified if:

1) The EIR shows a good faith effort at full disclosure of environmental information; and

2) The EIR provides sufficient analysis to allow decisions to be made regarding the proposed project in contemplation of environmental considerations.

Following review and consideration of the Final EIR, the City of Stockton may take action to approve, modify, or reject the proposed Project. A Mitigation Monitoring Program (MMRP), as described

below, would also be adopted in accordance with Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097 for mitigation measures that have been incorporated into or imposed upon the proposed Project to reduce or avoid significant effects on the environment. This Mitigation Monitoring Program will be designed to ensure that these measures are carried out during project implementation, in a manner that is consistent with the EIR.

1.5 ORGANIZATION AND SCOPE

Sections 15122 through 15132 of the State CEQA Guidelines identify the content requirements for Draft and Final EIRs. An EIR must include a description of the environmental setting, an environmental impact analysis, mitigation measures, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. Discussion of the environmental issues addressed in the Draft EIR was established through review of environmental and planning documentation developed for the proposed Project, environmental and planning documentation prepared for recent projects located within the City of Stockton, applicable local and regional planning documents, and responses to the Notice of Preparation (NOP).

This Draft EIR is organized in the following manner:

EXECUTIVE SUMMARY

This Executive Summary summarizes the characteristics of the proposed project, known areas of controversy, and issues to be resolved. It also provides a concise summary matrix of the proposed Project's environmental impacts and possible mitigation measures. This chapter also identifies Project alternatives that reduce or avoid at least one significant environmental effect of the proposed Project.

CHAPTER 1.0 – INTRODUCTION

Chapter 1.0 briefly describes the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, and identifies the scope and organization of the Draft EIR.

CHAPTER 2.0 – PROJECT DESCRIPTION

Chapter 2.0 provides a detailed description of the proposed Project, including the location, intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA, related improvements, and a list of related agency action requirements.

CHAPTER 3.0 – ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Chapter 3.0 contains an analysis of environmental topic areas as identified below. Each subchapter addressing a topical area is organized as follows:

Environmental Setting. A description of the existing environment as it pertains to the topical area.

Regulatory Setting. A description of the regulatory environment that may be applicable to the proposed Project.

Impacts and Mitigation Measures. Identification of the thresholds of significance by which impacts are determined, a description of project-related impacts associated with the environmental topic, identification of appropriate mitigation measures, and a conclusion as to the significance of each impact.

The following environmental topics are addressed in this section:

- Aesthetics and Visual Resources
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural and Tribal Resources
- Geology and Soils
- Greenhouse Gases and Climate Change
- Hazards and Hazardous Materials, and Wildlife
- Hydrology and Water Quality
- Land Use and Population
- Noise
- Public Services
- Transportation and Circulation
- Utilities

CHAPTER 4.0 – OTHER CEQA-REQUIRED TOPICS

Chapter 4.0 evaluates and describes the following CEQA required topics: impacts considered less-than-significant, significant and irreversible impacts, growth-inducing effects, cumulative, and significant and unavoidable environmental effects.

CHAPTER 5.0 – ALTERNATIVES TO THE PROJECT

State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the proposed Project, which could feasibly attain the basic objectives of the proposed Project and avoid and/or lessen any significant environmental effects of the proposed Project. Chapter 5.0 provides a comparative analysis between the environmental impacts of the proposed Project and the selected alternatives.

CHAPTER 6 – REPORT PREPARERS

This section lists all authors and agencies that assisted in the preparation of the EIR, by name, title, and company or agency affiliation.

APPENDICES

This section includes all notices and other procedural documents pertinent to the EIR, as well as technical material prepared to support the analysis.

1.6 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

The City of Stockton received five (5) written comment letters on the NOP for the proposed Project. A copy of the letters is provided in Appendix A of this Draft EIR. The City also held a public scoping meeting on August 22, 2023. No written or verbal comments were provided at that scoping meeting. The commenting agency/citizen is provided below.

- California Department of Conservation;
- California Department of Fish and Wildlife;
- Central Valley Regional Water Quality Control Board;
- Melvin Corren;
- Native American Heritage Commission;
- Pacific Gas and Electric Company;
- San Joaquin Council of Government, Inc.; and
- San Joaquin County.

1.7 POTENTIAL AREAS OF CONCERN

Aspects of the proposed Project that were noted as potential public concern through the NOP process include the following:

- Conversion of agricultural land, mitigation for the loss of agricultural land; and Williamson Act contract compatibility;
- Habitat, special-status species, and biological resources inventory and the conversion of any on-site habitat for species;
- Direct and indirect impacts on biological resources;
- Potential impacts related to groundwater management and groundwater pumping;
- Project-related impacts to riparian areas, wetlands, wildlife corridors or wildlife movement areas, aquatic habitats, sensitive species and/or special-status species, open space, and adjacent natural habitats in the cumulative effects analysis;
- San Joaquin County Multi-Species Habitat Conservation and Open Space Plan compliance and mitigation requirements;
- Compliance with the Central Valley Regional Water Quality Control Board regulations and guiding documents;
- Consultation with tribal groups, potential impacts to tribal groups, and mitigation measures to reduce potential impacts to tribal groups;
- Public Utility Easements;
- Potential impacts related to geotechnical drilling, wells, and septic systems; and
- Hazardous materials release, treatment, and storage.

2.1 PROJECT LOCATION

The LeBaron Ranch Project site (proposed Project site) is in the northern portion of the City of Stockton Metropolitan Area, within an unincorporated area of San Joaquin County. The Project site is adjacent to the City of Stockton's northern city limits, within the City of Stockton (City) Sphere of Influence (SOI) (as defined in the Envision Stockton 2040 General Plan), and within the City of Stockton Urban Services Boundary.

The Project site is bounded on the north by Eight Mile Road, to the east by West Lane, and to the west by Lower Sacramento Road. The future Marlette Road, between Lower Sacramento Road and West Lane, will form the property's southern boundary. The Project site is located within Section 3 of Township 2 North, Range 6 East Mount Diablo Base and Meridian. Figures 2.0-1 and 2.0-2 show the Project's regional location and vicinity.

2.2 PROJECT SITE DEFINED

The Project site includes several distinct planning boundaries, defined below. The following terms are used throughout this Draft Environmental Impact Report (DEIR) to describe the planning area boundaries within the Project site:

- Project Site (or Annexation Area) – includes the whole of the Project (totaling 306.03 acres), including the proposed 236.30-acre Development Area, 56.03-acre Non-development Area, and 13.7 acres of existing right-of-way. Entitlements include a tentative subdivision map.
- Development Area – includes six (6) parcels totaling 236.30 acres (APNs 084-050-06, -07, -08, -14, -27, and -28) that is intended for the development of up to 1,411 residential units, two (2) parks, a potential school site, and public infrastructure.
- Non-development Area – includes six (6) parcels totaling 56.03 acres with agricultural uses, a commercial use (1 building) and a church, situated in the northwestern portion of the Project site.
- Right-of-Way Annexation Area – includes 13.7 acres of remaining right-of-way outside of areas of dedication owned by San Joaquin County and intended to be annexed into the City of Stockton.

2.3 PROJECT SETTING

EXISTING SITE CONDITIONS

The Project site is 306.03 acres located on 11 assessor parcels (APNs) and remaining County right-of-way as follows: Development Area (six parcels totaling 236.30 acres), Non-development Area (six (6) parcels totaling 56.03 acres), and Right-of-Way Annexation Area (13.7 acres of remaining County right-of-way). Table 2.0-1 lists each parcel included in the Project site and Figure 2.0-3 illustrates the APNs.

TABLE 2.0-1: PARCELS WITHIN THE PROJECT SITE

APN/ROW	*ACREAGE*
DEVELOPMENT AREA	
084-050-06	3.85
084-050-07	46.09
084-050-08	113.83
084-050-14	33.73
084-050-27	6.02
084-050-28	32.79
Development Area Subtotal	*236.30*
NON-DEVELOPMENT AREA	
084-030-04	0.53
084-050-01	6.18
084-050-02	3.72
084-050-03	29.30
084-050-25	9.98
084-050-26	6.31
Non-Development Area Subtotal	*56.03*
RIGHT-OF-WAY ANNEXATION AREA	
ROW	13.7
Right-of-Way Annexation Area Subtotal	*13.7*
Total	**306.03**

SOURCE: COUNTY ASSESSOR PARCEL DATA 2022

SITE TOPOGRAPHY

The Project site is relatively flat and ranges in elevation from approximately 22 to 31 feet above sea level.

EXISTING SITE AND SURROUNDING USES

The Project site is primarily bounded by lands within the County of San Joaquin (County) to the north and south. Lands within the City of Stockton are located to the east and west. Uses within the surrounding area include the following:

- North – Immediately north of the site is Eight Mile Road. North of Eight Mile Road are existing agricultural lands;
- East – Immediately east of the site is West Lane. East of West Lane are existing agricultural lands. The existing agricultural lands were recently incorporated into the City of Stockton and will be developed with residential and commercial uses as part of the approved Tra Vigne development project;
- South – Immediately south of the site is Marlette Road. South of Marlette Road are agricultural lands, Bear Creek, and McNair High School;
- West – Immediately west of the site is Lower Sacramento Road. West of Lower Sacramento Road is a City of Stockton residential neighborhood called “Destinations.”

Within the Project site, the Development Area is predominantly comprised of the following:

- Agricultural land;
- Vacant/undeveloped land;
- Miscellaneous outbuildings (i.e. sheds)
- Agricultural equipment storage areas;
- Dirt/gravel roadways;
- Irrigation canals (Woodbridge Irrigation District).

Within the Project site, the Non-development Area is predominately comprised of the following:

- Agricultural land;
- An existing residential home;
- A commercial building;
- A church.

The Right-of-Way Annexation Area includes the following:

- Eight Mile Road, forming the northern border of the Project site.

Figure 2.0-4 shows aerial imagery of the current existing site uses within the Project site.

EXISTING GENERAL PLAN LAND USE DESIGNATIONS AND ZONING

The Project site is currently located within San Joaquin County. The Project site is outside the Stockton city limits, but within the City's Sphere of Influence (SOI).

City of Stockton General Plan Land Use Designations

The Envision Stockton 2040 General Plan Land Use Map (Figure 2.0-5) designates the Project site as Low Density Residential, Medium Density Residential, High Density Residential, Institutional, and Parks and Recreation. Table 2.0-2 provides an existing land use summary of the Development Area per the 2040 Stockton General Plan.

TABLE 2.0-2: GROSS LAND USE SUMMARY – DEVELOPMENT AREA (PER GENERAL PLAN)

PROPOSED LAND USE DESIGNATIONS	*EXISTING (ACRES)*
Low Density Residential	126.4
Medium Density Residential	63.9
High Density Residential	19.4
Institutional	13.7
Parks and Recreation	12.9
TOTAL	**236.3**

The General Plan contains the following standards to guide development for these land uses.

Low Density Residential: This designation allows for single-family residential units, duplexes, triplexes, semi-detached patio homes, town homes, public and quasi-public uses, second units, and other similar and compatible uses. The maximum density is 6.1 units per acre based on gross acreage and 8.7 units per acre based on net acreage.

Medium Density Residential: This designation allows for single-family residential units, duplexes, triplexes, semi-detached patio homes, town homes, public and quasi-public uses, second units, and other similar and compatible uses. Based on gross acreage, this designation allows densities ranging from 6.2 to 13.1 units per acre; based on net acreage, it allows 8.8 to 17.4 units per acre. This designation also allows neighborhood-serving retail, commercial service, and mixed uses in appropriate locations that provide residents with easy access to daily services and necessities within their neighborhood, if they are compatible with surrounding uses, at a maximum FAR of 0.3

High Density Residential: This designation allows for multi-family residential units, apartments, dormitories, group homes, guest homes, public and quasi-public uses, and other similar and compatible uses. This designation also allows neighborhood-serving retail, commercial service, and mixed uses in appropriate locations that provide residents with easy access to daily services and necessities within their neighborhood, if they are compatible with surrounding uses. The allowable density and intensity ranges differ based on the geographic area, as follows:

- Outside the Greater Downtown: Based on gross acreage, this designation allows 13.2 to 24 units per acre; based on net acreage, it allows 17.5 to 30 units per acre. The maximum FAR for neighborhood-serving retail uses is 0.3.

- Inside the Greater Downtown: Based on gross acreage, this designation allows 16 to 72 units per acre; based on net acreage, it allows 20 to 90 units per acre. The maximum FAR for neighborhood-serving retail uses is 3.0.

- Inside the Downtown Core: Based on gross acreage, this designation allows 16 to 108.8 units per acre; based on net acreage, it allows 20 to 136 units per acre. The maximum FAR for neighborhood-serving retail uses is 5.0.

Institutional: This designation allows for public and quasi-public uses such as schools, libraries, colleges, water treatment facilities, airports, some governmental offices, federal installations, and other similar and compatible uses. The maximum FAR for institutional uses is 0.5 outside the Downtown area and 5.0 within the Downtown area.

Parks and Recreation: This designation allows for City and County parks, golf courses, marinas, community centers, public and quasi-public uses, and other similar and compatible uses. The maximum FAR for parks and recreation uses is 0.2

San Joaquin County General Plan Land Use Designations

The Project site is designated as Low Density (R/L), High Density (R/H), and Office Commercial (C/O) by the County's General Plan Land Use Map. Below is a general description of County-designated land uses within the Project site.

Low Density Residential (R/L): This designation provides for low density residential development in neighborhoods where single-family homes are the dominant land use. The Low-Density Residential Designation generally applies to residential neighborhoods in Urban Communities and City Fringe Areas. Typical building types include one- to two-story single-family dwellings in an urban setting. The density range is between 2.1 and 6.0 dwelling units per acre. The minimum lot size is 5,000 square feet.

Residential/High Density (R/H): This designation provides for residential development in more intensely developed residential and commercial areas. Development at the higher end of the density range should occur along major transportation routes and within major commercial centers. The High-Density Residential Designation generally applies to central business districts and main street areas within Urban Communities and City Fringe Areas. Typical building types include one- to three-story multifamily developments. The density range is between 15.1 and 40.0 dwelling units per acre. The minimum lot size is 6,000 square feet.

Office Commercial (C/O): This designation provides for office/employment centers. The Office Commercial designation is limited to Urban Communities and City Fringe Areas and should be organized in clusters rather than a linier development pattern. Developments should be located on a County-defined Minor Arterial or higher classification roadway and include pedestrian and bicycle facilities. Typical building types include one- to three-story structures. The allowable floor area ratio (FAR) range is between 0.20 and 0.60.

San Joaquin County Zoning

Per the San Joaquin County Development Title and Zoning Map, the Project site is currently zoned Agriculture-Urban Reserve (AU-20). Below is a general description of County zoning within the Project site.

AU Zone (Agriculture-Urban Reserve): This zone is intended to retain in agriculture those areas planned for future urban development to facilitate compact, orderly growth and to assure the proper timing and economical provision of services and utilities. The minimum parcel size for lots zoned AU-20 is 20 acres.

SURROUNDING GENERAL PLAN DESIGNATIONS

Within San Joaquin County, lands to the north of the Project site are designated Agricultural General (A/G), with land along the Pixley Slough designated Resource Conservation (OS/RC), and lands to the south are designated Low Density (R/L).

Within the City, lands to the east and west are designated Commercial, High Density Residential, and Low Density Residential. The City's General Plan also designates land to the north and south (within unincorporated San Joaquin County) as Open Space/Agriculture, Low Density Residential, and Commercial.

2.4 PROJECT GOALS AND OBJECTIVES

Consistent with the California Environmental Quality Act (CEQA), Guidelines Section 15124(b), a clear statement of objectives and the underlying purpose of the proposed Project shall be discussed. The

principal purpose of the proposed Project is the annexation of the Project site into the City of Stockton, and approval and subsequent development of the Development Area for residential and park uses.

The LeBaron Ranch Development Project identifies the following project objectives as part of the stated purpose:

- Provide residential housing opportunities, with an array of lot sizes and housing types, that are visually attractive and accommodate the future housing demand in Stockton.
- Establish a mixture of Low-, Medium-, and High-Density Residential project types that collectively provide for local and regional housing and that take advantage of the area's high level of accessibility. Ensure that all housing is designed with architectural form that is visually attractive.
- Provide infrastructure, public facilities, and park space that meets City standards, in a centralized setting that is integrated with existing and planned facilities and connections and increases recreation opportunities for existing and future residents of the City.
- Provide a site that could accommodate a K-8 school if the Lodi Unified School District desires to build a school within the Project site. Alternatively, if the Lodi Unified School District chooses not to build a school within the Project site, ensure that the design alternative would accommodate single-family residential housing consistent with the form and design of surrounding single-family residential units planned within the Project site.
- To incorporate Woodbridge Irrigation District facilities into the Project design, that maintains their purpose while avoiding any conflicts with future residents.
- Continue open space improvements along Eight Mile Road, like the Destinations Master Plan Project to the west of the Project Site. This includes preservation of a drainage facility and access to an off-street pedestrian path.
- Establish a logical phasing plan designed to ensure that each phase of development would include necessary public improvements that are required to meet City standards, both onsite and offsite. Internal Phases will basically commence from the eastern portion of the Development Area and move west, allowing infrastructure to be advanced to an upcoming phase.

2.5 PROJECT CHARACTERISTICS AND DESCRIPTION

The proposed Project is primarily a residential development anticipated to provide up to 1,411 units (assuming school site is developed with single-family residential units). Total parkland and open space areas total 30.7 acres. Part of the open space acreage will come from a series of streets with an enhanced right of way to accommodate a pedestrian "wellness walk." Other uses to support and complement the proposed residential development include underground wet and dry utility infrastructure, roadways, curb/gutters/sidewalks, bicycle/pedestrian facilities, street lighting, and street signage. Table 2.0-3 provides a land use summary of the Development Project. Figures 2.0-6-A and -B provide maps of the proposed General Plan land uses, and Figures 2.0-7-A and -B provide maps of the proposed Pre-zoning.

TABLE 2.0-3: GROSS LAND USE SUMMARY – DEVELOPMENT AREA (PER VESTED TENTATIVE MAP)

PROPOSED LAND USE DESIGNATIONS	*PROPOSED (ACRES) WITH SCHOOL*	*PROPOSED (ACRES) WITHOUT SCHOOL*	*PROJECTED NUMBER OF UNITS (OR SQUARE FEET)*
Low Density Residential	78.0	78.0	421
Medium Density Residential [(1)]	100.7	113.6	796[(1)]
High Density Residential	9.5	9.5	194
Institutional	12.0	--	--
Parks and Recreation	12.0	12.2	--
Storm Basin (Shown as Parks and Recreation Designation)	4.5	4.5	--
Open Space ("Wellness Walks" and Open Ditch); and Rights of Way	19.6	18.5	--
TOTAL	**236.3**	**236.3**	**1,411[(1)]**

NOTE:

1. FOR PURPOSES OF THE ENVIRONMENTAL ANALYSIS, IT IS ASSUMED THAT 79 SINGLE-FAMILY RESIDENTIAL UNITS WOULD BE DEVELOPED ON THE PARCEL RESERVED FOR THE PROPOSED SCHOOL. THESE ADDITIONAL LOTS ARE ADDED TO THE PROJECT LOT COUNT, UNDER MEDIUM DENSITY DESIGNATION, TO DETERMINE A WORST-CASE SCENARIO IN TERMS OF BUILDOUT OF THE PROJECT SITE SHOULD THE SCHOOL DISTRICT NOT NEED THIS SITE.

RESIDENTIAL DEVELOPMENT

The proposed Project will provide a variety of housing types and lot sizes. As shown in Table 2.0-2 above, at full build-out and assuming residential units in place of the school, the Development Area will accommodate up to a maximum of 1,411 residential units.

The proposed Project includes a vesting tentative map that would subdivide the Development Area consistent with the proposed land uses. The Development Area would have 1,217 single family residential units with lot sizes that would range from 3,375 to 6,000 sf. Additionally, the Development Area would include 194 high density residential units on 9.5 acres to the west of the proposed single family residential area, for a total residential unit count of 1,411 units.

The Project would be developed in six (6) phases. A portion of the Central Park would be developed in Phase 1. The sequence of phasing would generally be from the future Marlette Road, to the north, toward Eight Mile Road.

Figure 2.0-8-B illustrates the site plan with a school site, which would result in the development of 1,332 residential units. If the school is not developed, residential units would be built in its place for a total of 1,411 units. Figure 2.0-8-B illustrates a site plan without the school site.

INSTITUTIONAL – SCHOOL SITE

The proposed Project establishes a site for a 12.0-acre K-8 school to be developed by Lodi Unified School District (LUSD). The development of a K-8 school at this site is the discretionary decision of the LUSD, and while the proposed Project has planned for a school at this location, it will be determined by LUSD later through their decision-making process. If the LUSD decides to not pursue building a school at this site, then the site would be developed with 79 single family residential units. Construction of homes in this

location would increase the number of units by 79 units when compared to the proposed Project with the school site. The total combined units would increase from 1,332 under the proposed Project to 1,411 units under this variation (i.e., no school).

PARKS AND OPEN SPACE

The Project (under the "No School" scenario) would provide approximately 12.2 acres of traditional park space. Two Park areas are proposed, including a centrally located 8.75-acre park and a 3.47-acre park in the northern portion of the Development Area. In addition, to the two parks, there will be a series of streets with an enhanced right of way to accommodate a pedestrian "wellness walk." This "wellness walk," which is comprised of 8.53 acres of open space, will tie different neighborhoods to the internal parks and encourage movement throughout the Project site. Additionally, a 4.5-acre detention basin area would be in the northern portion of the Project site, adjacent to the 3.47-acre park of which 1.0-acre of the basin is considered usable open space.

CIRCULATION

The proposed Project will connect with and expand the existing roadway and pedestrian circulation system in the City of Stockton. Additionally, the proposed Project will provide both standard sidewalks, and as part of specific project roadways, enhanced sidewalks (also referred to as "wellness walks") throughout the development, along with bike lanes along the major arterials that the proposed Project fronts to offer additional bicycling and walking facilities for all of Stockton's residents. The Development Area is proposed as a natural progression of the existing housing areas and street network to the west of the Project site and will tie directly to the existing roadway network.

The Project includes an extension of the west-east trending Marlette Road that will provide several access points to the proposed development, and connect to West Lane and Lower Sacramento Road. West Lane and Lower Sacramento Road are the main arterial roadways providing access to the Development Area. The proposed Project includes annexation of right-of-way along Eight Mile Road, which will be improved to City of Stockton standards; however, access to the proposed development will not occur from Eight Mile Road, thus eliminating any conflicts with the flow of traffic on Eight Mile Road. Project traffic will be directed to Marlette Road, except for one direct access point to West Lane, and then directed east or west along Marlette Road to West Lane and Lower Sacramento Road.

The neighborhoods within the Development Area will include a network of minor collectors and residential streets to provide traffic flow through the area. Additionally, sidewalks will be included per the City standards, along with enhanced sidewalks (also referred to as "wellness walks") throughout portions of the development to provide access to the two (2) parks and the trail system along Eight Mile Road.

Class IV bikeways (separated bikeways) will be provided along the major arterials that border the Project site; which includes Lower Sacramento Road, West Lane and Eight Mile Road. The Eight Mile Road cross section shows both a Class IV bikeway on Eight Mile Road and a Class I bike path between the proposed Project and the Woodbridge Irrigation Ditch (see Figure 2.0-9 illustrating bikeways in the green area of the roadway cross section). The Eight Mile Road cross section shows both a Class IV bikeway and Class I bike path. The Class I path is in the green area and Class IV is to the left of the sidewalk. The illustration shows a raised curb/divider next to right turn lane.

The "wellness walk" network throughout the proposed Project provides bicyclist and walkers with a wider pathway to share a pedestrian-friendly option for traveling throughout the Project area. See Figures 2.0-9a through 2.0-9d for cross sections of roadways that show the meandering walkway with landscaping. These areas are planned to be an eight-foot wide meandering concrete trail between two ten-foot wide landscaped areas. A one-foot section on either side of the concrete sidewalk/trail will be decomposed granite (DG) walkable surface, transitioning into the landscape strip. A connection is provided from the "wellness walk" to the Class IV bikeway along West Lane and to the Class I bike path along the Project's northern boundary.

UTILITIES AND PLANNED INFRASTRUCTURE IMPROVEMENTS

The construction of on-site infrastructure improvements would be required to accommodate development of the Development Area, as described below.

Potable Water System

The Development Area would be served by a new potable water distribution system. The Project proposes two 18-inch lines along Marlette Road and Lower Sacramento Road. The proposed 18-inch water line along Marlette Road will connect to a water main in West Lane that will be constructed as part of the Tra Vigne project and travel west along the proposed Marlette Road, connecting to the existing City of Stockton water main on Lower Sacramento Road. The Project would extend the existing City of Stockton water main on Lower Sacramento Road north, by constructing a second 18-inch line along Lower Sacramento Road to connect with the existing water main in Eight Mile Road. The Project proposes a network of 12-inch lines located within the Project site to connect to the proposed 18-inch water line along Marlette Road and the 24-inch water line along West Lane.

Wastewater System

Wastewater services would be provided by existing and planned City of Stockton collection and treatment system. Wastewater treatment would be provided at the City's existing Regional Wastewater Control Facility (RWCF). Wastewater collection would be provided by the City's existing Wastewater Collection System No. 10 (System 10). The Project proposes an 18-inch sewer line in Marlette Road that would connect with a sewer trunk main in West Lane that will be constructed as part of the Tra Vigne project. The alignment of the sewer main was established as part of the approved Tra Vigne project. If the Tra Vigne project does not construct the sewer main as approved, the applicants for the proposed Project would move forward with construction of the sewer main needed to facilitate the proposed Project

Stormwater System

Development of the proposed Project would include construction of a new storm basin near Eight Mile Road, and two (2) options for connecting to offsite drainage facilities are being considered and evaluated. Option 1 would connect to a new outfall structure to the north of the basin and pump storm water into the Woodbridge Irrigation District (WID) drainage ditch that is located south of, and parallel to Eight Mile Road. Option 2 is construction of a force main to Pixley Slough to an existing outfall structure. The force main would be located south of, and parallel Eight Mile Road.

Option 1 (Direct Discharge to WID Drainage Facility): The new basin will collect storm water from the Project site to be pumped through a force main system to a new outfall structure located north of the basin and discharge flows into an existing WID drainage facility that parallels Eight Mile Road.

Option 2 (Force Main to Existing Pixley Slough Outfall): The new basin will collect storm water from the Project site to be pumped through a force main system to the existing Pixley Slough Outfall Facility, located at the northwest corner of the existing Destinations residential master plan community. Storm water from the new basin will be pumped following peak flows to avoid impacting the existing storm drainage system built as part of the Destinations residential community. The force main pipe will be in a drainage easement adjacent to the Eight Mile Road right of way, travel west to the existing Pixley Slough Outfall facility.

It is noted that the location of the proposed basin is conceptual and will be finalized during the design of Improvement Plans.

Regulated Public Utilities

Electrical, gas, phone, cable, and related internet services would be extended to all portions of the Project site from existing facilities located along West Lane and Eight Mile Road, or other utility systems in the Project vicinity. Utility improvements would be installed in conjunction with planned street improvements.

2.6 PROJECT ENTITLEMENTS

GENERAL PLAN AMENDMENTS

The proposed Project would require a City of Stockton General Plan Amendment to the Land Use Element to change land uses on the Project site. Changes to the General Plan Land Use Map are largely a reorganization of the precise locations for each land use within the boundary of the Project site as opposed to land use changes. Figures 2.0-6-A and 2.0-6-B illustrate the proposed Stockton General Plan land uses with and without the school site. Table 2.0-4 summarizes the existing and proposed land use designations.

TABLE 2.0-4: COMPARISON OF EXISTING AND PROPOSED LAND USE DESIGNATIONS

LAND USE DESIGNATIONS	*EXISTING (ACRES)*	*PROPOSED (ACRES) WITH SCHOOL*	*DIFFERENCE*	*PROPOSED (ACRES) WITHOUT SCHOOL*	*DIFFERENCE*
Low Density Residential	126.4	78.0	-48.4	78.0	-48.4
Medium Density Residential	63.9	100.7	36.8	113.6	49.7
High Density Residential	19.4	9.5	-9.9	9.5	-9.9
Institutional	13.7	12.0	-1.7	--	-13.7
Parks and Recreation	12.9	12.0	-0.9	12.2	-0.7
Storm Basin	--	4.5	4.5	4.5	4.5
Open Space (“Wellness Walks” and Open Ditch); and Rights of Way	--	19.6	19.6	18.5	18.5
TOTAL	**236.3**	**236.3**	**0**	**236.3**	**0**

PRE-ZONING

As previously stated, the Project site is currently outside of the jurisdiction of the City of Stockton, and therefore does not have City zoning. The proposed Project includes a request for pre-zoning of the Development Area and Non-development Area, as described below, so assign the future zoning to the parcels. The pre-zoning would go into effect upon annexation into the City of Stockton.

Development Area: The pre-zoning request is for an RL District, RM District, RH District and PF District. These districts are defined as follows:

- **RL (Residential, Low Density) District**. The RL zoning district is applied to single-family residential neighborhoods, low-density residential planned developments, and/or other low-density residential development, and is intended to maintain densities and protect existing neighborhood character. Allowable density shall be up to 8.7 dwelling units per net acre and 6.1 per gross acre. The RL zoning district is consistent with the Low Density Residential land use designation of the General Plan.

- **RM (Residential, Medium Density) District**. The RM zoning district is applied to more intensely developed residential neighborhoods and/or other medium-density residential planned developments. Allowable housing types may include single-family independent dwelling units, duplexes, triplexes, townhouses, and multifamily units. Allowable density shall be 8.8 to 17.4 dwelling units per net acre and 6.2 to 13.1 dwelling units per gross acre. The maximum floor area ratio (FAR) for neighborhood-serving retail uses is 0.3. The RM zoning district is consistent with the Medium Density Residential land use designation of the General Plan.

  The Applicant is seeking a Planned Unit Residential (PURD) Permit to introduce design deviations to the standards to allow for an alternative range of lot sizes. The planned development permit may adjust or modify, where necessary and justifiable, all applicable development standards (e.g., building envelope, off-street parking, street layout, etc.) contained within this Development Code.

- **RH (Residential, High Density) District**. The RH zoning district is applied to high-density residential neighborhoods. Allowable housing types may include multifamily and various types of group housing, as well as high density single-family residential development. The RH zoning district is consistent with the High Density Residential land use designation of the General Plan. Consistent with the General Plan, allowable densities are as follows:

  - **Outside the Greater Downtown**. 17.5 to 30 dwelling units per net acre and 13.2 to 24 dwelling units per gross acre. The maximum floor area ratio (FAR) for neighborhood-serving retail uses is 0.30.

- **PF (Public Facilities) District**. The PF zoning district is applied to areas appropriate for a variety of public and quasi-public land uses, including facilities and lands owned by the City, County, State, or Federal governments as well as religious facilities. The PF zoning district is consistent with the institutional and parks and recreational land use designations of the General Plan. The maximum FAR is 0.2.

Non-development Area: The pre-zoning request is for an RL District and RM District for six (6) parcels totaling 56.03 acres. These parcels currently have agricultural uses, a commercial use (1 building) and a church, situated in the northwestern portion of the Project site. These districts are defined as follows:

- **RL (Residential, Low Density) District**. The RL zoning district is applied to single-family residential neighborhoods, low-density residential planned developments, and/or other low-density residential development, and is intended to maintain densities and protect existing neighborhood character. Allowable density shall be up to 8.7 dwelling units per net acre and 6.1 per gross acre. The RL zoning district is consistent with the Low Density Residential land use designation of the General Plan.

- **RM (Residential, Medium Density) District**. The RM zoning district is applied to more intensely developed residential neighborhoods and/or other medium-density residential planned developments. Allowable housing types may include single-family independent dwelling units, duplexes, triplexes, townhouses, and multifamily units. Allowable density shall be 8.8 to 17.4 dwelling units per net acre and 6.2 to 13.1 dwelling units per gross acre. The maximum floor area ratio (FAR) for neighborhood-serving retail uses is 0.3. The RM zoning district is consistent with the Medium Density Residential land use designation of the General Plan.

The proposed zoning for the Project site is shown on Figures 2.0-7-A and-B.

VESTING TENTATIVE SUBDIVISION MAP

The proposed Project includes a Vesting Tentative Subdivision Map for the Development Area. The tentative map would result in the subdivision of 236.3 acres into 1,217 single-family residential units (approximately 179 acres) and 194 high density residential units (9.5 acres), a 12.0-acre school site, an 8.5-acre central park and 3.47-acre northern park, and approximately 23.3 acres for streets/common areas/easements. Total parkland is 12.0 acres. In addition, there will be a series of streets with an enhanced right of way to accommodate a pedestrian "wellness walks." The development of the 12.0-acre school site is the discretionary decision of Lodi Unified School District (LUSD). If LUSD decides they do not want to secure a school site, an additional 79 single-family residential units would be developed on the school parcel. Figures 2-8a and 2-8b illustrate the Site Plan.

ANNEXATION

The proposed Project includes an Annexation of 12 APNs totaling 306.03 acres. This includes the Development Area (six parcels totaling 236.30 acres), Non-development Area (six parcels totaling 56.03 acres), and the remaining Right-of-Way Annexation Area (13.7 acres of existing County right-of-way). The annexation will also include detachment from the Lincoln Fire District. Non-development area includes lands that will be…..

2.7 USES OF THE EIR AND REQUIRED AGENCY APPROVALS

This EIR may be used for the following direct and indirect approvals and permits associated with adoption and implementation of the proposed Project.

CITY OF STOCKTON

The City of Stockton will be the Lead Agency for the proposed Project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050. Actions that would be required from the City include, but are not limited to the following:

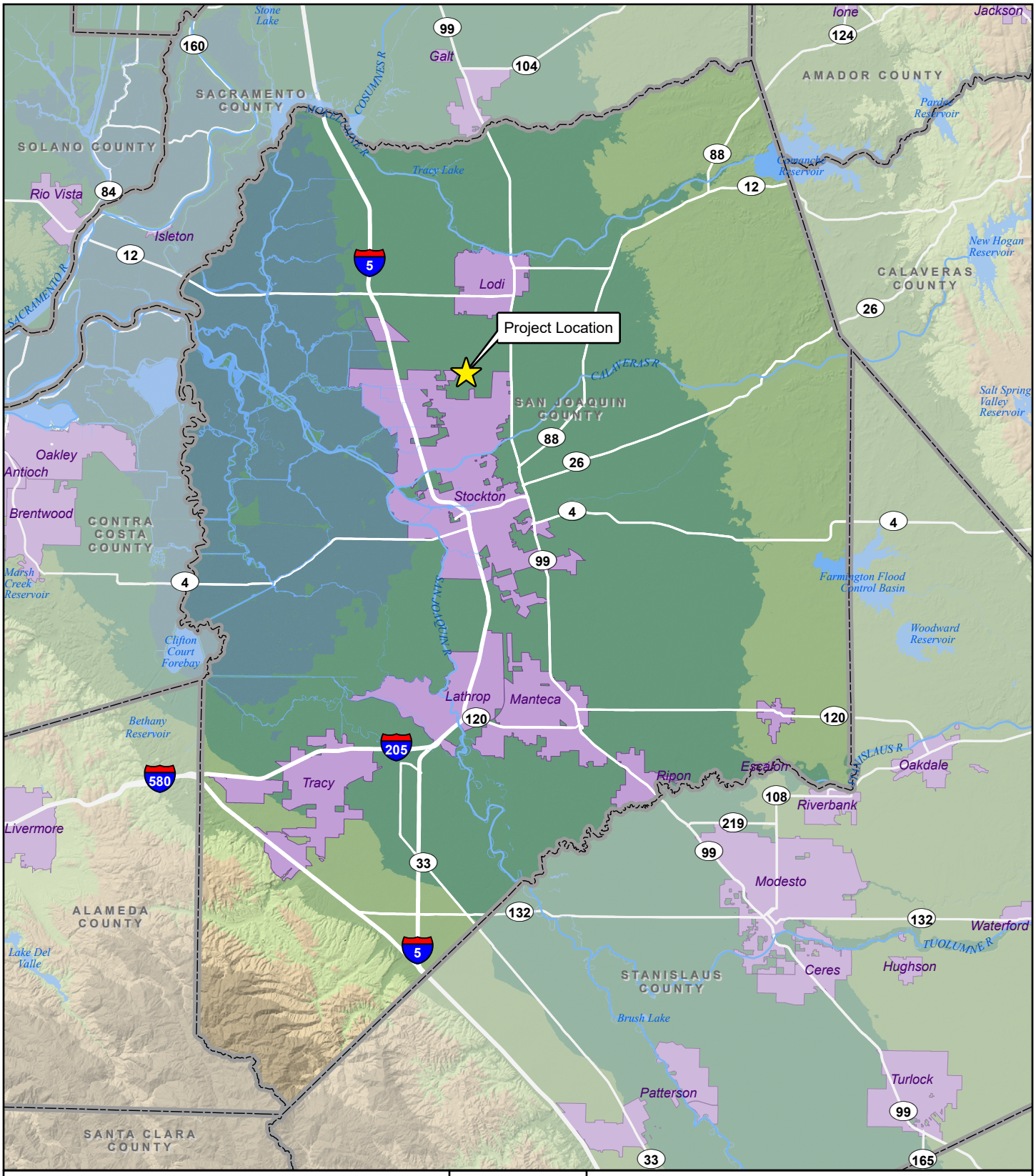
- Certification of the EIR;
- Adoption of the Mitigation Monitoring and Reporting Program;
- Adoption of the Findings and Statement of Overriding Considerations;
- Adoption of General Plan Amendment (Land Use Map);
- Adoption of an Ordinance for City of Stockton Pre-Zoning;
- Approval of a Detachment Agreement from the Lincoln Fire District;
- Approval of a Planned Unit Residential Development (PURD) Permit;
- Approval of Vesting Tentative map;
- Approval of Annexation and Authorization to submit Annexation request to San Joaquin LAFCo;
- Approval of future Final Maps;
- Approval of future Improvement Plans;
- Approval of future Grading Plans;
- Approval of Building Permits;
- Issuance of grading, encroachment, and building permits; and
- City review and approval of Project utility plans.

OTHER GOVERNMENTAL AGENCY APPROVALS

The following agencies are considered “Responsible Agencies” and will need to rely on this EIR to issue permits or approve certain aspects of the proposed Project. A "Responsible Agency" is any public agency, other than the lead agency, which has the responsibility for approving the project where more than one public agency is involved. Other governmental agencies that may require approval include, but are not limited to, the following:

- California Department of Fish and Wildlife (CDFW) – should a 1600 Streambed Alteration Agreement, or 401/404 Permit be required;
- Central Valley Flood Protection Board (CVFPB) – should offsite work impact Pixley Slough (which is not anticipated);
- Central Valley Regional Water Quality Control Board (CVRWQCB) – Storm Water Pollution Prevention Plan (SWPPP) approval pursuant to the Clean Water Act;
- CVRWQCB – Water quality certification pursuant to Section 401 of the Clean Water Act;
- San Joaquin County Flood Control and Water Conservation District;
- Native American Heritage Commission (NAHC);
- San Joaquin Local Agency Formation Commission (LAFCo) – Annexation;
- San Joaquin Valley Air Pollution Control District (SJVAPCD) – Construction-related permits;
- San Joaquin Valley Air Pollution Control District (SJVAPCD) – Authority to Construct, Permit to Operate for stationary sources of air pollution

- Stockton Fire Department – Plan check of the site plan and roadway improvements for adequate emergency vehicle access and fire flow capabilities;
- San Joaquin Council of Governments (SJCOG) – Issuance of incidental take permit under the San Joaquin Multi-Species Habitat Conservation and Open Space Plan (SJMSCP).
- United States Army Corps. Of Engineers (USACE) – Permitting of federal jurisdictional areas pursuant to Section 404 of the Clean Water Act.
- Woodbridge Irrigation District



LEGEND

- County Boundary
- Incorporated Area

N

0 2½ 5

Miles

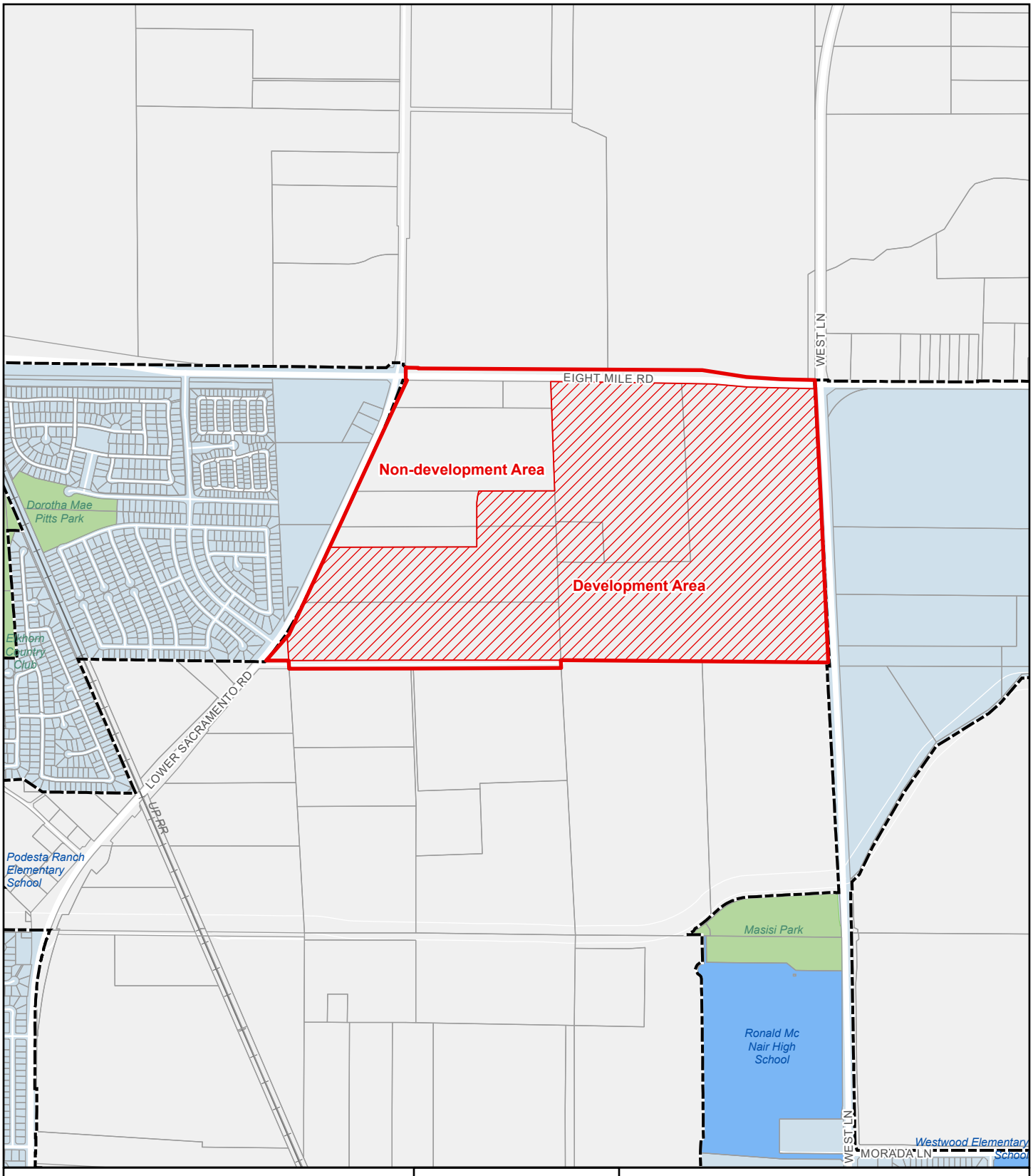
Sources: San Joaquin County GIS. Map date: July 13, 2023.

STOCKTON LEBARON RANCH

Figure 2.0-1. Regional Project Location

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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LEGEND

- Project Site
- Development Area
- Stockton City Limits
- Public Schools
- Parks

N

0 500 1,000

US Feet

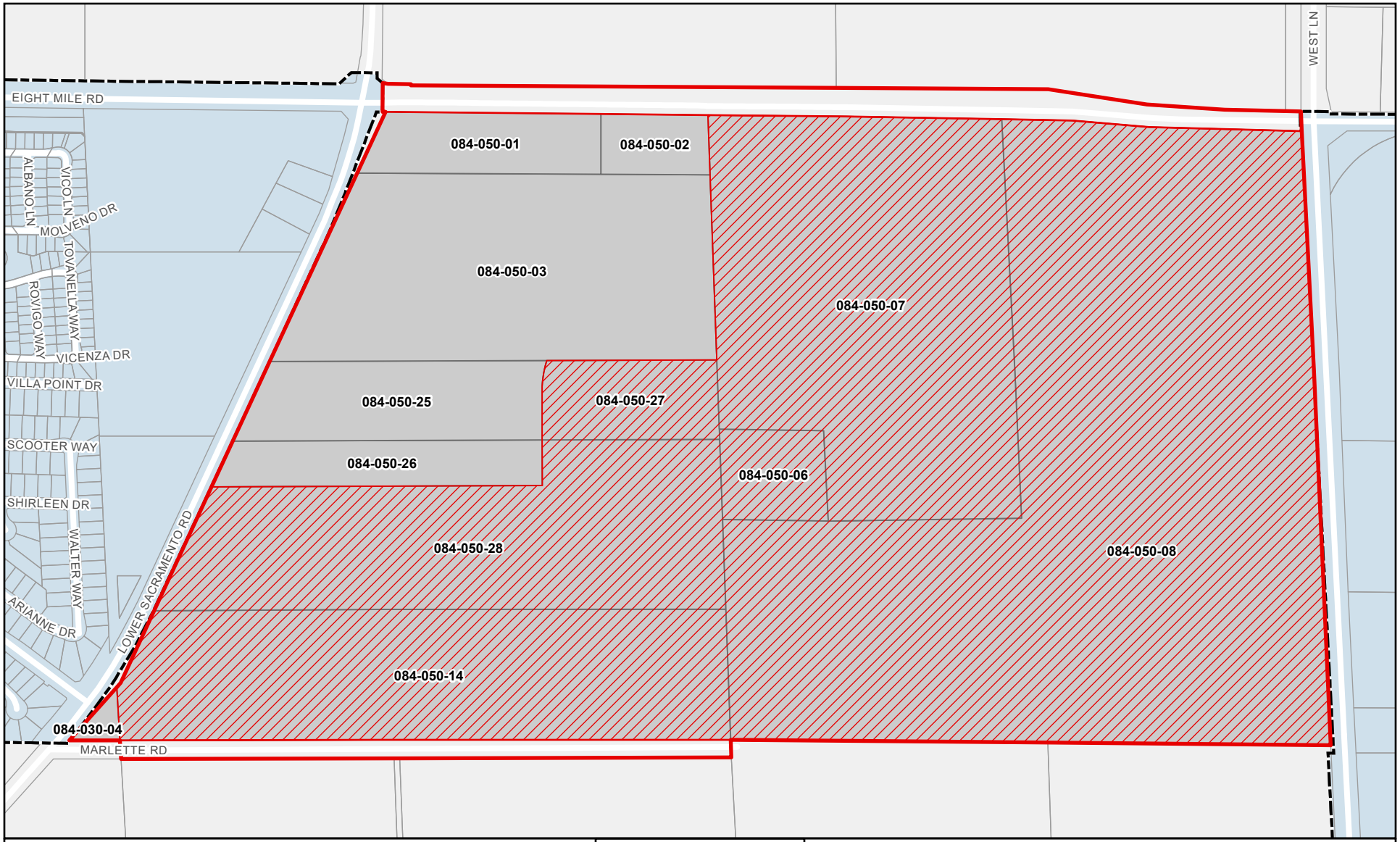
Sources: San Joaquin County GIS. Map date: July 13, 2023.

STOCKTON LEBARON RANCH

Figure 2.0-2. Project Vicinity Map

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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LEGEND

- Project Site
- Development Area
- Project Parcels
- Stockton City Limits

Sources: San Joaquin County GIS. Map date: July 13, 2023.

N

0 250 500

US Feet

STOCKTON LEBARON RANCH

Figure 2.0-3. APN Map

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LEGEND

- Project Site
- Development Area
- Stockton City Limits

N

0 250 500

US Feet

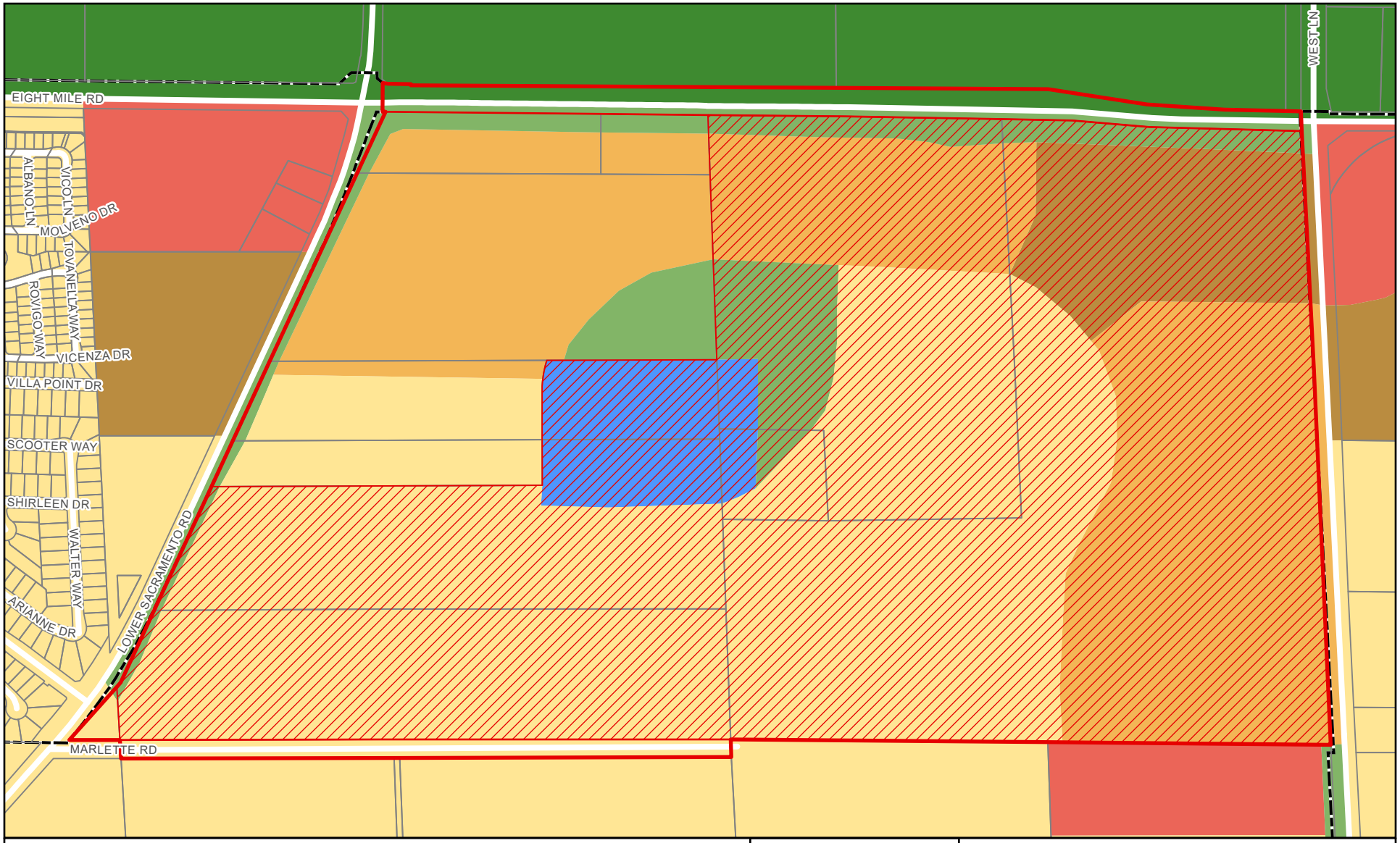
Sources: ArcGIS Map Service; San Joaquin County GIS. Map date: July 13, 2023.

STOCKTON LEBARON RANCH

Figure 2.0-4 Aerial Map

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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LEGEND

- Project Site
- Development Area
- Stockton City Limits

Stockton General Plan Land Use

- Low Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Institutional
- Parks and Recreation
- Open Space/Agriculture

N

0 250 500

US Feet

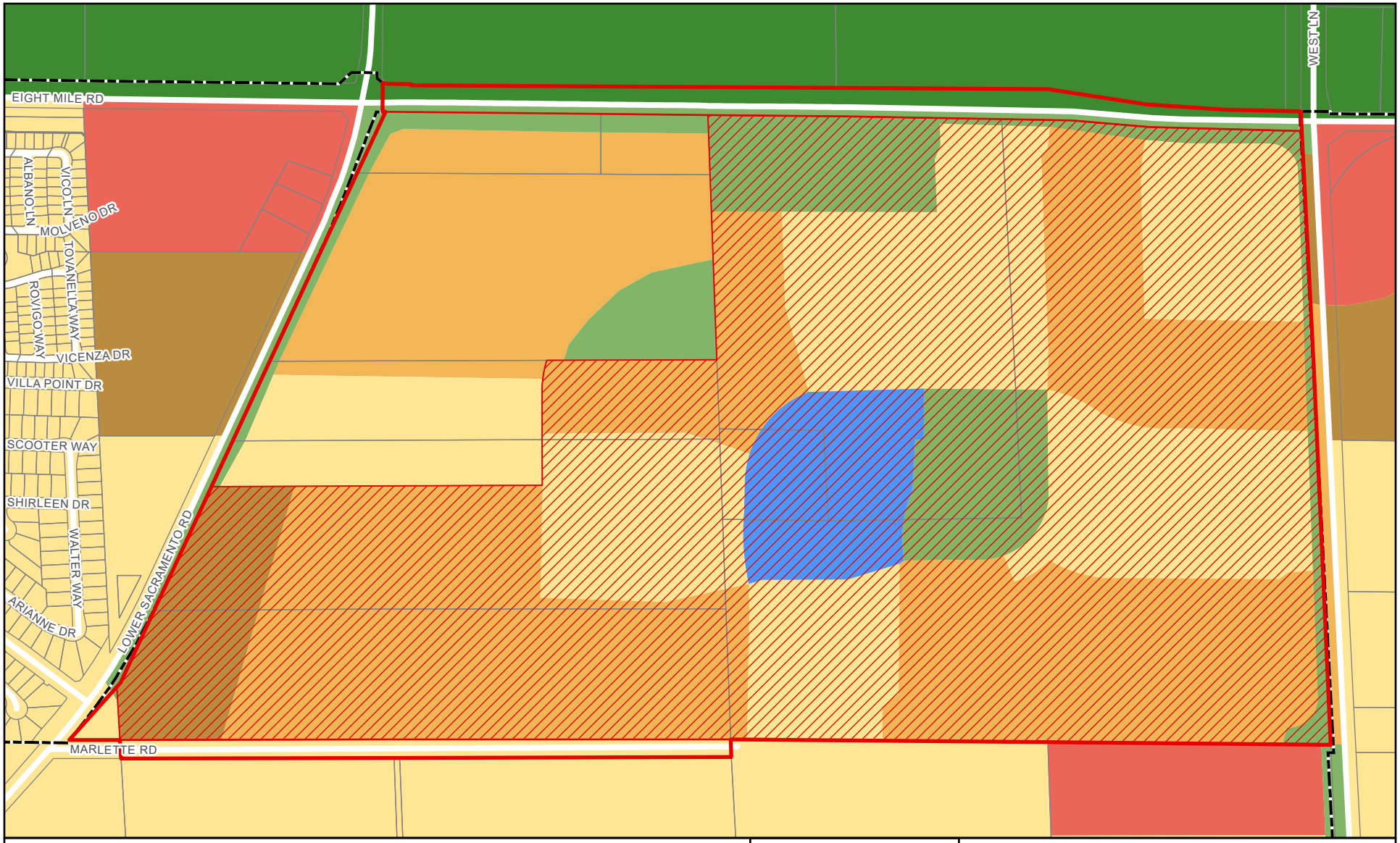
Sources: City of Stockton; San Joaquin County GIS. Map date: July 13, 2023.

STOCKTON LEBARON RANCH

Figure 2.0-5. Existing General Plan Land Use Designations

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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LEGEND

- Project Site
- Development Area
- Stockton City Limits

Proposed General Plan Land Use

- Low Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Institutional
- Parks and Recreation
- Open Space/Agriculture

N

0 250 500

US Feet

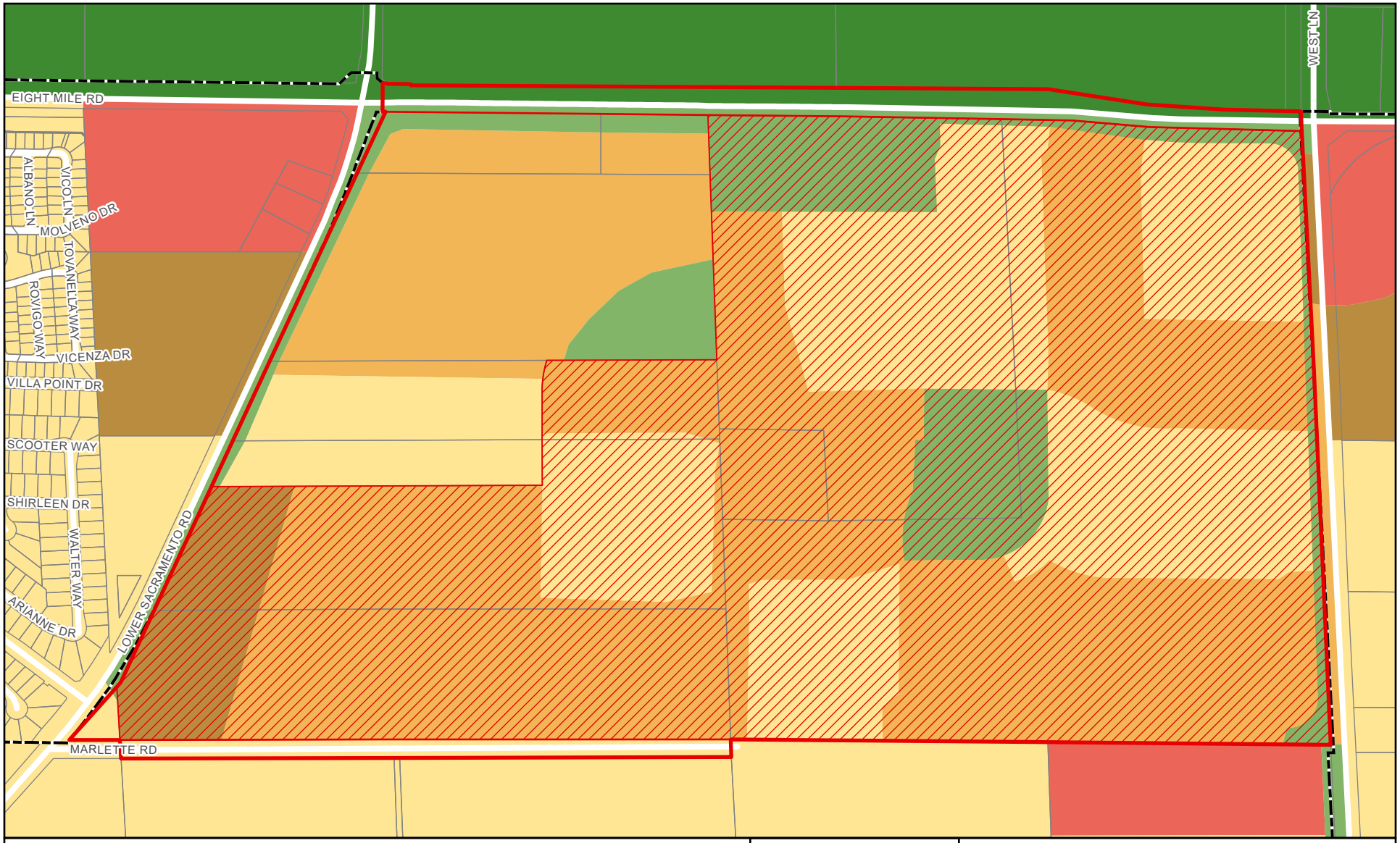
Sources: San Joaquin County GIS. Map date: July 13, 2023.

STOCKTON LEBARON RANCH

Figure 2.0-6-A. Proposed General Plan Land Use Designations (with school site)

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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LEGEND

- Project Site
- Development Area
- Stockton City Limits

Proposed General Plan Land Use

- Low Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Parks and Recreation
- Open Space/Agriculture

N

0 250 500

US Feet

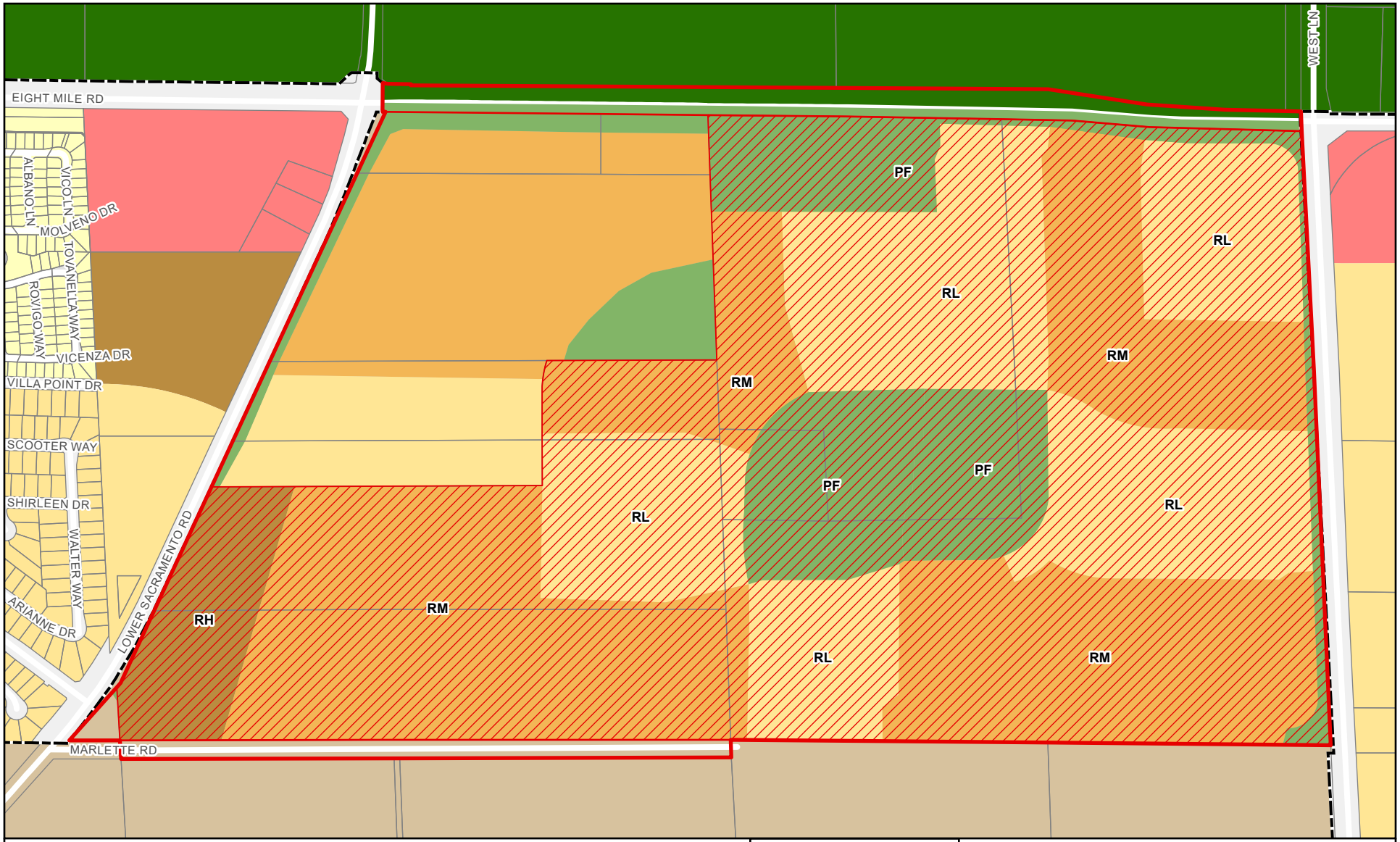
Sources: San Joaquin County GIS. Map date: June 6, 2023.

STOCKTON LEBARON RANCH

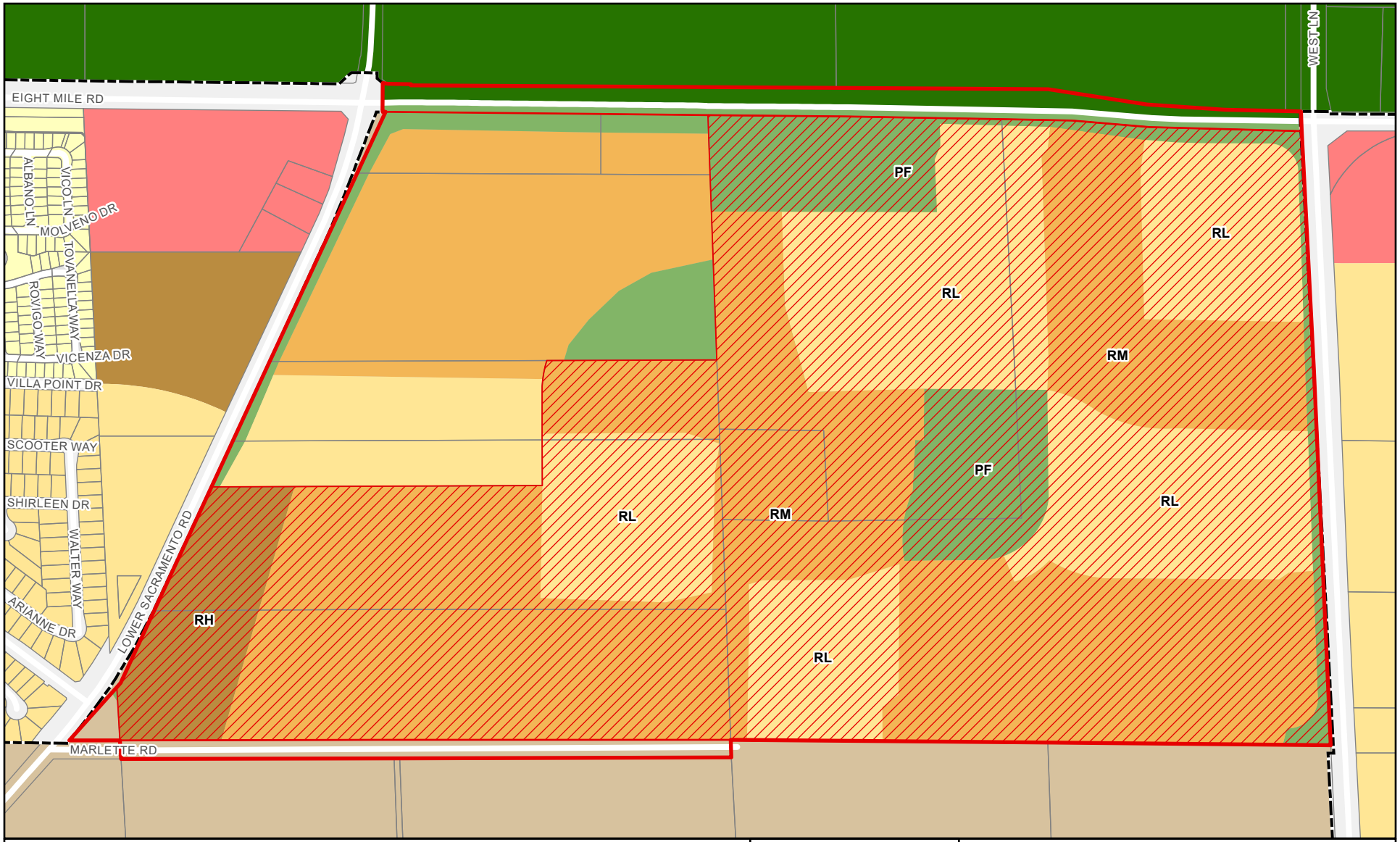
Figure 2.0-6-B. Proposed General Plan Land Use Designations (without school site)

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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EIGHT MILE RD
WEST LN
ALBANO LN
VICOLI LN
MOLVENO DR
TOVANELLA WAY
ROVIGO WAY
VICENZA DR
VILLA POINT DR
SCOOTER WAY
SHIRLEEN DR
WALTER WAY
ARIANNE DR
LOWER SACRAMENTO RD
MARLETTE RD
PF
RL
RM
RH
LEGEND
Project Site
Development Area
Stockton City Limits
Proposed Prezone
RL
RM
RH
PF
City of Stockton Zoning
RLP
RL
RH
CG
ROW
San Joaquin County Zoning
AG-40
AU-20
Sources: San Joaquin County GIS. Map date: September 20, 2023.
N
0
250
500
US Feet
STOCKTON LEBARON RANCH
Figure 2.0-7-A. Proposed Prezone (with school)
De Novo Planning Group
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LEGEND

- Project Site
- Development Area
- Stockton City Limits

Proposed Prezone	City of Stockton Zoning	San Joaquin County Zoning
RL	RLP	AG-40
RM	RL	AU-20
RH	RH	
PF	CG	
	ROW	

Sources: San Joaquin County GIS. Map date: September 20, 2023.

N

0 250 500

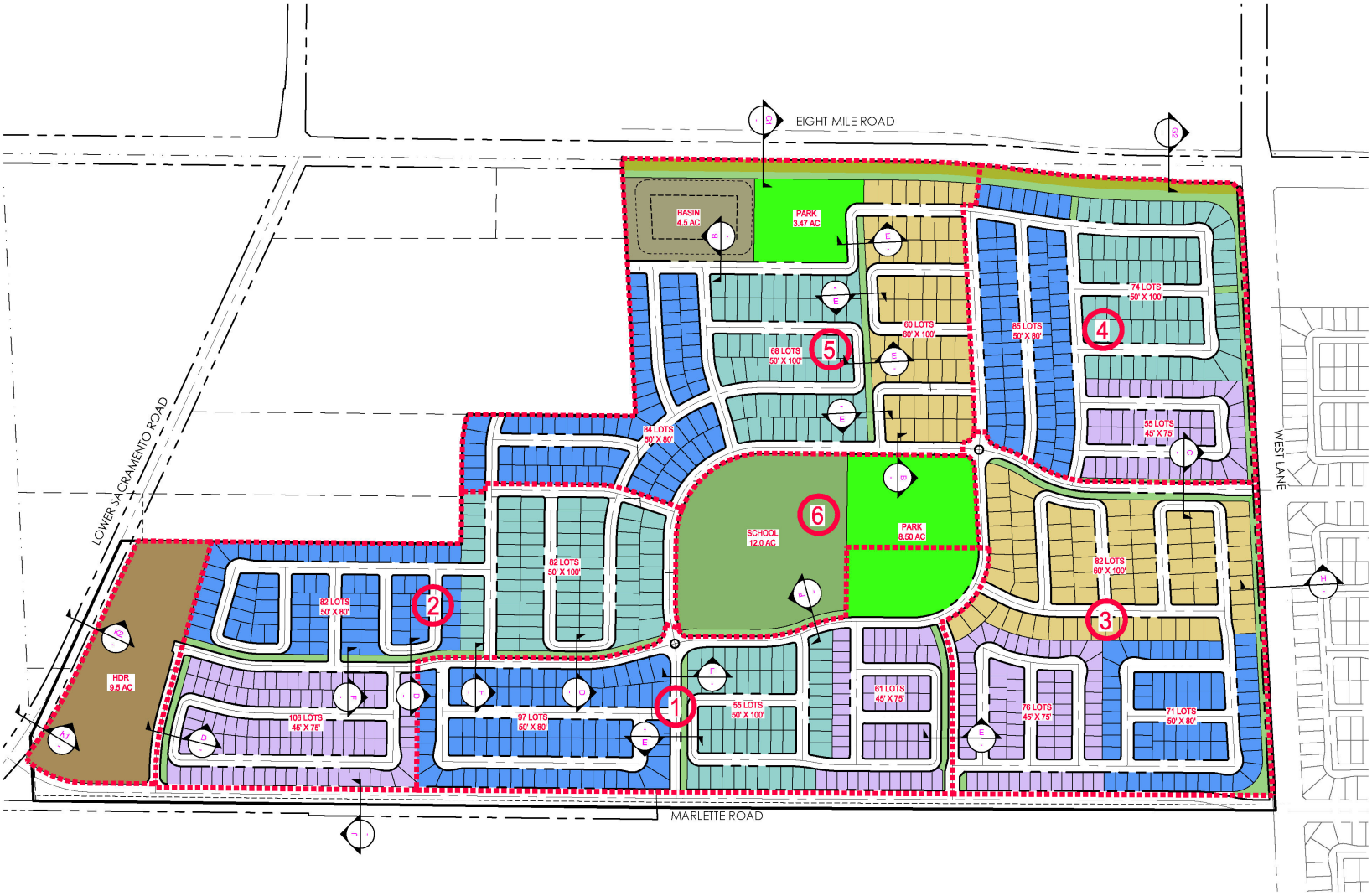
US Feet

STOCKTON LEBARON RANCH

Figure 2.0-7-B. Proposed Prezone (without school site)

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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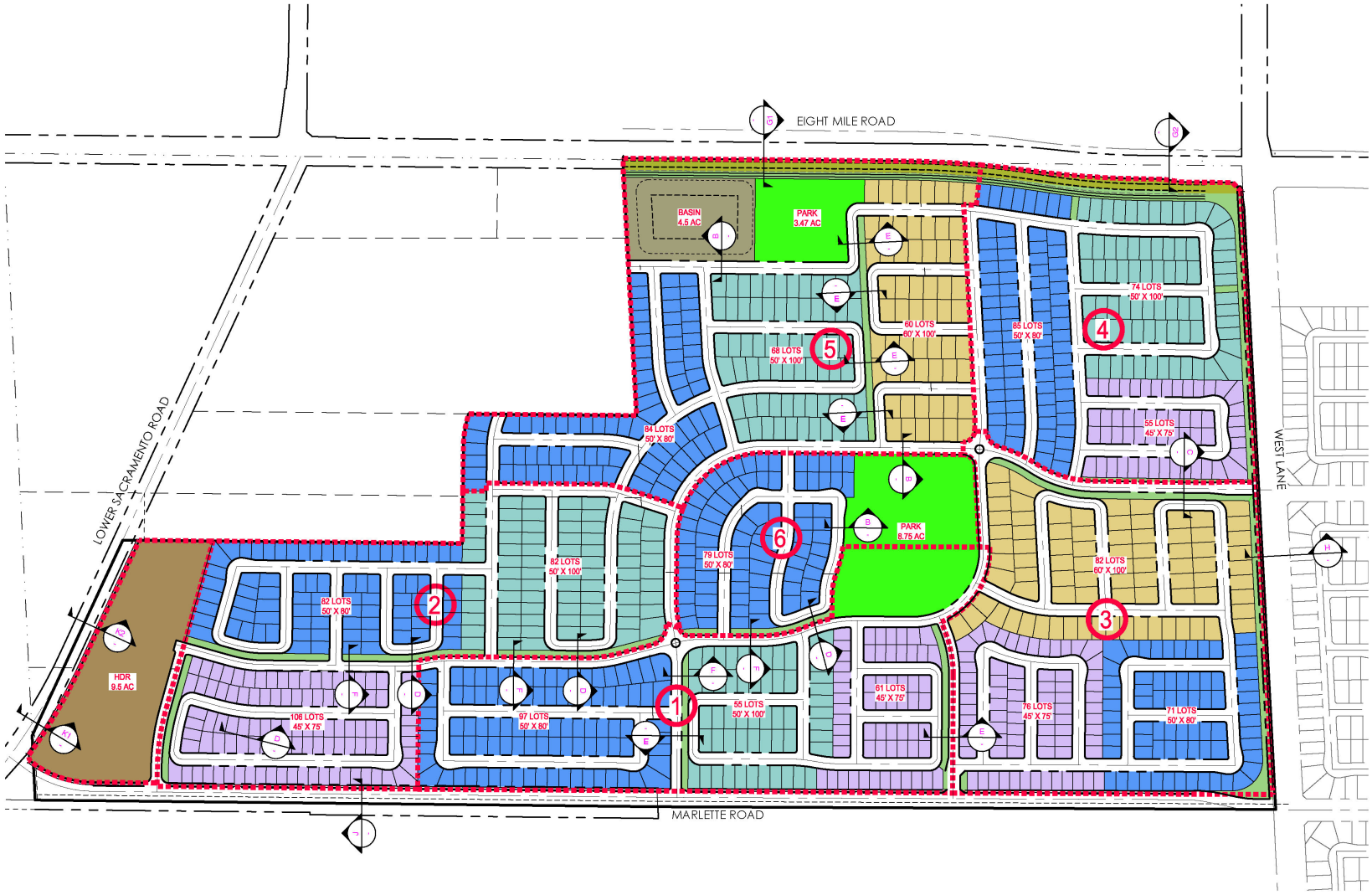


STOCKTON LEBARON RANCH

Figure 2.0-8-A. Tentative Map
(with school site)

Sources: San Joaquin County GIS. Map date: July 13, 2023.

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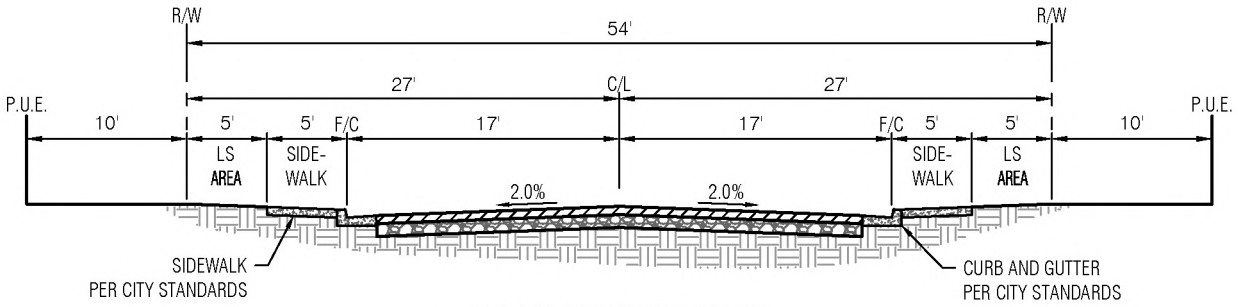


STOCKTON LEBARON RANCH

Figure 2.0-8-B. Tentative Map
(without school site)

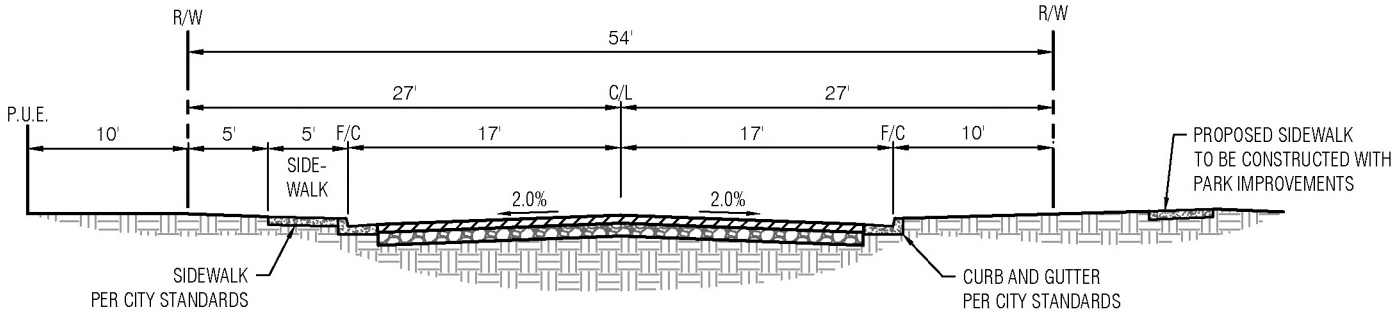
Sources: San Joaquin County GIS. Map date: June 6, 2023.

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A LOCAL STREET 54' R/W

TYPICAL RESIDENTIAL STREET
NOT TO SCALE



B LOCAL STREET 54' R/W AT PARKS

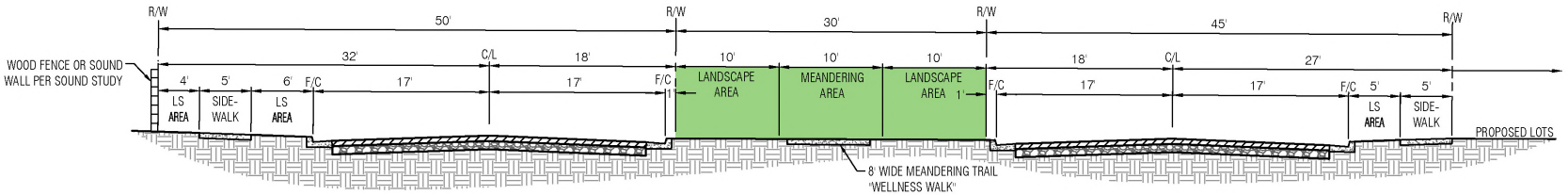
NOT TO SCALE

STOCKTON LEBARON RANCH

Figure 2.0-9a. Roadway Cross-Sections: Local Streets

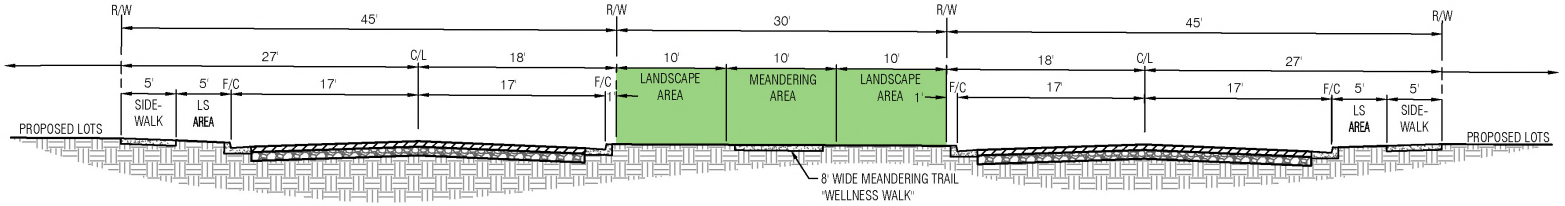
Source: North Star Engineering Group, Inc., December 20, 2023. Map date: May 12, 2024.

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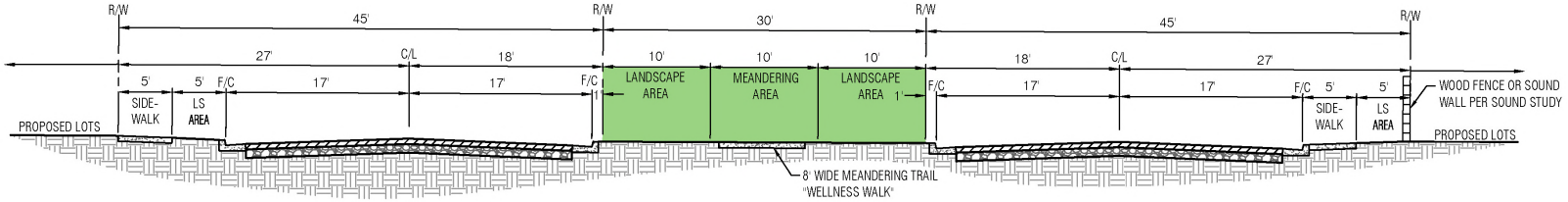
C ENTRY STREET CONNECTION AT WEST LANE

NOT TO SCALE



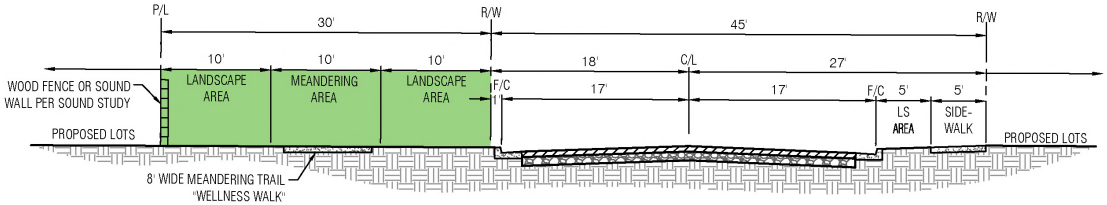
D TYPICAL ENTRY STREET CONNECTION

NOT TO SCALE



E TYPICAL ENTRY STREET CONNECTION WITH WALL

NOT TO SCALE



F TYPICAL IN-TRACT COMMUNITY CONNECTION

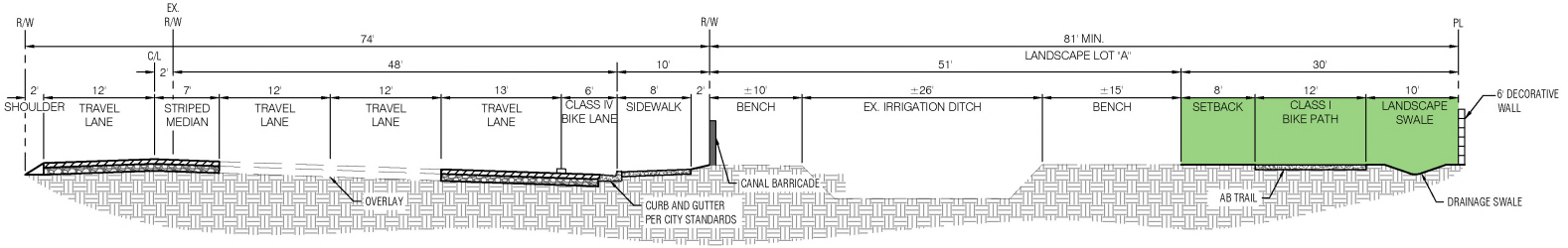
NOT TO SCALE

STOCKTON LEBARON RANCH

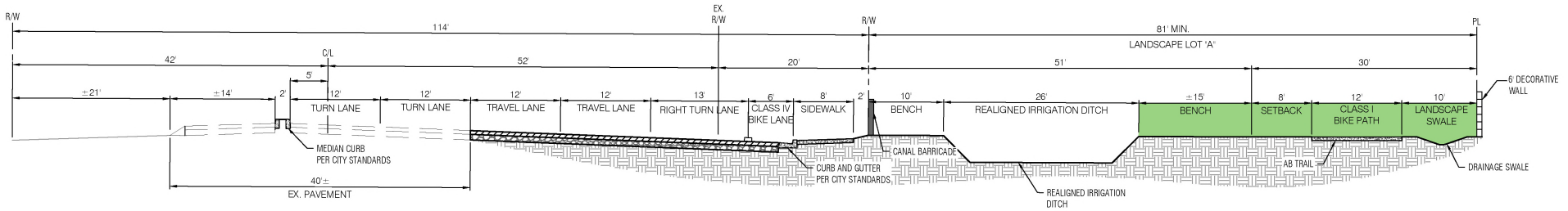
Figure 2.0-9b. Roadway Cross-Sections: Entry Streets

Source: North Star Engineering Group, Inc., December 20, 2023. Map date: May 12, 2024.

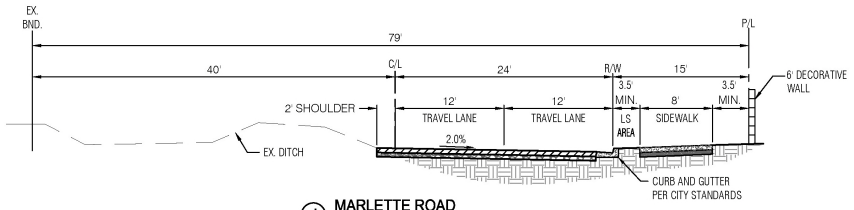
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G1 EIGHT MILE ROAD
NOT TO SCALE



G2 114' MAJOR ARTERIAL AT INTERSECTION - EIGHT MILE ROAD
NOT TO SCALE



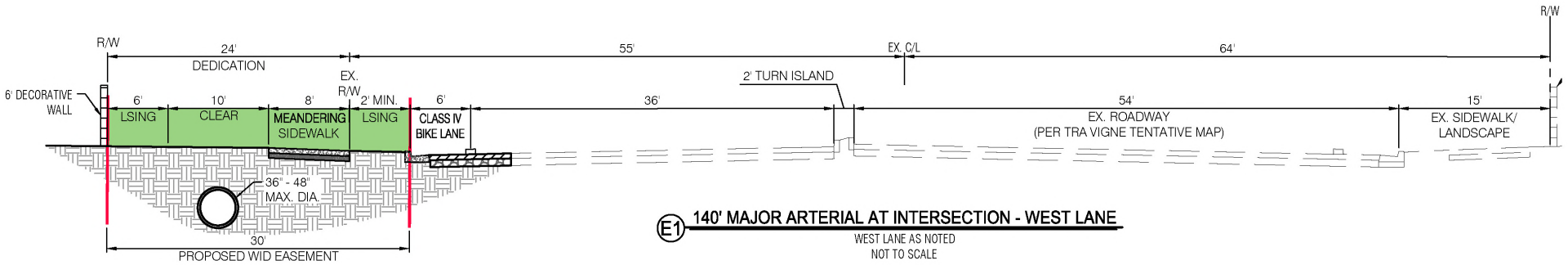
J MARLETTE ROAD
NOT TO SCALE

STOCKTON LEBARON RANCH

Figure 2.0-9c. Roadway Cross-Sections: Eight Mile Road & Marlette Road

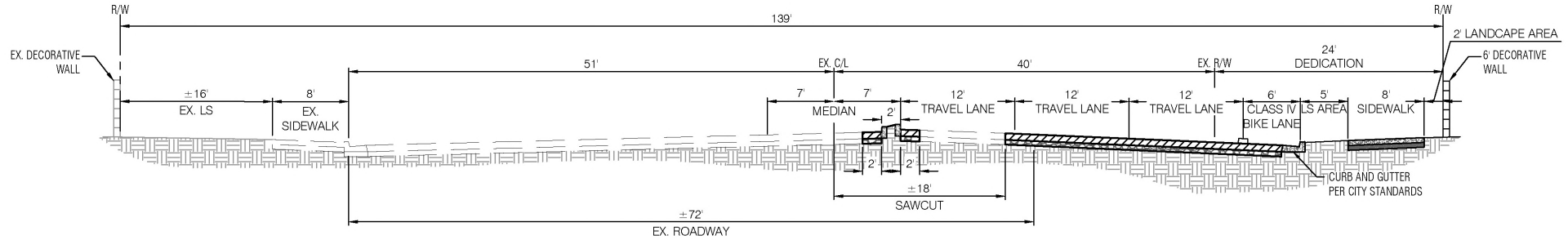
Source: North Star Engineering Group, Inc., December 20, 2023. Map date: May 12, 2024.

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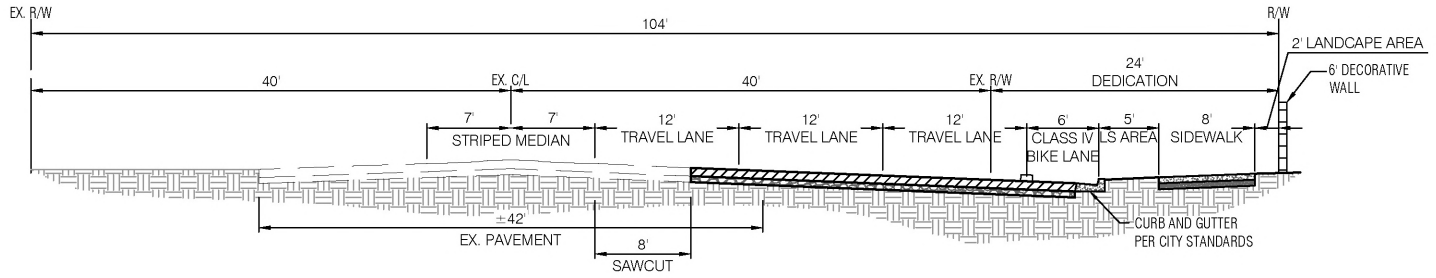
E1 140' MAJOR ARTERIAL AT INTERSECTION - WEST LANE

WEST LANE AS NOTED
NOT TO SCALE



K1 134' MAJOR ARTERIAL - LOWER SACRAMENTO ROAD

LOWER SACRAMENTO ROAD AS NOTED
NOT TO SCALE



K2 99' MAJOR ARTERIAL - LOWER SACRAMENTO ROAD

LOWER SACRAMENTO ROAD AS NOTED
NOT TO SCALE

STOCKTON LEBARON RANCH

Figure 2.0-9c. Roadway Cross-Sections: Major Arterials

Source: North Star Engineering Group, Inc., December 20, 2023. Map date: May 12, 2024.

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This section provides an overview of the visual character, scenic resources, views, scenic highways, and sources of light and glare that are encountered on the Project site and the vicinity. This section concludes with an evaluation of the impacts and recommendations for mitigating impacts. Information in this section is derived primarily from the California Department of Transportation (Caltrans) Scenic Highways Program website (2020), San Joaquin County General Plan (2016), Envision Stockton 2040 General Plan (2018), and City of Stockton Municipal Code (2020).

There were no comments received during the public review period or scoping meeting for the Notice of Preparation regarding this topic.

3.1.1 ENVIRONMENTAL SETTING

VISUAL AND SCENIC RESOURCES

Visual resources are generally classified into two (2) categories: scenic views and scenic resources. Scenic views are elements of the broader viewshed such as mountain ranges, valleys, and ridgelines. They are usually mid-ground or background elements of a viewshed that can be seen from a range of viewpoints, often along a roadway or other corridor. Scenic resources are specific features of a viewing area (or viewshed) such as trees, rock outcroppings, and historic buildings. They are specific features that act as the focal point of a viewshed and are usually foreground elements.

Aesthetically significant features occur in a diverse array of environments within the region, ranging in character from urban centers to rural agricultural lands to natural water bodies. Features of the built environment that may also have visual significance include individual or groups of structures that are distinctive due to their aesthetic, historical, social, or cultural significance or characteristics. Examples of the visually significant built environment may include bridges or overpasses, architecturally appealing buildings or groups of buildings, landscaped freeways, and a location where a historic event occurred.

SCENIC HIGHWAYS AND CORRIDORS

Scenic highways and corridors make major contributions to the quality of life enjoyed by the residents of a region. The development of community pride, the enhancement of property values, and the protection of aesthetically-pleasing open spaces reflecting a preference for the local lifestyle are all ways in which scenic corridors are valuable to residents.

Scenic highways and corridors can also strengthen the tourist industry. For many visitors, highway corridors will provide their only experience of the region. Enhancement and protection of these corridors ensures that the tourist experience continues to be a positive one and, consequently, provides support for the tourist-related activities of the region's economy.

Scenic Highways

A scenic highway is generally defined by Caltrans as a public highway that traverses an area of outstanding scenic quality, containing striking views, flora, geology, or other unique natural attributes. A highway may be designated scenic depending upon how much of the natural landscape

can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

The status of a proposed state scenic highway changes from eligible to officially designated when the local governing body applies to Caltrans for scenic highway approval, adopts a Corridor Protection Program, and receives notification that the highway has been officially designated a Scenic Highway.

Only one (1) highway section in San Joaquin County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of Interstate 580 (I-580) from Interstate 5 to Interstate 205. This route traverses the edge of the Coast Range to the west and Central Valley to the east. The City of Stockton, including the Project site, is not visible from this roadway segment, which is located approximately 30 miles southwest of the site.

Scenic Corridors/Routes

A scenic corridor is the view from the road that may include a distant panorama and/or the immediate roadside area. A scenic corridor encompasses the outstanding natural features and landscapes that are considered scenic. It is the visual quality of the man-made or natural environments within a scenic corridor that are responsible for its scenic value. Commonly, the physical limits of a scenic corridor are broken down into foreground views (zero to one quarter mile) and distant views (over one quarter mile). In addition to distinct foreground and distant views, the visual quality of a scenic corridor is defined by special features, which include:

- Focal points - prominent natural or man-made features which immediately catch the eye.
- Transition areas - locations where the visual environment changes dramatically.
- Gateways - locations which mark the entrance to a community or geographic area.

Figure NCR-1 of the Natural and Cultural Resources Element of the San Joaquin County General Plan designates scenic routes in the county. The closest designated scenic route to the Project site is Interstate 5, approximately 3.1 miles or further west of the site. The Project site is not visible from the segment of Interstate 5 that is designated a scenic route by the County General Plan. The Envision Stockton 2040 General Plan does not identify any scenic routes.

SCENIC WATER RESOURCES AND WILD AND SCENIC RIVERS

Water resources are important visual resources that draw tourists to the area for recreational opportunities. The most visually significant water body in the region is the San Joaquin River, which is located approximately 6.0 miles southwest of the Project site.

Wild and Scenic Rivers

Federal agencies have jurisdiction, under the Wild and Scenic Rivers Act, to designate rivers or river sections to “be preserved in free-flowing condition and…protected for the benefit and enjoyment of present and future generations.”

The San Joaquin River is not designated as a Wild and Scenic River under the Federal Wild and Scenic Rivers Act.

PROJECT SITE

The proposed Project site is comprised of 306.03 acres located in the northern portion of the City of Stockton Metropolitan Area, within the unincorporated area of San Joaquin County. The Project site consists of several planning area boundaries: the Development Area (six parcels totaling 236.30 acres), Non-development Area (six parcels totaling 56.03 acres), and Right-of-Way Annexation Area (13.7 acres of remaining County right-of-way). The Project site is bounded on the north by Eight Mile Road, to the east by West Lane, and to the west by Lower Sacramento Road. The future Marlette Road, between Lower Sacramento Road and West Lane, will form the property's southern boundary. Figures 2.0-1 and 2.0-2 in Chapter 2.0, Project Description, illustrate the regional location and Project vicinity.

The Project site is relatively flat and ranges in elevation from approximately 22 to 31 feet above sea level. The Development Area is predominantly comprised of agricultural and undeveloped uses; sheds and associated agricultural equipment exist in the center portion of the site. Additionally, two (2) dirt/gravel roadways bisect the Development Area, including one roadway extending north to south from Eight Mile Road to the southern boundary at Marlette Road, and another extending east to west from West Lane connecting to the dirt/gravel roadway in the center of the Development Area. Irrigation canals run along the northern, eastern, and southern borders of the Development Area, separating existing agricultural uses from the respective roadways. The Non-development area consists of agricultural land, one existing residential home in the northwestern portion, a commercial use (single building), and a church.

Scenic Resources

Limited natural scenic areas can be found within the Project site. Vegetation on the Project site consists of agricultural, ruderal, and landscaping. Because of the active agricultural use, there is very limited natural vegetation on the Project site with the exception of the perimeter of the agricultural fields. The flat topography of the Project site renders the site essentially void of prominent natural visual features.

The unique or distinguishing visual or aesthetic characteristics of the Project site include the openness of the undeveloped agricultural land, which offers a vast expanse of cropland. While this land is disturbed from its natural condition, developed agricultural land can provide visual relief to a passerby/viewer from common man-made structures and visual obstructions found in an urban environment. The Project site's aesthetic value can be attributed to its openness and undeveloped nature that provide a sense of openness common in natural environments. Throughout the year, typical agricultural operations would result in the land evolving from an environment that appears lush with vegetation (green crops) to an environment that appears barren (recently tilled).

Existing Light and Glare

There are minimal existing light sources on the Project site. Existing structures within the Project site include one (1) residential home in the northwestern portion of the site, a commercial use building in the southwestern portion of the site, and a church in the western portion of the site. In addition to indoor lighting and/or minimal security lighting associated with the structures, lighting associated with the church includes outdoor lighting in the parking area. Other existing lighting in the vicinity of the Project site includes: lighting associated with residential uses to the west, street lighting along a portion of Lower Sacramento Road located to the southwest, street lighting at the Eight Mile Road and West Lane intersection, street lighting at the Eight Mile Road and Lower Sacramento Road intersection, lighting associated with commercial/industrial and residential uses to the northeast, street and stadium lighting at Ronald McNair High School, and lighting from residential areas to the south and southwest of the Project site.

Surrounding Land Uses

The Project site is primarily bounded by lands within the County to the north and south. Lands within the City of Stockton are located to the east and west. The Project site is surrounded by undeveloped and developed land uses. Uses within the surrounding area include the following:

- North – Immediately north of the site is Eight Mile Road. North of Eight Mile Road are existing agricultural lands.
- East – Immediately east of the site is West Lane. East of West Lane are existing agricultural lands. The existing agricultural lands were recently incorporated into the City of Stockton and will be developed with residential and commercial uses as part of the approved Tra Vigne development project.
- South – Immediately south of the site is Marlette Road. South of Marlette Road are agricultural lands, Bear Creek, and McNair High School.
- West – Immediately west of the site is Lower Sacramento Road. West of Lower Sacramento Road is a City of Stockton residential neighborhood called “Destinations.”

3.1.2 REGULATORY SETTING

STATE

California Scenic Highway Program

The intent of the California Scenic Highway Program is “to protect and enhance California’s natural scenic beauty and to protect the social and economic values provided by the State’s scenic resources.” Caltrans administers the program, which was established in 1963 and is governed by the California Streets and Highways Code §260 et seq. The goal of the program is to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of the adjacent land. Caltrans has compiled a list of state highways that are designated as scenic and county highways that are officially designated or eligible for designation as scenic. Scenic highway designation can provide several types of benefits to the region. Scenic areas are protected from encroachment of inappropriate land uses, free of billboards, and are generally required to maintain existing contours

and preserve important vegetative features. Only low-density development is allowed on steep slopes and along ridgelines on scenic highways, and noise setbacks are required for residential development.

To obtain an official "Scenic Highway" designation, the State and Caltrans require a responsible local agency or Local Governing Body (LGB) to prepare a scenic corridor protection plan. In the Tracy area, San Joaquin County is the LGB. Corridor protection programs are required to contain the following five elements, which have been included in the San Joaquin County's policies:

- Regulations of land use and density of development;
- Detailed land and site planning;
- Control of outdoor advertising;
- Careful attention to and control of earthmoving and landscaping; and
- The design and appearance of structures and equipment. [1]

According to the Caltrans Scenic Highway Programs website, Caltrans monitors state-designated scenic routes in order to ensure each local jurisdiction's consistency with State guidelines. Specifically, Caltrans District Scenic Highway Coordinator (DSHC) will review a scenic highway for compliance every five years, but can recommend the revocation of scenic designation at any time. To enforce the program, the DSHC will contact the responsible local agency or LGB, in this case, San Joaquin County. The LGB must either respond by submitting its current Corridor Protection Program or a letter of intent to request a revocation of the scenic designation. The DSHC reviews the submittal and takes corrective action to resolve any issues of non-compliance, certifies compliance, or recommends revocation of scenic designation.

LOCAL

The City of Stockton General Plan identifies the importance of scenic resources in establishing community identity. The Stockton Municipal Code contains standards, provisions, and procedures related to landscaping design, light and glare, and design review.

Envision Stockton 2040 General Plan

The Envision Stockton 2040 General Plan includes several policies and actions that are relevant to an evaluation of the visual quality of the Project site. General Plan policies and actions applicable to the Project are identified below:

[1] Scenic Highways Program website, Frequently Asked Questions, https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways/lap-liv-i-scenic-highways-faq2, accessed on November 25, 2019.

POLICIES: LAND USE ELEMENT

- LU-1.3. Improve the visual quality of the urban environment to be more welcoming and inviting at key gateways and travel corridors into the city.
- LU-5.1. Integrate nature into the city and maintain Stockton's urban forest.
- LU-5.2. Protect natural resource areas, fish and wildlife habitat, scenic areas, open space areas, agricultural lands, parks, and other cultural/historic resources from encroachment or destruction by incompatible development.
- LU-5.3. Define discrete and clear city edges that preserve agriculture, open space, and scenic views.

ACTIONS: LAND USE ELEMENT

- LU-1.3C. Require the incorporation of scenic views, including open space features like waterways, wetlands, natural landscapes, and parks, into design of the built environment.
- LU-5.1A. Require renovated and new projects to provide open spaces that create gateways, act as collectors for pedestrian systems, and/or provide a social focal point for a project and the surrounding community and corridor, as appropriate.
- LU-5.1B. Protect, preserve, and improve riparian corridors and incorporate them in the City's parks, trails, and open space system.
- LU-5.1C. Require landscape plans to incorporate native and drought-tolerant plants in order to preserve the visual integrity of the landscape, conserve water, provide habitat conditions suitable for native vegetation, and ensure that a maximum number and variety of well-adapted plants are maintained.
- LU-5.3A. At the interface between development and rural landscapes, use landscaping and other attractive edging instead of soundwalls and similar utilitarian edges of developments to maintain the visual integrity of open space.
- LU-5.3B. Coordinate with San Joaquin County and property owners in unincorporated areas to preserve agricultural land and open space areas in the unincorporated county that contribute to maintaining clear boundaries between cities.

City of Stockton Municipal Code

Title 16 of the Stockton Municipal Code, also known as the Development Code, provides specific development standards that influence the City's scenic views, visual character, and lighting. The Development Code implements the Envision Stockton 2040 General Plan goals and policies by classifying and regulating the specific uses of land and structures within the City. Generally, property development standards are established in Division 2, Zoning Districts, Allowable Land Uses, and Zone-Specific Standards, and Division 3, Site Planning and General Development Regulations.

Section 16.56.240, Landscape Standards, of the City Municipal Code contains standards and provisions related to landscaping design, installation, and maintenance. The primary purpose of this section is to provide general design standards and plant material requirements. This section also includes provisions related to water efficient landscaping consistent with the State Model Water Efficient Landscape Ordinance that would apply to the proposed Project. Section 16.72.240,

Landscaping, of the City Municipal Code contains standards and provisions related to landscaping for nonresidential and residential development. This section includes provisions related to landscape design that would apply to the proposed Project. These applicable provisions include street tree and other landscaping area design standards for residential subdivisions, setback area landscaping standards for nonresidential subdivisions, and standards for irrigation, installation, and maintenance of landscaping.

Section 16.36.100, Screening and Buffering, of the City Municipal Code contains standards that require screening and buffering of adjoining land uses, equipment, outdoor storage areas, and surface parking areas for multifamily and nonresidential land uses. Section 16.36.060, Development Considerations, of the City Municipal Code contains additional standards to be considered for all development projects, including: that exterior lighting be energy efficient, stationary, shielded and directed away from adjoining properties and public rights-of-way; that mechanical equipment, storage, solid waste and recyclable material storage areas and utilities be located out of public view or otherwise screened from public view; that proposed development be compatible and harmonious with surrounding development including, the siting of the development project as it relates to the character of the neighborhood and the street, the massing of structures, and architectural detailing; and that proposed development be designed to protect adjacent land uses, by promoting a compatible transition in terms of scale and character and buffering between areas of different land uses and zoning districts.

Section 16.32.070, Light and Glare, of the City Municipal Code contains standards and provisions related to exterior lighting and glare. According to the Code, light or glare from mechanical or chemical processes or from reflective materials used or stored on a site shall be shielded or modified to prevent emission of light or glare beyond the property line, or upward into the sky. The Code also includes the following provisions:

A. Exterior lights shall be located so as to eliminate spillover illumination or glare onto adjoining properties and to prohibit any interference with the normal operation or enjoyment of adjacent property.
B. Exterior lights shall be made up of a light source, reflector, and shielding devices so that, acting together, the light beam is controlled and not directed across a property line or upward into the sky. Bare bulbs shall not be allowed.
C. Lighting fixtures used to illuminate an outdoor advertising display shall be mounted on the top of the advertising structure and be directed downward.
D. Exterior light fixtures existing and legally installed prior to the effective date of the ordinance codified in this Development Code are exempt from the requirements of this section. When existing luminaries are reconstructed or replaced, the reconstruction or replacement shall comply with this section.
E. Lights used for holiday decorations are exempt from the requirements of this section.
F. Portable temporary lighting used by law enforcement or emergency services personnel to protect life or property, are exempt from the requirements of this section.

Chapter 16.120, Design Review, of the City Municipal Code establishes procedures for the design review of development throughout the City in order to encourage development that is compatible

and harmonious with the design and use of surrounding properties and with the City in general. The primary purpose of this chapter is to set forth the types of projects that are subject to the City's design review process, the use of the design guidelines, and the application filing, processing and review procedures.

City of Stockton Citywide Design Guidelines

The Design Guidelines, adopted in 2004, serve as a reference point for the City's expectations for quality development and provide guidance for the designated review authority during the design review process. The Design Guidelines provide minimum design criteria for the achievement of functional and attractive developments that fit within the context of their surroundings and do not clash with neighboring buildings. In general, the Design Guidelines are intended to ensure that new or modified development preserves or improves the positive characteristics of the City's image while avoiding negative impacts. The Design Guidelines are organized into seven (7) chapters and includes objectives and design standards for each type of development project, such as residential or commercial development, that is subject to design review.

3.1.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on aesthetics if it will:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with the applicable zoning and other regulations governing scenic quality; and/or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

IMPACTS AND MITIGATION MEASURES

Impact 3.1-1: Project implementation may result in substantial adverse effects on scenic vistas and resources or substantial degradation of visual character (Significant and Unavoidable)

The Project proposes to construct a primarily residential development comprised of up to 1,411 residential units, parks/open space, a school site, and circulation and infrastructure improvements. Implementation of the Project would convert 236.30 acres within the Development Area of the larger 306.03-acre Project site from its existing use as primarily agricultural land to develop a primarily residential development.

The General Plan does not designate scenic vistas. However, the General Plan notes that the General Plan Planning Area contains abundant scenic views of riparian areas, open spaces, and agricultural fields. Given the relatively flat topography of the City, views within the core of the city are generally limited to the built environment. Views along the periphery can be more expansive with fewer developed features blocking views of surrounding riparian areas, open spaces, and agricultural fields.

Although the Project site is not designated as a scenic vista by the General Plan, the site does contain some of the scenic views discussed in the General Plan, such as agricultural fields. Public views of the above-referenced scenic resources are primarily available to motorists traveling along Eight Mile Road, Lower Sacramento Road, and West Lane. In addition, these public views of agricultural fields are characteristic of San Joaquin County, and the exist throughout the region.

Implementation of the proposed Project would change the existing visual character of the site from a primarily agricultural site to a primarily urbanized site. Impacts related to a change in visual character are largely subjective and difficult to quantify. People have different reactions to the visual quality of a project or a project feature, and what is considered "attractive" to one viewer may be considered "unattractive" to other viewers. Existing agricultural lands within the Project site provide visual relief from urban and suburban developments and help to define the character of a region. The loss of agricultural lands can have an adverse cumulative impact on the overall visual character and quality of a region.

As described above, Project implementation would introduce residential, public, and park/open space uses, as well as supporting infrastructure into an area that is primarily undeveloped and occupied by agricultural uses. However, developed land uses occur in the area surrounding the Project site, including the existing "Destinations" neighborhood to the west and future Tra Vigne development to the east. The proposed Project would include visual components that would assist in enhancing the appearance of the site following site development. Landscaping improvements, including new street trees, groundcover, and ornamental vegetation, would be provided throughout the Project site, including along the site boundary. The right-of-way along the northern boundary of the site, along Eight Mile Road, would be enhanced and landscaped with a multipurpose trail which would be separated from the roadway. Additionally, the proposed Project would include approximately 30.7 (without the school) to 31.6 (with the school) acres of parkland and open space areas, including two parks, a series of streets with an enhanced right of way to accommodate a pedestrian "wellness walk," and a detention basin area. These landscaped areas, parkland, and open space areas would improve the visual quality of the site and provide visual relief from the built environment.

The proposed Project would result in the conversion of land within the Development Area from agricultural uses, which would contribute to changes in the regional landscape and visual character of the area. The Project does not propose changes to existing uses or structures within the Non-development Area, including agricultural land, residential and commercial use structures, and a church. In order to reduce visual impacts, development within the Project site is required to be consistent with the General Plan and the Stockton Development Code, which includes development and design standards to ensure quality and cohesive design of the Project site. These standards

include specifications for building height, massing, and orientation; exterior lighting; landscaping; and architectural design and compatibility. Implementation of the design standards would ensure quality design throughout the Project site, and result in a Project that would be internally cohesive while maintaining aesthetics similar to surrounding uses. Additionally, it is noted that the Applicant is seeking a Planned Unit Residential (PURD) Permit to introduce design deviations to the standards to allow for an alternative range of lot sizes. The planned development permit may adjust or modify, where necessary and justifiable, all applicable development standards (e.g., building envelope, off-street parking, street layout, etc.) contained within this Development Code.

Nevertheless, the loss of the visual appearance of the existing agricultural land on the site would alter the visual character of the Project site in perpetuity. Compliance with the requirements within the General Plan and Zoning Code would reduce visual impacts to the greatest extent feasible; however, the proposed Project would permanently convert the agricultural uses to urbanized uses. This is considered a ***significant and unavoidable*** impact. There is no additional feasible mitigation available that would reduce this impact to a less than significant level. Overriding considerations for this significant and unavoidable impact would be provided in the Findings and Statement of Overriding Considerations for the Project.

Impact 3.1-2: Project implementation would not substantially damage scenic resources within a State Scenic Highway (No Impact)

As previously discussed, one highway section in San Joaquin County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of I-580 from Interstate 5 to Interstate 205. This route traverses the edge of the Coast Range to the west and Central Valley to the east. The entire City of Stockton, including the Project site, is not visible from this roadway segment, which is located approximately 30 miles southwest of the site. Therefore, ***no impact*** relative to scenic resources within a State Scenic Highway would occur.

Impact 3.1-3: Project implementation may result in light and glare impacts (Less than Significant)

Implementation of the proposed Project would introduce new sources of light and glare into the Project site and surrounding area. New sources of light and glare would occur primarily from outdoor lighting, from headlights and windshields of vehicles travelling to and from the Development Area, or from parked vehicles. There is also the potential for reflective building materials and windows to result in increases in daytime glare. A detailed lighting plan has not been prepared for the proposed Project, but for the purposes of this analysis, it has been conservatively assumed that nighttime street lighting and exterior lighting would be installed around residential uses throughout the Development Area of the Project site. It is assumed that security lighting would be installed within the park areas and school site. Therefore, light and glare could adversely affect day or nighttime views in the area.

Section 16.32.070, Light and Glare, of the Stockton Municipal Code contains standards that address spillover of lighting and glare. The primary purpose of this section is to regulate exterior lighting to balance the safety and security needs for lighting with the City's desire to prevent emissions of light

or glare beyond the property line, or upward into the sky. Section 16.36.060, Development Considerations, of the Municipal Code contains additional standards to be considered for all development projects, including that exterior lighting be stationary, shielded, and directed away from adjoining properties and public rights-of-way.

Lighting fixtures within the proposed Project site would be installed in conformance with the City of Stockton standards and specifications and would be required to incorporate design features to minimize the effects of light and glare. Compliance with the existing regulatory environment would reduce potential impacts associated with nighttime lighting and light spillage onto adjacent properties to a ***less than significant*** level.

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This section provides an overview of the agricultural resources in San Joaquin County and the City of Stockton, agricultural capability of the soils on the Project site, and existing site conditions. This section concludes with an evaluation of the impacts related to agricultural resources and recommendations for mitigating impacts as needed. Information in this section is derived primarily from the *California Important Farmlands Map* (California Department of Conservation, 2021), the *San Joaquin County Annual Agricultural Crop Report* (San Joaquin County Agricultural Commissioner, 2022), *San Joaquin County Assessor Parcel Maps* (San Joaquin County Office of the Assessor, 2015), *Soil Survey of San Joaquin County, California* (U.S. Department of Agriculture [USDA] Soil Conservation Service, 1992), and the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS, 2023).

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: California Department of Conservation – Division of Land Resources Protection (August 28, 2023). Each of the comments related to this topic are addressed within this section. Full comments received are included in Appendix A.

There are no forest lands or timber lands located within or adjacent to the Project site, nor are any parcels within the Project site currently zoned as forest land, timber, or timber production. Therefore, this CEQA topic is not relevant to the proposed Project and will not be addressed further in this EIR.

3.2.1 ENVIRONMENTAL SETTING

SAN JOAQUIN COUNTY AGRICULTURE

San Joaquin County occupies a central location in California's vast agricultural heartland, the San Joaquin Valley. The County's Agricultural Commissioner's most recently published Crop Report (for the 2021 calendar year) contains the following information about agriculture in the County.

Agricultural Value

San Joaquin County has a total land area of approximately 1,426 square miles. The total acreage of crop land in 2021 was 711,675 acres. The gross value of agricultural production in San Joaquin County for 2021 was $3,193,234,000. This represents an increase of 5.34 percent from 2020. Table 3.2-1 lists the top eight commodities in San Joaquin County in 2021.

TABLE 3.2-1: SUMMARY COMPARISON OF CROP VALUES

PRODUCT TYPE	*VALUE IN DOLLARS*	*PERCENT OF TOTAL*
Field Crops	$236,790,000	7.4%
Vegetable Crops	$250,386,000	7.8%
Fruit and Nut Crops	$1,726,962,000	54.1%
Nursery Products	$138,155,000	4.3%
Livestock and Poultry	$128,628,000	4.0%
Livestock and Poultry Products	$654,239,000	20.5%
Seed Crops	$4,029,000	0.1%
Apiary Products	$54,045,000	1.7%
Total	*$3,193,234,000*	*100.0%*

SOURCE: SAN JOAQUIN COUNTY 2021 CROP REPORT, SEPTEMBER 2022.

AGRICULTURAL CAPABILITY

The California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) identifies lands that have agriculture value and maintains a statewide map of these lands called the Important Farmlands Inventory (IFI). IFI classifies land based upon the productive capabilities of the land, rather than the mere presence of ideal soil conditions.

The suitability of soils for agricultural use is just one factor for determining the productive capabilities of land. Suitability is determined based on many characteristics, including fertility, slope, texture, drainage, depth, and salt content. A variety of classification systems have been devised by the State to categorize soil capabilities. The two most widely used systems are the Soil Capability Classification System and the Storie Index. The Capability Classification System classifies soils from Class I to Class VIII based on their ability to support agriculture, with Class I being the highest quality soil. The Storie Index considers other factors such as slope and texture to arrive at a rating. The IFI is in part based upon both of these two classification systems.

Soil Capability Classification System

The Soil Capability Classification System takes into consideration soil limitations, the risk of damage when soils are used, and the way in which soils respond to treatment. Capability classes range from Class I soils, which have few limitations for agriculture, to Class VIII soils that are unsuitable for agriculture. Generally, as the rating of the capability classification increases, yields and profits are more difficult to obtain. A general description of soil classifications, as defined by the NRCS is provided in Table 3.2-2 below.

TABLE 3.2-2: SOIL CAPABILITY CLASSIFICATION

CLASS	*DEFINITION*
I	Soils have slight limitations that restrict their use.
II	Soils have moderate limitations that restrict choice plants or that require moderate conservation practices.
III	Soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.
IV	Soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.
V	Soils are not likely to erode but have other limitations; impractical to remove that limits their use largely to pasture or range, woodland, or wildlife habitat.
VI	Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife habitat.
VII	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife habitat.
VIII	Soils and landforms have limitations that preclude their use for commercial plans and restrict their use to recreation, wildlife habitat, water supply, or aesthetic purposes.

SOURCE: USDA SOIL CONSERVATION SERVICE.

Storie Index Rating System

The Storie Index Rating system ranks soil characteristics according to their suitability for agriculture from Grade 1 soils (80 to 100 rating), which have few or no limitations for agricultural production, to Grade 6 soils (less than 10) which are not suitable for agriculture. Under this system, soils deemed less than prime can function as prime soils when limitations such as poor drainage, slopes, or soil

nutrient deficiencies are partially or entirely removed. The six grades, ranges in index rating, and definition of the grades, as defined by the NRCS, are provided below in Table 3.2-3.

TABLE 3.2-3: STORIE INDEX RATING SYSTEM

GRADE	*INDEX RATING*	*DEFINITION*
1	80 – 100	Few limitations that restrict their use for crops
2	60 – 80	Suitable for most crops, but have minor limitations that narrow the choice of crops and have a few special management needs
3	40 – 60	Suited to a few crops or to special crops and require special management
4	20 – 40	If used for crops, severely limited and require special management
5	10 – 20	Not suited for cultivated crops, but can be used for pasture and range
6	Less than 10	Soil and land types generally not suited to farming

SOURCE: USDA SOIL CONSERVATION SERVICE, SOIL SURVEY OF SAN JOAQUIN COUNTY, CALIFORNIA, 1992.

In addition to soil suitability, other factors for determining the agricultural value of land include whether soils are irrigated, the depth of soil, water-holding capacity, and physical and chemical characteristics. Areas considered to have the greatest agricultural potential are designated as Prime Farmland or Farmland of Statewide Importance.

Important Farmlands

The Farmland Mapping and Monitoring Program (FMMP) is a farmland classification system administered by the California Department of Conservation. Important farmland maps are based on the Land Inventory and Monitoring criteria, which classify a land's suitability for agricultural production based on both the physical and chemical characteristics of soils, and the actual land use. The system maps five categories of agricultural land, which include important farmlands (prime farmland, farmland of statewide importance, unique farmland, and farmland of local importance) and grazing land, as well as three categories of non-agricultural land, which include urban and built-up land, other land, and water area.

IMPORTANT FARMLANDS IN SAN JOAQUIN COUNTY

Data from the Department of Conservation Prime Farmland in the County total of 381,984 acres (51.4 percent of agricultural land) in the County. The remaining agricultural land is comprised of Farmland of Statewide Importance (11.1 percent), Unique Farmland (11.5 percent), Farmland of Local Importance (8.9 percent), and Grazing Land (17.1 percent). The types and acreages of farmland in 2016 and 2018 are shown below in Table 3.2-4.

TABLE 3.2-4: SAN JOAQUIN COUNTY FARMLANDS SUMMARY AND CHANGE BY LAND USE CATEGORY

LAND USE CATEGORY	*2016-2018 ACREAGE CHANGES*							
	TOTAL ACREAGE INVENTORIED				*ACRES LOST*	*ACRES GAINED*	*TOTAL ACREAGE CHANGED*	*NET ACREAGE CHANGED*
	2016		*2018*		*(-)*	*(+)*		
	Acres	*Percent*	*Acres*	*Percent*				
Prime Farmland	381,632	41.8%	381,984	41.9%	1,858	2,210	4,068	352
Farmland of Statewide Importance	82,618	9.1%	82,163	9.0%	921	466	1,387	-455
Unique Farmland	81,922	9.0%	85,694	9.4%	402	4,174	4,576	3,772
Farmland of Local Importance	68,904	7.6%	65,944	7.2%	*5,507*	2,547	8,054	-2,960
Important Farmland Subtotal	*615,076*	*67.4%*	*615,785*	*67.5%*	*8,688*	*9,397*	*18,085*	*709*
Grazing Land	129,758	14.2%	126,902	13.9%	*2,893*	37	2,930	-2,856
Agricultural Land Subtotal	*744,834*	*81.6%*	*742,687*	*81.4%*	*11,581*	*9,434*	*21,015*	*-2,147*
Urban and Built-up Land	95,330	10.4%	97,541	10.7%	121	2,332	2,453	2,211
Other Land	60,597	6.6%	60,987	6.7%	922	1,312	2,234	390
Water Area	11,836	1.3%	11,382	1.2%	680	226	906	-454
Total Land Inventoried	*912,597*	*100.0%*	*912,597*	*100.0%*	*13,304*	*13,304*	*26,608*	*0*

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION, DIVISION OF LAND RESOURCE PROTECTION, 2016-2018 CALIFORNIA FARMLAND CONVERSION REPORT, TABLE A-30.

EXISTING SITE CONDITIONS

The 306.03-acre Project site consists of the Development Area (236.3 acres), Non-development Area (56.03 acres), and Right-of-Way Annexation Area (13.7 acres). The Project site is primarily bounded by lands within the County of San Joaquin (County) to the north and south. Lands within the City of Stockton are located to the east and west. Uses within the surrounding area include the following:

- North – Immediately north of the site is Eight Mile Road. North of Eight Mile Road are existing agricultural lands;
- East – Immediately east of the site is West Lane. East of West Lane are existing agricultural lands. The existing agricultural lands were recently incorporated into the City of Stockton and will be developed with residential and commercial uses as part of the approved Tra Vigne development project;
- South – Immediately south of the site is Marlette Road. South of Marlette Road are agricultural lands, Bear Creek, and McNair High School;
- West – Immediately west of the site is Lower Sacramento Road. West of Lower Sacramento Road is a City of Stockton residential neighborhood called "Destinations."

Within the Project site, the Development Area is predominantly comprised of the following:

- Agricultural land;
- Vacant/undeveloped land;
- Miscellaneous outbuildings (i.e. sheds)
- Agricultural equipment storage areas;
- Dirt/gravel roadways;

- Irrigation canals (Woodbridge Irrigation District).

Within the Project site, the Non-development Area is predominately comprised of the following:

- Agricultural land;
- An existing residential home;
- A commercial building;
- A church.

The Right-of-Way Annexation Area includes the following:

- Eight Mile Road, forming the northern border of the Project site.

Figure 2.0-4 in Chapter 2.0, Project Description, provides an aerial view of the site.

Project Site Farmland Characteristics

The State of California Department of Conservation FMMP and San Joaquin County GIS data were used to illustrate the farmland characteristics for the Project site. Farmlands on the Project site are identified in Table 3.2-5 and Figure 3.2-1. The farmland classifications for the site and surrounding area are described below.

TABLE 3.2-5: PROJECT SITE FARMLAND CLASSIFICATIONS (IN ACRES)

LAND CLASSIFICATION	*DEVELOPMENT AREA*	*NON-DEVELOPMENT AREA*	*ROW*	*PROJECT SITE TOTAL*
Urban and Built-Up Land	-	0.44	-	***0.44***
Farmland of Local Importance	5.64	27.86	1.88	***35.37***
Prime Farmland	23.12	-	-	***23.12***
Farmland of Statewide Importance	204.24	29.86	13.55	***247.65***
Semi-agricultural and Rural Commercial Land	-	-	0.03	***0.03***
Total	*233.00*	*58.17*	*15.46*	***306.63***

NOTE: ROW = RIGHT-OF-WAY WITHIN ANNEXATION AREA

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION, FARMLAND MAPPING AND MONITORING PROGRAM, 2023.

PRIME FARMLAND

Prime Farmland is farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. To receive this designation, land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Prime Farmland is located within the eastern portion of the Project site, within the Development Area. Prime Farmland on the Project site totals approximately 23.12 acres (7.5 percent) located entirely within the Development Area (9.9 percent). Prime Farmlands are also located east of the Project site, across West Lane; and south-southeast of the Project site.

FARMLAND OF STATEWIDE IMPORTANCE

Farmland of Statewide Importance is farmland with characteristics similar to those of Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. To receive this designation, land must have been used for irrigated agricultural production at some time during the four (4) years prior to the mapping date.

The majority of land within the Project site, approximately 247.65 acres (80.8 percent), is designated as Farmland of Statewide Importance. Farmland of Statewide Importance comprises 204.24 acres (87.7 percent) of the Development Area, 29.86 acres (51.3 percent) of the Non-development Area, and 13.55 acres (87.7 percent) of the Right-of-Way Annexation Area. Farmland of Statewide Importance is also located in the general vicinity of the Project site to the north, east, and south.

UNIQUE FARMLAND

Unique Farmland is farmland of lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. To receive this designation, land must have been cropped at some time during the four (4) years prior to the mapping date.

There is no Unique Farmland located within the Project site. Unique Farmland is located to the south of the Project site along Bear Creek, and to the northwest.

FARMLAND OF LOCAL IMPORTANCE

Farmland of Local Importance is land of importance to the local agricultural economy, as determined by each county's board of supervisors and a local advisory committee.

Farmland of Local Importance is located within the northwestern portion of the Project site, mostly within the Non-development Area. Farmland of Local Importance on the Project site totals approximately 35.37 acres (11.5 percent), consisting of 5.64 acres (2.4 percent) of the Development Area, 27.86 acres (47.9 percent) of the Non-development Area, and 1.88 acres (12.1 percent) of the Right-of-Way Annexation Area. Areas designated Farmland of Local Importance are located to the west, southwest, south, and southeast of the Project site.

URBAN AND BUILT-UP LAND

Urban or Built-Up Land is classified by the FMMP as land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately six (6) structures to a ten (10) -acre parcel. This land can be used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

A small amount of Urban and Built-Up Land is located on the southwest of the Project site, within the Non-development Area. Urban and Built-Up Land on the Project site totals approximately 0.44 acres (0.1 percent) located entirely within the Non-development Area (0.8 percent). Areas designated Urban and Built-Up Land are located to the north, south, and west of the Project site.

OTHER LAND

Other Land is not included in any other mapping category. Common examples include brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

A small amount of Semi-Agricultural and Rural Commercial Land (0.03 acres) is located within the Right-of-Way Annexation Area. Semi-Agricultural and Rural Commercial Land is also located to the northeast and northwest of the Project site. Semi-Agricultural and Rural Commercial Land includes farmsteads, agricultural storage and packing sheds, unpaved parking areas, composting facilities, equine facilities, firewood lots, and campgrounds.

Additionally, Vacant or Disturbed Land is located to the west of the Project site. Vacant or Disturbed Land consists of open field areas that do not qualify as an agricultural category, mineral and oil extraction areas, off road vehicle areas, electrical substations, channelized canals, and rural freeway interchanges.

Soils and Farmland Characteristics

A Custom Soil Survey was completed for the Project site using the NRCS Web Soil Survey program. Table 3.2-6 identifies the soils found on the Project site. The NRCS Soils Map is provided on Figure 3.6-1.

TABLE 3.2-6: PROJECT SITE SOILS (IN ACRES)

NAME	*CAPABILITY CLASSIFICATION*	*DEVELOPMENT AREA*	*NON-DEVELOPMENT AREA*	*ROW*	*PROJECT SITE TOTAL*
Rioblancho clay loam, drained, 0 to 2 percent slopes	IIIw-8 irrigated, IVw-8 non-irrigated	0.68	21.09	0.47	*22.24*
Stockton clay, 0 to 2 percent slopes	II-s5 irrigated, IV-s5 non-irrigated	23.11	-	-	*23.11*
Jacktone clay, 0 to 2 percent slopes	III-s8 irrigated, IV-s8 non-irrigated	209.22	37.08	14.98	*261.28*

NOTE: ROW = RIGHT-OF-WAY ANNEXATION AREA

SOURCE: NATURAL RESOURCES CONSERVATION SERVICE, CUSTOM WEB SOIL SURVEY, 2023; SOIL CONSERVATION SERVICE, SOIL SURVEY OF SAN JOAQUIN COUNTY, CALIFORNIA, 1992.

Rioblancho soil series. This series consists of moderately deep to duripan, somewhat poorly drained soils that formed in alluvium from mixed rock sources. Rioblancho soils are on basin rim. This series is characterized as poorly drained, slow runoff, and permeability is moderately slow.

Stockton soil series. This series consists of somewhat poorly drained soils in basins. These soils are artificially drained and are deep to a hardpan. Stockton clay is formed in alluvium derived from mixed rock sources. Slope ranges from 0 to 2 percent. This series is characterized as poorly drained, slow runoff, high shrink/swell potential, and permeability is slow.

Jacktone soil series. This series consists of somewhat poorly drained soils in basins. These soils are artificially drained and are moderately deep to a hardpan. Slopes range from 0 to 2 percent. This series is characterized as poorly drained, slow runoff, high shrink/swell potential, and permeability is slow.

Williamson Act Contract

Figure 3.2-2 shows Williamson Act parcels within the vicinity of the Project site according to San Joaquin County Assessor parcel maps. As shown, a parcel located within the northwestern portion of the Project site (APN 084-050-03) is identified as being under Williamson Act contract. This parcel is located within the Project's Non-development Area. The County Assessor parcel maps also identify several parcels to the south of the Project site that are under Williamson Act contract. No parcels within the Development Area are currently under Williamson Act contract.

3.2.2 REGULATORY SETTING

FEDERAL

Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) is intended to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. It ensures that, to the extent practicable, federal programs are compatible with state and local units of government as well as private programs and policies to protect farmland. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to non-agricultural use and are completed by a federal agency or with assistance from a federal agency. For the purpose of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for crop production. In fact, the land can be forest land, pastureland, cropland, or other land, but does not include water bodies or land developed for urban land uses (i.e., residential, commercial, or industrial uses).

The NRCS administers the Farmland Protection Program. NRCS uses a land evaluation and site assessment (LESA) system to establish a farmland conversion impact rating score on proposed sites of federally funded and assisted projects. This score is used as an indicator for the project sponsor to consider alternative sites if the potential adverse impacts on the farmland exceed the recommended allowable level. The assessment is completed on form AD-1006, Farmland Conversion Impact Rating. The sponsoring agency completes the site assessment portion of the AD-1006, which assesses non-soil related criteria such as the potential for impact on the local agricultural economy if the land is converted to non-farm use and compatibility with existing agricultural use.

The Project site and adjacent parcels will *not* be developed by a federal agency, or with assistance from a federal agency. Therefore, the Project will not be subject to the FPPA.

STATE

Williamson Act

The Williamson Act, also known as the California Land Conservation Act, was adopted in 1965 to encourage the preservation of the state's agricultural lands and to prevent their premature conversion to urban uses. In order to preserve these uses, the Act established an agricultural preserve contract procedure by which any county or city taxes landowners at a lower rate, using a scale based on the actual use of the land for agricultural purposes, as opposed to its unrestricted market value. In return, the owners guarantee that these properties remain under agricultural production for a 10-year period. The contract is self-renewing; however, the landowner may notify the county or city at any time of the intent to withdraw the land from its preserve status.

No parcels within the Development Area are currently under a Williamson Act contract. However, a parcel located within the northwestern portion of the Project site (APN 084-050-03) is under a Williamson Act contract. As this parcel is located within the Project's Non-development Area, the parcel would not be converted from agricultural to urban uses under the proposed Project; however, annexation into the City would require the parcel to file a notice of nonrenewal for the Williamson Act contract. It is noted that existing agricultural uses can continue to operate as legal nonconforming uses within the City of Stockton (see Chapter 16.228, non-conforming uses, structures, and parcels).

Farmland Security Zones

In 1998 the state legislature established the Farmland Security Zone (FSZ) program. FSZs are similar to Williamson Act contracts, in that the intention is to protect farmland from conversion. The main difference however, is that the FSZ must be designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. The term of the contract is a minimum of 20 years. The property owners are offered an incentive of greater property tax reductions when compared to the Williamson Act contract tax incentives; the incentives were developed to encourage conservation of prime farmland through FSZs. The non-renewal and cancellation procedures are similar to those for Williamson Act contracts.

The Project site and the adjacent parcels are not within the FSZ program.

LOCAL

Envision Stockton 2040 General Plan

The Envision Stockton 2040 General Plan Land Use Map designates the Project site as Industrial, Commercial, and Open Space/Agriculture.

The Envision Stockton 2040 General Plan includes several policies and actions that are relevant to agricultural resources. General Plan policies applicable to the Project are identified below:

POLICIES: LAND USE ELEMENT

- LU-5.2. Protect natural resource areas, fish and wildlife habitat, scenic areas, open space areas, agricultural lands, parks, and other cultural/historic resources from encroachment or destruction by incompatible development.
- LU-5.3. Define discrete and clear city edges that preserve agriculture, open space, and scenic views.

ACTIONS: LAND USE ELEMENT

- LU-5.3A. At the interface between development and rural landscapes, use landscaping and other attractive edging instead of sound walls and similar utilitarian edges of developments to maintain the visual integrity of open space.
- LU-5.3B. Coordinate with San Joaquin County and property owners in unincorporated areas to preserve agricultural land and open space areas in the unincorporated county that contribute to maintaining clear boundaries between cities.
- LU-5.3C. Maintain the City's agricultural conservation program that requires either dedication of an agricultural conservation easement at a 1:1 ratio or payment of an in-lieu agricultural mitigation fee for the conversion of prime farmland, farmland of statewide importance, or unique farmland, as defined by the State Farmland Monitoring and Mapping Program.

City of Stockton Municipal Code

Title 16 of the Stockton Municipal Code, also known as the Development Code, specifies the types of allowable uses and development standards within the City's zoning districts. Section 16.20.020, Allowable Land Uses and Permit Requirements, identifies the primary land uses for each zoning district, whether the use is allowed or not allowed, and indicates which land use permit would be required, if necessary, to authorize the use.

Chapter 16.216, Boundary Changes, establishes procedures for the administration of the City's boundary change program, including annexation. Chapter 16.228, Nonconforming Uses, Structures, and Parcels, establishes provisions for the regulation of legal nonconforming land uses, structures, and parcels within the City. Chapter 16.236, Williamson Act Regulations, identifies the City's process for the initiation and processing of a notice of "nonrenewal" or cancellation of Williamson Act contracts in compliance with State law. Section 16.236.050, Annexation, states in part "No property owner shall be under Williamson Act contract at the time of annexation into the City… unless a notice of nonrenewal has been filed and recorded for the property before the application for annexation is filed."

No parcels within the Development Area are currently under a Williamson Act contract. However, a parcel located within the northwestern portion of the Project site (APN 084-050-03) is under a Williamson Act contract. As this parcel is located within the Project's Non-development Area, the parcel would not be converted from agricultural to urban uses under the proposed Project; however, annexation into the City would require the parcel to file a notice of nonrenewal for the Williamson

Act contract. It is noted that existing agricultural uses can continue to operate as legal nonconforming uses within the City of Stockton.

CITY OF STOCKTON RIGHT-TO-FARM ORDINANCE

Chapter 16.36 of the Stockton Municipal Code, General Development and Use Standards, establishes the City's "Right-to-Farm" ordinance, which is intended to protect agricultural uses in and around the City. Specifically, Section 16.36.040 of the ordinance establishes the City's policy to preserve the City and County's agricultural operations while minimizing conflicts to new urban development. The City's "Right-to-Farm" ordinance serves to protect farmers from nuisance complaints. The ordinance requires owners and builders to notify their successors-in-interest of the potential conflicts and effects of agricultural activities, and the ordinance specifies that typical agricultural practices shall not be considered a nuisance.

Stockton Family Farmers' Sponsored Greenbelt and Agricultural Lands Protection Initiative

Issues regarding conversion of agricultural lands to urban uses, and potential mitigation measures for agricultural land conversion, is the subject of increasing dialogue in San Joaquin County. "The Stockton Family Farmers' Sponsored Greenbelt and Agricultural Lands Protection Initiative" was proposed in March 2004 and passed by the voters of Stockton in January 2005. This initiative is intended to protect farming operations and agricultural lands, to promote establishment of a greenbelt between Stockton and Lodi, and to facilitate the preservation of open space.

Stockton Agricultural Land Mitigation Program

The City of Stockton adopted the Agricultural Land Mitigation Program in 2007. The Program applies to projects that would convert agricultural lands, as defined by the most-recent Important Farmland Maps published by the California Department of Conservation. Projects may provide "agricultural mitigation land" on a 1:1 basis for each acre of land converted or pay the established Agricultural Land Mitigation Fee of $19,255 (San Joaquin Council of Governments [SJCOG] San Joaquin County Multi-Species Habitat Conservation and Open Space Plan [SJMSCP] Habitat Fees, 2023) per acre.

The Agricultural Land Mitigation Program provides that agricultural mitigation lands will be dedicated to a qualifying management entity such as the Central Valley Farmland Trust. The fees would be collected by the City, held in a dedicated account, and then expended by the City to acquire agricultural mitigation land or pay for the monitoring and administrative costs of the program. The fees may also be transferred to a qualifying entity for the same purpose.

San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP)

The SJMSCP provides comprehensive measures for compensation and avoidance of impacts to various biological resources, which includes ancillary benefits to agricultural resources. For instance, many of the habitat easements that are purchased or facilitated by the SJMSCP program are targeted for the protection of Swainson's hawk or other sensitive species habitat that are dependent

on agricultural lands. The biological mitigation for these species through the SJMSCP includes the purchase of certain conservation easements for habitat purposes. The conservation easements are placed over agricultural land, such as alfalfa and row crops (not vines or orchards). As such, SJMSCP fees paid to SJCOG as administrator of the SJMSCP will result in the preservation of agricultural lands in perpetuity.

Mitigation of agricultural land conversion losses has been provided through the county-wide adoption of the SJMSCP and its local adoption by the City of Stockton. The SJMSCP requires the payment of a per-acre fee for loss of wildlife habitat, which in San Joaquin County is largely integral with agricultural use. One important use of the fees is the acquisition of conservation easements over agricultural land that are intended to preserve the agricultural use of these lands in order to maintain their biological habitat values.

Areas located within SJMSCP "No Pay Zones" are exempt from the agricultural land mitigation fee program. Lands in the No Pay Zones are lands that are largely developed. The vast majority of the Project site is designated as Category C/Pay Zone B. This zone consists of "Agricultural Habitat Lands", as described in Chapter 2.2 of the SJMSCP. Portions of the Project site located along French Camp Slough are designated as Category A/No Pay Zone. This zone consists of "Urban Lands", as described in Chapter 2.2 of the SJMSCP.

3.2.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on agricultural resources if it will:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g));
- Result in the loss of forest land or conversion of forest land to non-forest use;
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.

As stated above, there are no forest lands or timber lands located within or adjacent to the Project site, nor are any parcels within the Project site currently zoned as forest land, timber, or timber production. Therefore, implementation of the proposed Project would have ***no impact*** on forest land, timber, or timber production and these impacts will not be discussed further. The following impact analysis is focused on all other environmental topics, including important farmland,

Williamson Act contracts, etc. Forest lands, timber, and timber production are not discussed any further.

IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: The proposed Project would result in the conversion of Farmlands, including Prime Farmland and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses (Significant and Unavoidable)

Development of the proposed Project would result in the permanent conversion of 23.12 acres of Prime Farmland, 217.79 acres of Farmland of Statewide Importance, and 7.51 acres of Farmland of Local Importance, as shown in Table 3.2-5 and Figure 3.2-1, to non-agricultural use. The loss of Important Farmland as classified under the FMMP is considered a potentially significant environmental impact. Additionally, the Project site meets the Cortese-Knox-Hertzberg definition for prime agricultural land. This is the definition used by LAFCo in their consideration of the proposed annexation. As noted previously, compliance with LAFCo policies is discussed in Section 3.10, Land Use and Population, of this Draft EIR.

The City's Agricultural Land Mitigation Program requires that projects provide "agricultural mitigation land" on a 1:1 basis for each acre of land converted or pay the established Agricultural Land Mitigation Fee. As of September 2023, the Agricultural Mitigation Fee is $19,561 (SJCOG-SJMSCP Habitat Fees, 2023) per acre. The Project applicant would be required to participate in the City's Agricultural Lands Mitigation Program and contribute agricultural mitigation land or pay the established Agricultural Land Mitigation Fee, as required by Mitigation Measure 3.2-1. SJCOG would then use these funds to purchase conservation easements on agricultural and habitat lands that are placed over agricultural land, such as alfalfa and row crops in the Project vicinity. As such, the Project fees paid to SJCOG as administrator of the SJMSCP before issuance of a building permit, would result in the preservation of agricultural lands in perpetuity. The purchase of conservation easements and/or deed restrictions through the City's Agricultural Land Mitigation Program and the SJMSCP allows the agricultural landowner to retain ownership of the land and continue agricultural operations, and preserves such lands in perpetuity. Additionally, while the Project does not propose development within the Non-development Area of the Project site, this area would be annexed into the City of Stockton and would be zoned RL, RM, and PF. It is noted that the City's General Plan anticipates that agricultural lands within the Project site, including the Non-development Area, would be developed with urban uses. If, at some point in the future, the existing agricultural land within the Non-development Area converts to a non-agricultural use in alignment with the General Plan buildout, the project applicant at such a time would be required to comply with the City's Agricultural Land Mitigation Program to mitigate impacts to Important Farmland.

The Envision Stockton 2040 General Plan EIR anticipated development of the Project site as part of the overall evaluation of the buildout of the City. The General Plan EIR addressed the conversion and loss of Important Farmland that would result from the build out of the General Plan (General

Plan Draft EIR, pp. 4.2-10 through 4.2-12). The General Plan EIR determined that impacts would be significant and unavoidable. According to the General Plan EIR, although the General Plan includes policies and actions that would reduce and partially offset the conversion of farmland, it designates approximately 16,160 acres of farmlands of concern under CEQA for non-agricultural uses. Because these farmland areas are located near existing urbanized areas, they may not be viable for agricultural operations due to conflicts with nearby urbanized areas. The only way to mitigate this impact would be to prohibit any development on farmland of concern. CEQA does not require that the project be changed in order to avoid an impact, and no additional mitigation is available, resulting in a significant and unavoidable impact.

While the proposed Project would contribute fees toward the purchase of conservation easements on agricultural lands through the SJMSCP (as required by Mitigation Measure 3.2-1), those fees and conservation easements would not result in the creation of new farmland to offset the loss that would occur with Project implementation. Implementation of the Project would result in a net loss of farmland, even with implementation of mitigation. As such, consistent with the conclusion of the General Plan EIR, the loss of Important Farmland would be a ***significant and unavoidable*** impact relative to this topic.

MITIGATION MEASURE(S)

Mitigation Measure 3.2-1: *Prior to the conversion of Important Farmland on the Project site, the Project applicant shall participate in the City's Agricultural Lands Mitigation Program, under which developers of the property shall contribute agricultural mitigation land or shall pay the Agricultural Land Mitigation Fee to the City. Participation in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) that results in agricultural land mitigation may also be considered as the functional equivalent of mitigation for the loss of Important Farmland.*

Impact 3.2-2: The proposed Project would conflict with existing zoning for agricultural use, or Williamson Act contracts (Significant and Unavoidable)

No parcels within the Development Area are currently under a Williamson Act contract. However, a parcel located within the northwestern portion of the Project site (APN 084-050-03) is under a Williamson Act contract. As this parcel is located within the Project's Non-development Area, the parcel would not be converted from agricultural to urban uses under the proposed Project; however, annexation into the City would require the parcel to file a notice of nonrenewal for the Williamson Act contract. It is noted that existing agricultural uses can continue to operate as legal nonconforming uses within the City of Stockton (see Chapter 16.228, non-conforming uses, structures, and parcels).

The San Joaquin County Zoning Ordinance currently designates the Project site as Agriculture-Urban Reserve (AU-20). This designation is intended to retain in agriculture those areas planned for future urban development in order to facilitate compact, orderly growth and to assure the proper timing and economical provision of services and utilities. The proposed Project includes a request for pre-zoning of the Development Area and Non-development Area. The City's pre-zoning for the Project

Area would include the following zoning designations: RL (Residential, Low Density) District; RM (Residential, Medium Density) District; RH (Residential, High Density) District; and PF (Public Facilities) District. The pre-zoning would go into effect upon annexation into the City of Stockton after LAFCo approval.

Although the Project site is currently zoned for agricultural use by the County, the Project includes pre-zoning of the Development Area consistent with the proposed residential, park/open space, and public facility uses. While the Project does not propose to redevelop or alter any existing uses within the Non-development Area, the Project would include pre-zoning of the Non-development Area to RL zoning and RM zoning, which would go into effect upon annexation into the City of Stockton. Although conversion of the entire Project site from agricultural to urban uses has been anticipated by the City since the passage of the General Plan and associated EIR, the Project would conflict with existing agricultural use and Williamson Act compatibility requirements within the Non-development Area. Therefore, implementation of the Project would have a **significant and unavoidable** impact relative to this topic. No mitigation is available.

Impact 3.2-3: The proposed Project may involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use (Less than Significant)

Intensive agricultural operations adjacent or close to urban development can result in use conflicts. These conflicts can result from agricultural practices that generate complaints and result in limits on these practices, such as dust generated during cultivation, burning, noise during shaking operations (nut trees), and pesticide applications. Additionally, conflicts may result from substantial increases in unauthorized use of an agricultural area as the population of the area increases. This can result in the potential for increased trespass, littering and/or vandalism of agricultural properties. Both of these potential conflicts are predominantly associated with the juxtaposition of agricultural and residential areas.

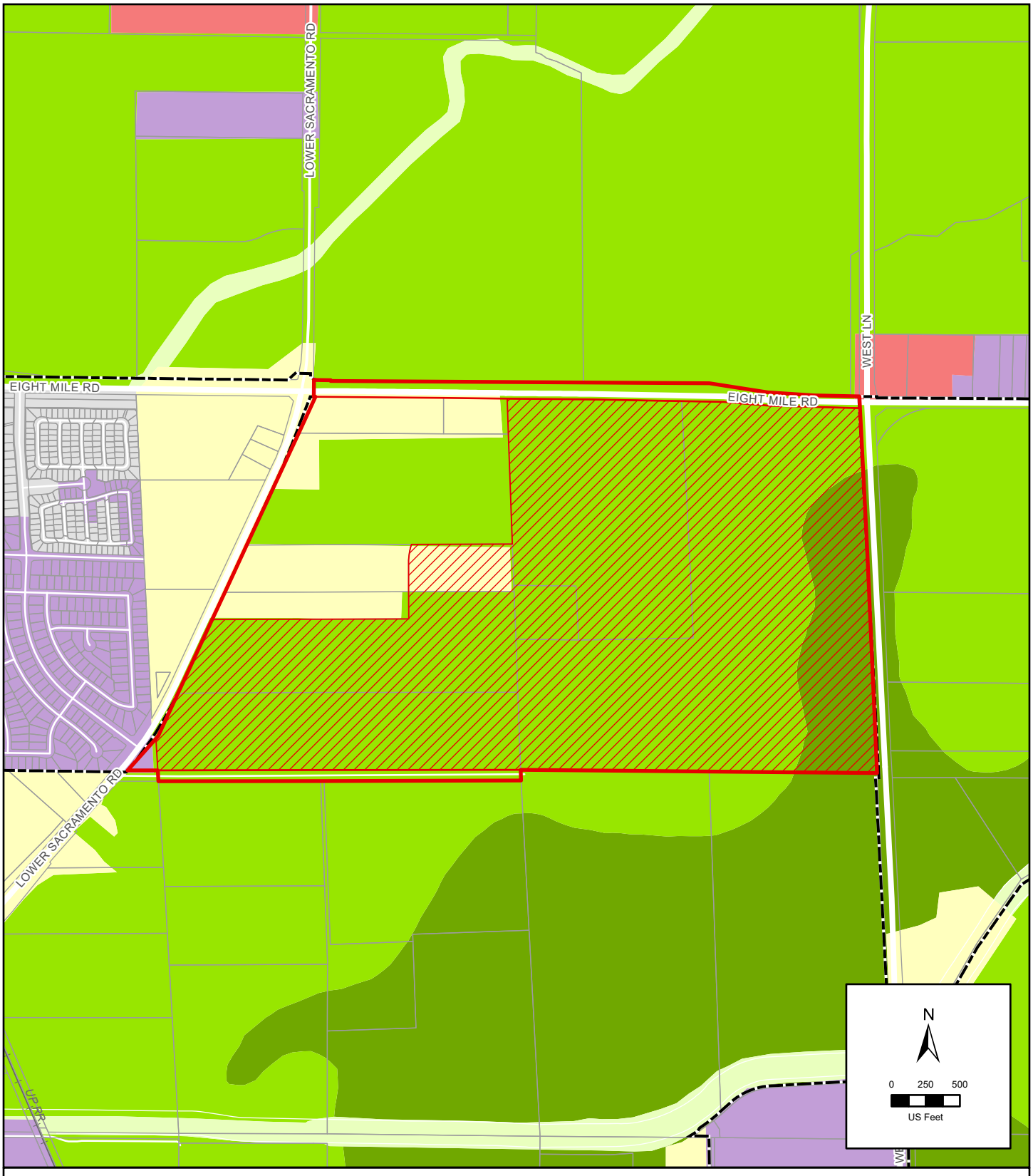
Under Project conditions, potential urban/agricultural use conflicts between proposed urban and nearby agricultural uses are expected to be minimal. Neighboring agricultural lands, including Prime Farmland and Farmland of Statewide Importance, are located adjacent to the Project site boundaries to the north, east, and south, as shown on Figure 3.2-1. The Development Area within the Project site would be developed with a primarily residential development comprised of up to 1,411 residential units, parks/open space, a school site, and circulation and infrastructure improvements. The Project does not propose to redevelop or alter any existing uses within the Non-development Area.

The City's General Plan anticipates that agricultural lands to the south and east of the Project site would develop with urban uses. As stated above, existing agricultural lands to the east of the site were recently incorporated into the City of Stockton and will be developed with residential and commercial uses as part of the approved Tra Vigne development project. Agricultural lands that are located adjacent the Project site to the north and south may be impacted by the increased human presence on the Project site. However, the existing agricultural uses to the north and south are separated from the Project site by Eight Mile Road and Marlette Road. The Eight Mile Road and

future Marlette Road roadways would act as an effective divider and buffer between urban and agricultural uses.

Both Stockton and San Joaquin County have "Right-to-Farm" ordinances which prevent an existing agricultural operation using standard farming practices from being considered a nuisance by later adjoining uses. This protects farmers from attempts by residents to curtail agricultural activities. The Stockton ordinance, which would apply to the Project site, also requires owners and builders to notify their successors-in-interest of the potential conflicts and effects of agricultural activities, and the ordinance specifies that typical agricultural practices shall not be considered a nuisance. Implementation of the Right-to-Farm ordinance would ensure potential residential/agricultural incompatibilities would be less than significant.

The General Plan EIR identifies that implementation of the General Plan could result in the conversion of farmland to non-agricultural use and identifies General Plan Policies LU-5.2 and LU-5.3, and Actions LU-5.3B, 5.3C, and 6.2B to protect agricultural lands outside of the City from conversion to non-agricultural use, including from incompatible uses. The General Plan EIR determined that the impact would be less than significant through implementation of these policies and actions, and through compliance with the City's "Right-to-Farm" ordinance (General Plan Draft EIR, p. 4.2-15). Therefore, implementation of the proposed Project would result in a ***less than significant*** impact related to conflicts with adjacent agricultural lands.



LEGEND

- Project Site
- Development Area
- Stockton City Limits

Farmland Types

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Farmland of Local Importance
- Vacant or Disturbed Land
- Semi-agricultural and Rural Commercial Land
- Urban and Built-Up Land

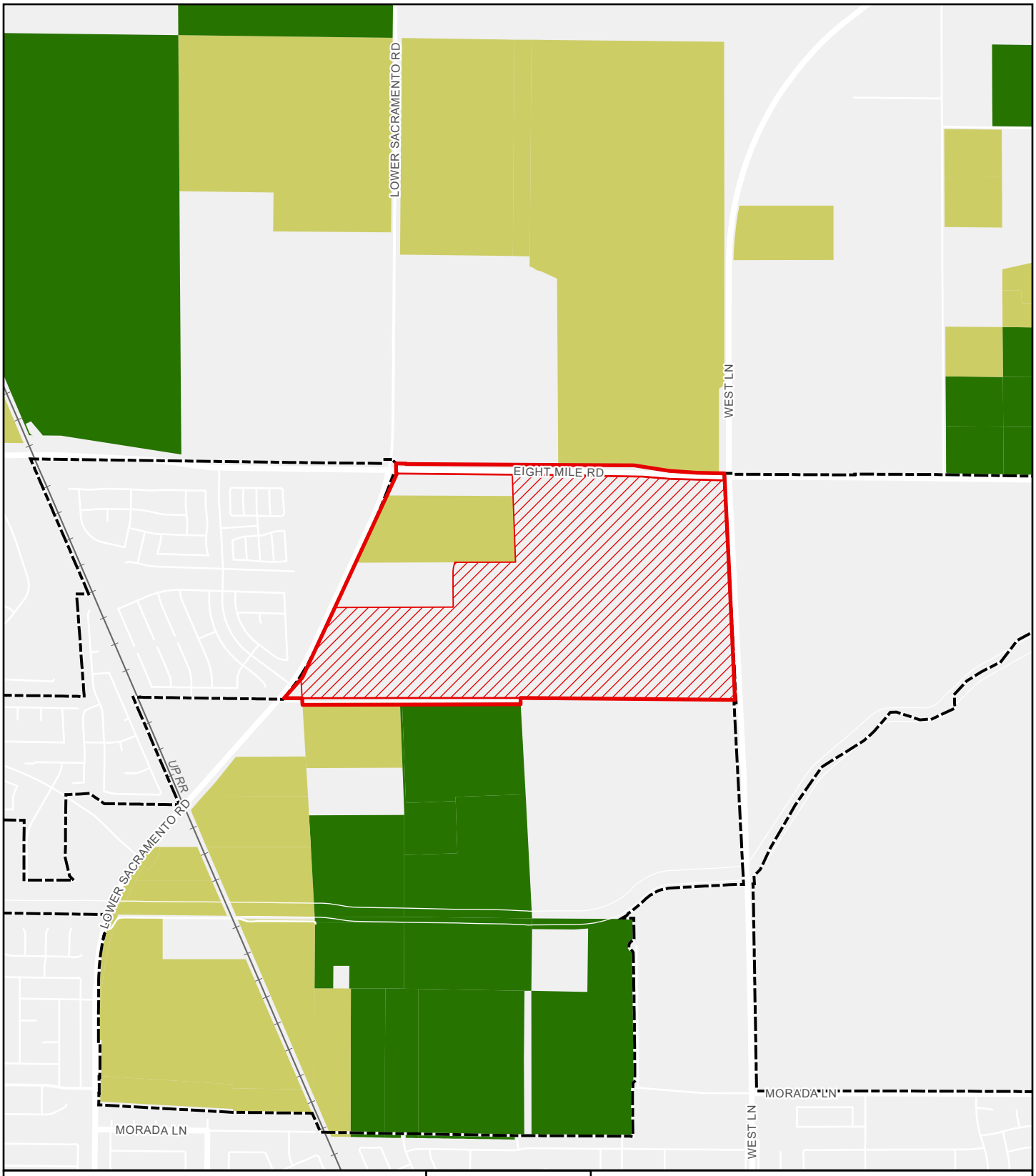
STOCKTON LEBARON RANCH

Figure 3.2-1. Important Farmland

Sources: California Department of Conservation Farmland Mapping and Monitoring Program; San Joaquin County GIS. Map date: July 13, 2023.

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LEGEND

- Project Site
- Development Area
- Stockton City Limits

Williamson Act Enrollment

- Prime
- Non-prime

N

0 400 800

US Feet

Sources: DLRP; San Joaquin County GIS. Map date: September 25, 2023.

STOCKTON LEBARON RANCH

Figure 3.2-2. Williamson Act Enrollment

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This section describes the regional air quality, current attainment status of the air basin, local sensitive receptors, emission sources, and impacts that are likely to result from Project implementation. The analysis contained in this section is intended to be at a project-level, and covers impacts associated with the conversion of the entire site to urban uses. Following this discussion is an assessment of consistency of the proposed Project with applicable policies and local plans. The Greenhouse Gases and Climate Change analysis is in a separate section of this document. This section is based in part on the following technical studies: *Air Quality and Land Use Handbook: A Community Health Perspective* (California Air Resources Board [CARB], 2007), *Guide for Assessing and Mitigation Air Quality Impacts* (San Joaquin Valley Air Pollution Control District [SJAVPCD], 2002), *Guidance for Assessing and Mitigating Air Quality Impacts - 2015* (SJAVPCD, 2015), and CalEEMod *(v.2020.4.0)* (CARB, 2021).

There were no comments received during the NOP scoping process related to this environmental topic.

3.3.1 ENVIRONMENTAL SETTING

SAN JOAQUIN VALLEY AIR BASIN

The City of Stockton (City) is in the southern portion of the San Joaquin Valley Air Basin (SJVAB). The SJVAB consists of eight counties: Fresno, Kern (western and central), Kings, Tulare, Madera, Merced, San Joaquin, and Stanislaus. Air pollution from significant activities in the SJVAB includes a variety of industrial-based sources as well as on- and off-road mobile sources. These sources, coupled with geographical and meteorological conditions unique to the area, stimulate the formation of unhealthy air.

The SJVAB is approximately 250 miles long and an average of 35 miles wide. It is bordered by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south. There is a slight downward elevation gradient from Bakersfield in the southeast end (408 feet elevation) to sea level at the northwest end where the valley opens to the San Francisco Bay at the Carquinez Straits. At its northern end is the Sacramento Valley, which comprises the northern half of California's Central Valley. The bowl-shaped topography inhibits movement of pollutants out of the valley (SJVAPCD, 2015).

Climate

The SJVAB is in a Mediterranean climate zone and is influenced by a subtropical high-pressure cell most of the year. Mediterranean climates are characterized by sparse rainfall, which occurs mainly in winter. Summers are hot and dry. Summertime maximum temperatures often exceed 100°F in the valley.

The subtropical high-pressure cell is strongest during spring, summer, and fall and produces subsiding air, which can result in temperature inversions in the valley. A temperature inversion can act like a lid, inhibiting vertical mixing of the air mass at the surface. Any emissions of pollutants can

be trapped below the inversion. Most of the surrounding mountains are above the normal height of summer inversions (1,500 to 3,000 feet).

Winter-time high pressure events can often last many weeks, with surface temperatures often lowering into the 30°F. During these events, fog can be present and inversions are extremely strong. These wintertime inversions can inhibit vertical mixing of pollutants to a few hundred feet (SJVAPCD, 2015).

Wind Patterns

Wind speed and direction play an important role in dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing and transporting it to other locations.

Especially in summer, winds in the San Joaquin Valley most frequently blow from the northwest. The region's topographic features restrict air movement and channel the air mass towards the southeastern end of the valley. Marine air can flow into the basin from the San Joaquin River Delta and over Altamont Pass and Pacheco Pass, where it can flow along the axis of the valley, over the Tehachapi pass, into the Southeast Desert Air Basin. This wind pattern contributes to transporting pollutants from the Sacramento Valley and the Bay Area into the SJVAB. Approximately 27 percent of the total emissions in the northern portion, 11 percent of total emissions in the central region, and 7 percent of total emission in the south valley of the SJVAB are attributed to air pollution transported from these two (2) areas.[1] The Coastal Range is a barrier to air movement to the west and the high Sierra Nevada range is a significant barrier to the east (the highest peaks in the southern Sierra Nevada reach almost halfway through the Earth's atmosphere). Many days in the winter are marked by stagnation events where winds are very weak. Transport of pollutants during winter can be very limited. A secondary but significant summer wind pattern is from the southeast and can be associated with nighttime drainage winds, prefrontal conditions, and summer monsoons.

Two (2) significant diurnal wind cycles that occur frequently in the valley are the sea breeze and mountain-valley upslope and drainage flows. The sea breeze can accentuate the northwest wind flow, especially on summer afternoons. Nighttime drainage flows can accentuate the southeast movement of air down the valley. In the mountains during periods of weak synoptic scale winds, winds tend to be upslope during the day and downslope at night. Nighttime and drainage flows are especially pronounced during the winter when flow from the easterly direction is enhanced by nighttime cooling in the Sierra Nevada. Eddies can form in the valley wind flow and can recirculate a polluted air mass for an extended period.

Temperature

Solar radiation and temperature are particularly important in the chemistry of ozone formation. The SJVAB averages over 260 sunny days per year. Photochemical air pollution (primarily ozone) is produced by the atmospheric reaction of organic substances (such as volatile organic compounds)

[1] SJVAPCD. Frequently Asked Questions, http://www.valleyair.org/general_info/frequently_asked_questions.htm#What%20is%20being%20done%20to%20improve%20ai r%20quality%20in%20the%20San%20Joaquin%20Valley, accessed September 11, 2023.

and nitrogen dioxide under the influence of sunlight. Ozone concentrations are very dependent on the amount of solar radiation, especially during late spring, summer, and early fall. Ozone levels typically peak in the afternoon. After the sun goes down, the chemical reaction between nitrous oxide and ozone begins to dominate. This reaction tends to scavenge and remove the ozone in the metropolitan areas through the early morning hours, resulting in the lowest ozone levels, possibly reaching zero at sunrise in areas with high nitrogen oxides emissions. At sunrise, nitrogen oxides tend to peak, partly due to low levels of ozone currently and due to the morning commuter vehicle emissions of nitrogen oxides.

Generally, the higher the temperature, the more ozone is formed since reaction rates increase with temperature. However, extremely hot temperatures can "lift" or "break" the inversion layer. Typically, if the inversion layer does not lift to allow the buildup of contaminants to be dispersed, the ozone levels will peak in the late afternoon. If the inversion layer breaks and the resultant afternoon winds occur, the ozone will peak in the early afternoon and decrease in the late afternoon as the contaminants are dispersed or transported out of the SJVAB.

Ozone levels are low during winter periods when there is much less sunlight to drive the photochemical reaction (SJVAPCD, 2015).

Precipitation, Humidity, and Fog

Precipitation and fog may reduce or limit some pollutant concentrations. Ozone needs sunlight for its formation, and clouds and fog can block the required solar radiation. Wet fog can cleanse the air during winter as moisture collects on particles and deposits them on the ground. Atmospheric moisture can also increase pollution levels. In fogs with less water content, the moisture acts to form secondary ammonium nitrate particulate matter. The winds and unstable air conditions experienced during the passage of winter storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the SJVAB floor. This creates strong low-level temperature inversions and very stable air conditions, which can lead to tule fog. Wintertime conditions favorable to fog formation are also conditions favorable to high concentrations of particulate matter (PM), including PM that have a diameter of less than 2.5 micrometers ($PM_{2.5}$) and 10 micrometers PM_{10} (SJVAPCD, 2015).

Inversions

The vertical dispersion of air pollutants in the San Joaquin Valley can be limited by persistent temperature inversions. Air temperature in the lowest layer of the atmosphere typically decreases with altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. The height of the base of the inversion is known as the "mixing height." This is the level to which pollutants can mix vertically. Mixing of air is minimized above and below the inversion base. The inversion base represents an abrupt density change where little air movement occurs.

Inversion layers are significant in determining pollutant concentrations. Concentration levels can be related to the amount of mixing space below the inversion. Temperature inversions that occur on

the summer days are usually 2,000 to 2,500 feet above the valley floor. In winter months, overnight inversions occur 500 to 1,500 feet above the valley floor (SJVAPCD, 2015).

CRITERIA POLLUTANTS

All criteria pollutants can have human health and environmental effects at certain concentrations. The United States Environmental Protection Agency (U.S. EPA) uses six (6) "criteria pollutants" as indicators of air quality and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). In addition, California establishes ambient air quality standards, called California Ambient Air Quality Standards (CAAQS). California law does not require that the CAAQS be met by a specified date as is the case with NAAQS.

The ambient air quality standards for the six (6) “criteria pollutants” (as shown in Table 3.3-1) are set to protect public health and the environment within an adequate margin of safety (as provided under Section 109 of the Federal Clean Air Act [FCAA]). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants, and form the scientific basis for new and revised ambient air quality standards. Principal characteristics and possible health and environmental effects from exposure to the six (6) primary criteria pollutants generated by the Project are discussed below.

Ozone (O_3) is a photochemical oxidant and the major component of smog. While O_3 in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of O_3 at ground level are a major health and environmental concern. O_3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak O_3 levels occur typically during the warmer times of the year. Both VOCs and NO_x are emitted by transportation and industrial sources. VOCs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops and other sources using solvents.

The reactivity of O_3 causes health problems because it damages lung tissue, reduces lung function, and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems, such as asthmatics, but affect healthy adults and children as well. Exposure to O_3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. EPA, 2019a). The concentration of ozone at which health effects are observed depends on an individual’s sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual

after a two (2) -hour exposure to 400 parts per billion of ozone and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggests that sensitive populations (e.g., asthmatics) may be affected on days when the eight (8) -hour maximum ozone concentration reaches 80 parts per billion (U.S. EPA, 2019b). The average background level of ozone in California and Nevada is approximately 48.3 parts per billion, which represents approximately 77 percent of the total ozone in the western region of the U.S. (NASA, 2015).

In addition to human health effect, ozone has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. O_3 can also act as a corrosive and oxidant, resulting in property damage such as the degradation of rubber products and other materials.

Carbon monoxide (CO) is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels. Carbon monoxide is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Exposure to CO at high concentrations can also cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects to ambient CO (CARB, 2019a).

Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. They are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (U.S. EPA, 2016). Such acute effects may occur under current ambient conditions for some sensitive individuals, while increases in ambient CO levels increases the risk of such incidences.

Nitrogen Dioxide (NO_2) is a brownish, highly reactive gas that is present in all urban atmospheres. The main effect of increased NO_2 is the increased likelihood of respiratory problems. Under ambient conditions, NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone (O_3) and acid rain and may affect both terrestrial and aquatic ecosystems. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly, are generally at greater risk for the health effects of NO_2.

Sulfur dioxide (SO_2) is one of the multiple gaseous oxidized sulfur species and is formed during the combustion of fuels containing sulfur, primarily coal and oil. The largest anthropogenic source of SO_2 emissions in the U.S. is fossil fuel combustion at electric utilities and other industrial facilities.

SO_2 is also emitted from certain manufacturing processes and mobile sources, including locomotives, large ships, and construction equipment.

SO_2 affects breathing and may aggravate existing respiratory and cardiovascular disease in high doses. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children, and the elderly. SO_2 is also a primary contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings, and statues. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. This is especially noticeable in national parks. Ambient SO_2 results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp, and paper mills and from nonferrous smelters.

Short-term exposure to ambient SO_2 has been associated with various adverse health effects. Multiple human clinical studies, epidemiological studies, and toxicological studies support a causal relationship between short-term exposure to ambient SO_2 and respiratory morbidity. The observed health effects include decreased lung function, respiratory symptoms, and increased emergency department visits and hospitalizations for all respiratory causes. These studies further suggest that people with asthma are potentially susceptible or vulnerable to these health effects. In addition, SO_2 reacts with other air pollutants to form sulfate particles, which are constituents of fine particulate matter ($PM_{2.5}$). Inhalation exposure to $PM_{2.5}$ has been associated with various cardiovascular and respiratory health effects (U.S. EPA, 2017). Increased ambient SO_2 levels would lead to increased risk of such effects.

SO_2 emissions that lead to high concentrations of SO_2 in the air generally also lead to the formation of other sulfur oxides (SOx). SOx can react with other compounds in the atmosphere to form small particles. These particles contribute to particulate matter (PM) pollution. Small particles may penetrate deeply into the lungs and in sufficient quantity can contribute to health problems.

Particulate matter (PM) includes dust, dirt, soot, smoke, and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires, and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as SO_2 and VOCs are also considered particulate matter. PM is generally categorized based on the diameter of the particulate matter: PM_{10} is particulate matter 10 micrometers or less in diameter (known as respirable particulate matte*r*), and $PM_{2.5}$ is particulate matter 2.5 micrometers or less in diameter (known as fine particulate matter).

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO_2) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis, and premature death. Small particulate pollution causes health impacts even at very low concentrations – indeed, no threshold has been identified below which no damage to health is observed.

Respirable particulate matter (PM_{10}) consists of small particles, less than 10 microns in diameter, of dust, smoke, or droplets of liquid which penetrate the human respiratory system and cause irritation by themselves, or in combination with other gases. PM_{10} is caused primarily by dust from grading and excavation activities, from agricultural activities (as created by soil preparation activities, fertilizer, and pesticide spraying, weed burning and animal husbandry), and from motor vehicles, particularly diesel-powered vehicles. PM_{10} causes a greater health risk than larger particles, since these fine particles can more easily penetrate the defenses of the human respiratory system.

$PM_{2.5}$ consists of fine particles that are less than 2.5 microns in size. Like PM_{10}, these particles are primarily the result of combustion in motor vehicles, particularly diesel engines, as well as from industrial sources and residential/agricultural activities such as burning. It is also formed through the reaction of other pollutants. As with PM_{10}, these particulates can increase the chance of respiratory disease, and cause lung damage and cancer. In 1997, the U.S. EPA created new Federal air quality standards for $PM_{2.5}$.

Although neither the U.S. EPA nor the California air districts have provided any thresholds for ultrafine particles (UFPs) (defined as fine particles of less than 0.1 microns in size, or $PM_{0.1}$), it should be noted that such particles may have the potential for even greater health effects than PM_{10} or $PM_{2.5}$, due to their even smaller sizes. UFPs are primarily generated by motor vehicle emissions (especially from diesel engines), braking, and tire wear. Specifically, UFPs are comprised mostly of metals that are known constituents of brake pads and drums, as well as additives in motor oil. Generally, all engines can create UFPs, but especially diesel engines, and any vehicle's braking system; traffic, particularly start-and-stop, generates UFPs.[2] Recent research suggests that UFPs pose considerable health risks, similar to but tending to be more severe than PM_{10} and $PM_{2.5}$, such as increased risk of cardiovascular disease and ischemic heart disease death rates, and loss of lung function.[3] Furthermore, unlike diesel exhaust or other larger TAC emissions, UFPs are more persistent and do not dissipate easily over distances.[4]

The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly, and children. PM also impacts soils and damages materials and is a major cause of visibility impairment.

[2] Aerosol Science and Technology. 2011. Thomas A. Cahill, David E. Barnes, Nicholas J. Spada, Jonathan A. Lawton, and Thomas M. Cahill. Very Fine and Ultrafine Metals and Ischemic Heart Disease in the California Central Valley 1: 2003-2007. July 13, 2011.

[3] Atmospheric Environment. 2016. Thomas A. Cahill, David E. Barnes, Leann Wuest, David Gribble, David Buscho, Roger S. Miller, Camille De la Croix. Artificial Ultra-fine Aerosol Tracers for Highway Transect Studies. April 7, 2016;

Aerosol Science and Technology. 2011. Thomas A. Cahil, David E. Barnes, Earl Withycombe, & Mitchell Watnik, and DELTA Group. Very Fine and Ultrafine Metals and Ischemic Heart Disease in the California Central Valley 1: 1974-1991. July 13, 2011.

[4] Atmospheric Environment. 2016. Transition Metals in Coarse, Fine, Very Fine and Ultra-fine Particles from an Interstate Highway Transect Near Detroit. September 12, 2016.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in $PM_{2.5}$ results in a one percent reduction in mortality rate for individuals over 30 years old (Bay Area Air Quality Management District, 2017). Long-term exposures, such as those experienced by people living for many years in areas with high PM levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. EPA, 2019c).

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil, or dust. Once taken into the body, lead distributes throughout the body in the blood and is accumulated in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen carrying capacity of the blood. Excessive Pb exposure can cause seizures, mental retardation and/or behavioral disorders. Low doses of Pb can lead to central nervous system damage. Studies have also shown that Pb may be a factor in high blood pressure and subsequent heart disease (Tsoi, M.F., 2021).

Lead is persistent in the environment and can be added to soils and sediments through deposition from sources of lead air pollution. Other sources of lead to ecosystems include direct discharge of waste streams to water bodies and mining. Elevated lead in the environment can result in decreased growth and reproductive rates in plants and animals, and neurological effects in vertebrates.

Lead exposure is typically associated with industrial sources; major sources of lead in the air are ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Other sources are waste incinerators, utilities, and lead-acid battery manufacturers. The highest air concentrations of lead are usually found near lead smelters. As a result of the U.S. EPA's regulatory efforts, including the removal of lead from motor vehicle gasoline, levels of lead in the air decreased by 98 percent between 1980 and 2014 (U.S. EPA, 2019d). Based on this reduction of lead in the air over this period, and since most new developments do not generate an increase in lead exposure, the health impacts of ambient lead levels are not typically monitored by the California Air Resources Board (CARB).

AMBIENT AIR QUALITY STANDARDS

Both the U.S. EPA and the CARB have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant.

The federal and State ambient air quality standards are summarized in Table 3.3-1 for important pollutants. The federal and State ambient standards were developed independently, although both processes were aimed at avoiding health-related effects. As a result, the federal and State standards differ in some cases. In general, the California standards are more stringent. This is particularly true

for ozone, $PM_{2.5}$, and PM_{10}. The U.S. EPA signed a final rule for the federal ozone eight-hour standard of 0.070 parts per million (ppm) on October 1, 2015, which was effective as of December 28, 2015 (equivalent to the California state ambient air quality eight-hour standard for ozone).

In 1997, new national standards for fine particulate matter diameter 2.5 microns or less ($PM_{2.5}$) were adopted for 24-hour and annual averaging periods. The existing PM_{10} standards were retained, but the method and form for determining compliance with the standards were revised.

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TACs are regulated based on risk rather than specification of safe levels of contamination.

TABLE 3.3-1: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

POLLUTANT	*AVERAGING TIME*	*FEDERAL PRIMARY STANDARD*	*STATE STANDARD*
Ozone	1-Hour	--	0.09 ppm
	8-Hour	0.070 ppm	0.070 ppm
Carbon Monoxide	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.053 ppm	0.03 ppm
	1-Hour	0.100 ppm	0.18 ppm
Sulfur Dioxide	Annual	0.03 ppm	--
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour	0.075 ppm	0.25 ppm
PM_{10}	Annual	--	20 ug/m^3
	24-Hour	150 ug/m^3	50 ug/m^3
$PM_{2.5}$	Annual	12 ug/m^3	12 ug/m^3
	24-Hour	35 ug/m^3	--
Lead	30-Day Avg.	--	1.5 ug/m^3
	3-Month Avg.	0.15 ug/m^3	--

NOTES: PPM = PARTS PER MILLION, UG/M3 = MICROGRAMS PER CUBIC METER

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2019A.

Existing air quality concerns within San Joaquin County and the entire air basin are related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air contaminants, odors, and increases in greenhouse gas emissions contributing to climate change. The primary source of ozone (smog) pollution is motor vehicles, which account for 70 percent of the ozone in the region. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke emitted from fireplaces, wood-burning stoves, and agricultural burning.

Attainment Status

In accordance with the California Clean Air Act (CCAA), the CARB is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant

concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria.

Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone, carbon monoxide, and nitrogen dioxide as "does not meet the primary standards," "cannot be classified," or "better than national standards." For sulfur dioxide, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used.

San Joaquin County has a State designation Attainment or Unclassified for all criteria pollutants except for ozone, PM_{10}, and $PM_{2.5}$. San Joaquin County has a national designation of either Unclassified or Attainment for all criteria pollutants except for ozone and $PM_{2.5}$. Table 3.3-2 presents the state and national attainment status for San Joaquin County.

TABLE 3.3-2: STATE AND NATIONAL ATTAINMENT STATUS IN SAN JOAQUIN COUNTY

CRITERIA POLLUTANTS	*STATE DESIGNATIONS*	*NATIONAL DESIGNATIONS*
Ozone (O_3)	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Unclassified/Attainment
Nitrogen Dioxide (NO_2)	Attainment	Unclassified/Attainment
Sulfur Dioxide (SO_2)	Attainment	Unclassified/Attainment
Sulfates	Attainment	
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	
Visibility Reducing Particles	Unclassified	

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2023.

San Joaquin County Air Quality Monitoring

The San Joaquin Valley Air Pollution District (SJVAPCD) and the CARB maintain air quality monitoring sites throughout San Joaquin County that collect data for ozone and $PM_{2.5}$. In addition, air quality monitoring sites for PM_{10} are located throughout the San Joaquin Valley (though not in San Joaquin County). It is important to note that while the State retains the one-hour standard, the federal ozone 1-hour standard was revoked by the U.S. EPA and is no longer applicable for federal standards. Best available data obtained from the monitoring sites between 2017 and 2019 (latest year of data available) is shown in Table 3.3-3, Table 3.3-4, and Table 3.3-5.

TABLE 3.3-3 AMBIENT AIR QUALITY MONITORING DATA SUMMARY (SAN JOAQUIN COUNTY) - OZONE

YEAR	DAYS > STANDARD				1-HOUR OBSERVATIONS			8-HOUR AVERAGES				YEAR COVERAGE	
	STATE		NATIONAL			STATE	NAT'L	STATE		NATIONAL			
	1-HR	8-HR	1-HR	8-HR	MAX.	D.V.[1]	D.V.[2]	MAX.	D.V.[1]	MAX.	D.V.[2]	MIN	MAX
2022	1	1	0	1	0.141	0.14	0.091	0.114	0.114	0.113	0.066	96	97
2021	0	3	0	3	0.089	0.10	0.093	0.078	0.077	0.077	0.068	0	98
2020	1	4	0	4	0.100	0.09	0.092	0.078	0.082	0.078	0.070	96	99
2019	2	4	0	4	0.098	0.09	0.092	0.080	0.0823	0.079	0.073	91	99
2018	1	8	0	8	0.099	0.10	0.099	0.082	0.0872	0.081	0.076	96	99
2017	0	8	0	6	0.093	0.10	0.105	0.082	0.0898	0.082	0.077	84	95

NOTES: ALL CONCENTRATIONS EXPRESSED IN PARTS PER MILLION. THE NATIONAL 1-HOUR OZONE STANDARD WAS REVOKED IN JUNE 2005 AND IS NO LONGER IN EFFECT. STATISTICS RELATED TO THE REVOKED STANDARD ARE SHOWN IN ITALICS. D.V. [1]= STATE DESIGNATION VALUE. D.V. [2]= NATIONAL DESIGN VALUE.

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES.

TABLE 3.3-4: AMBIENT AIR QUALITY MONITORING DATA SUMMARY (SAN JOAQUIN VALLEY) – PM_{10}

YEAR	EST. DAYS > STD.		ANNUAL AVERAGE		HIGH 24-HR AVERAGE		YEAR COVERAGE
	NAT'L	STATE	NAT'L	STATE	NAT'L	STATE	
2022	3.8	171.2	56.7	54.9	250.8	251.6	0 – 10
2021	16.3	151.7	54.9	52.8	437.5	439.3	0 - 97
2020	38.7	157.0	64.5	60.5	517.2	359.0	0 - 100
2019	16.2	129.7	55.6	55.6	652.2	664.2	0 – 100
2018	9.6	164.4	54.5	53.0	250.2	250.4	0 – 100
2017	7.7	145.5	55.3	48.4	298.4	210.0	0 – 100

NOTES: THE NATIONAL ANNUAL AVERAGE PM_{10} STANDARD WAS REVOKED IN DECEMBER 2006 AND IS NO LONGER IN EFFECT. AN EXCEEDANCE IS NOT NECESSARILY A VIOLATION. STATISTICS MAY INCLUDE DATA THAT ARE RELATED TO AN EXCEPTIONAL EVENT. STATE AND NATIONAL STATISTICS MAY DIFFER FOR THE FOLLOWING REASONS: STATE STATISTICS ARE BASED ON CALIFORNIA APPROVED SAMPLERS, WHEREAS NATIONAL STATISTICS ARE BASED ON SAMPLERS USING FEDERAL REFERENCE OR EQUIVALENT METHODS. STATE AND NATIONAL STATISTICS MAY THEREFORE BE BASED ON DIFFERENT SAMPLERS. NATIONAL STATISTICS ARE BASED ON STANDARD CONDITIONS. STATE CRITERIA FOR ENSURING THAT DATA ARE SUFFICIENTLY COMPLETE FOR CALCULATING VALID ANNUAL AVERAGES ARE MORE STRINGENT THAN THE NATIONAL CRITERIA. ND=THERE WAS INSUFFICIENT (OR NO) DATA AVAILABLE TO DETERMINE THE VALUE.

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES.

TABLE 3.3-5 AMBIENT AIR QUALITY MONITORING DATA SUMMARY (SAN JOAQUIN COUNTY) - $PM_{2.5}$

YEAR	EST. DAYS > NAT'L '06 STD.	ANNUAL AVERAGE		NAT'L ANN. STD. D.V.[1]	STATE ANNUAL D.V.[2]	NAT'L '06 STD. 98TH PERCENTILE	NAT'L '06 24-HR STD. D.V.[1]	HIGH 24-HOUR AVERAGE		YEAR COVERAGE	
		NAT'L	STATE					NAT'L	STATE	MIN	MAX
2022	6.2	10.2	10.2	ND	15	35.2	54	51.9	51.9	72	96
2021	11.3	11.7	ND	ND	15	39.9	52	58.7	58.7	14	100
2020	24.0	14.8	14.8	13.7	17	91.6	72	140.0	140.0	98	99
2019	6.4	9.6	6.2	13.0	17	32.9	56	50.1	50.1	77	95
2018	25.0	17.6	17.4	13.8	17	96.9	56	188.0	257.5	96	100
2017	16.9	12.1	11.0	12.2	13	44.2	39	53.7	53.7	94	99

NOTES: ALL CONCENTRATIONS EXPRESSED IN PARTS PER MILLION. STATE AND NATIONAL STATISTICS MAY DIFFER FOR THE FOLLOWING REASONS: STATE STATISTICS ARE BASED ON CALIFORNIA APPROVED SAMPLERS, WHEREAS NATIONAL STATISTICS ARE BASED ON SAMPLERS USING FEDERAL REFERENCE OR

EQUIVALENT METHODS. STATE AND NATIONAL STATISTICS MAY THEREFORE BE BASED ON DIFFERENT SAMPLERS. STATE CRITERIA FOR ENSURING THAT DATA ARE SUFFICIENTLY COMPLETE FOR CALCULATING VALID ANNUAL AVERAGES ARE MORE STRINGENT THAN THE NATIONAL CRITERIA. ND = THERE WAS INSUFFICIENT DATA AVAILABLE TO DETERMINE THE VALUE. D.V. [1] = STATE DESIGNATION VALUE. D.V. [2]= NATIONAL DESIGN VALUE
SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES.

ODORS

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals can smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another.

It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two (2) properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

3.3.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The U.S. EPA is responsible for administering the FCAA. The FCAA requires the U.S. EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health (with an adequate margin of safety, including for sensitive populations such as children, the elderly, and individuals suffering

from respiratory diseases), and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

NAAQS standards define clean air and represent the maximum amount of pollution that can be present in outdoor air without any harmful effects on people and the environment. Existing violations of the ozone and $PM_{2.5}$ ambient air quality standards indicate that certain individuals exposed to these pollutants may experience certain health effects, including increased incidence of cardiovascular and respiratory ailments.

NAAQS standards have been designed to accurately reflect the latest scientific knowledge and are reviewed every five years by a Clean Air Scientific Advisory Committee (CASAC), consisting of seven members appointed by the U.S. EPA administrator. Reviewing NAAQS is a lengthy undertaking and includes the following major phases: Planning, Integrated Science Assessment (ISA), Risk/Exposure Assessment (REA), Policy Assessment (PA), and Rulemaking. The process starts with a comprehensive review of the relevant scientific literature. The literature is summarized and conclusions are presented in the ISA. Based on the ISA, U.S. EPA staff perform a risk and exposure assessment, which is summarized in the REA document. The third document, the PA, integrates the findings and conclusions of the ISA and REA into a policy context, and provides lines of reasoning that could be used to support retention or revision of the existing NAAQS, as well as several alternative standards that could be supported by the review findings. Each of these three documents is released for public comment and public peer review by the CASAC. Members of CASAC are appointed by the U.S. EPA Administrator for their expertise in one or more of the subject areas covered in the ISA. The CASAC's role is to peer review the NAAQS documents, ensure that they reflect the thinking of the scientific community, and advise the Administrator on the technical and scientific aspects of standard setting. Each document goes through two to three drafts before CASAC deems it to be final.

Although there is some variability among the health effects of the NAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations, and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. NAAQS standards were last revised for each of the six criteria pollutant as listed below, with detail on what aspects of NAAQS changed during the most recent update:

- Ozone: On October 1, 2015, the U.S. EPA lowered the national eight-hour standard from 0.075 ppm to 0.070 ppm, providing for a more stringent standards consistent with the current California state standard.
- CO: In 2011, the primary standards were retained from the original 1971 level, without revision. The secondary standards were revoked in 1985.
- NO_2: The national NO_2 standard was most recently revised in 2010 following an exhaustive review of new literature pointed to evidence for adverse effects in asthmatics at lower NO_2 concentrations than the existing national standard.
- SO_2: On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-

year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb.

- PM: the national annual average $PM_{2.5}$ standard was most recently revised in 2012 following an exhaustive review of new literature pointed to evidence for increased risk of premature mortality at lower $PM_{2.5}$ concentrations than the existing standard.
- Lead: The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. In 2016, the primary and secondary standards were retained.

The law recognizes the importance for each state to locally carry out the requirements of the FCAA, as special consideration of local industries, geography, housing patterns, etc. are needed to have full comprehension of the local pollution control problems. As a result, the U.S. EPA requires each state to develop a State Implementation Plan (SIP) that explains how each state will implement the FCAA within their jurisdiction. A SIP is a collection of rules and regulations that a particular state will implement to control air quality within their jurisdiction. The CARB is the state agency that is responsible for preparing the California SIP.

Transportation Conformity

Transportation conformity requirements were added to the FCAA in the 1990 amendments, and the U.S. EPA adopted implementing regulations in 1997. See §176 of the FCAA (42 U.S.C. §7506) and 40 CFR Part 93, Subpart A. Transportation conformity serves much the same purpose as general conformity: it ensures that transportation plans, transportation improvement programs, and projects that are developed, funded, or approved by the United States Department of Transportation or that are recipients of funds under the Federal Transit Act or from the Federal Highway Administration (FHWA), conform to the SIP as approved or promulgated by U.S. EPA.

Currently, transportation conformity applies in nonattainment areas and maintenance areas. Under transportation conformity, a determination of conformity with the applicable SIP must be made by the agency responsible for the Project, such as the Metropolitan Planning Organization, the Council of Governments, or a federal agency. The agency making the determination is also responsible for all the requirements relating to public participation. Generally, a project will be considered in conformance if it is in the transportation improvement plan and the transportation improvement plan is incorporated in the SIP. If an action is covered under transportation conformity, it does not need to be separately evaluated under general conformity.

Transportation Control Measures

One aspect of the SIP development process is the consideration of potential control measures as a part of making progress towards clean air goals. While most SIP control measures are aimed at reducing emissions from stationary sources, some are typically also created to address mobile or transportation sources. These are known as transportation control measures (TCMs). TCM strategies are designed to reduce vehicle miles traveled and trips, or vehicle idling and associated air pollution. These goals are achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

STATE

CARB Mobile-Source Regulation

The State of California is responsible for controlling emissions from the operation of motor vehicles in the State. Rather than mandating the use of specific technology or the reliance on a specific fuel, the CARB motor vehicle standards specify the allowable grams of pollution per mile driven. In other words, the regulations focus on the reductions needed rather than on the way they are achieved. Towards this end, the CARB has adopted regulations which require auto manufacturers to phase in less polluting vehicles.

California Clean Air Act

The California Clean Air Act (CCAA) was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state's air quality goals, planning and regulatory strategies, and performance. The CARB is the agency responsible for administering the CCAA. The CARB established ambient air quality standards pursuant to the California Health and Safety Code (CH&SC) [§39606(b)], which are like the federal standards.

California Air Quality Standards

Although NAAQS are determined by the U.S. EPA, states can set standards that are more stringent than the federal standards. As such, California established more stringent ambient air quality standards. Federal and state ambient air quality standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates, and lead. In addition, California has created standards for pollutants that are not covered by federal standards. Although there is some variability among the health effects of the CAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations, and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. The existing state and federal primary standards for major pollutants are shown in Table 3.3-1.

Air quality standard setting in California commences with a critical review of all relevant peer reviewed scientific literature. The Office of Environmental Health Hazard Assessment (OEHHA) uses the review of health literature to develop a recommendation for the standard. The recommendation can be for no change or can recommend a new standard. The review, including the OEHHA recommendation, is summarized in a document called the draft Initial Statement of Reasons (ISOR), which is released for comment by the public, and for public peer review by the Air Quality Advisory Committee (AQAC). AQAC members are appointed by the President of the University of California for their expertise in the range of subjects covered in the ISOR, including health, exposure, air quality monitoring, atmospheric chemistry and physics, and effects on plants, trees, materials, and ecosystems. The Committee provides written comments on the draft ISOR. The ARB staff next revises the ISOR based on comments from AQAC and the public. The revised ISOR is then released for a 45-day public comment period prior to consideration by the Board at a regularly scheduled Board hearing.

In June of 2002, the CARB adopted revisions to the PM_{10} standard and established a new $PM_{2.5}$ annual standard. The new standards became effective in June 2003. Subsequently, staff reviewed the published scientific literature on ground-level ozone and nitrogen dioxide and the CARB adopted revisions to the standards for these two pollutants. Revised standards for ozone and nitrogen dioxide went into effect on May 17, 2006, and March 20, 2008, respectively. These revisions reflect the most recent changes to the CAAQS.

Tanner Air Toxics Act (TACs)

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and has adopted U.S. EPA's list of HAPs as TACs. Most recently, diesel PM was added to the CARB list of TACs. Once a TAC is identified, CARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technologies (BACT) to minimize emissions.

AB 2588 requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). In February 2000, CARB adopted a new public-transit bus-fleet rule and emission standards for new urban buses. These rules and standards provide for (1) more stringent emission standards for some new urban bus engines, beginning with 2002 model year engines; (2) zero-emission bus demonstration and purchase requirements applicable to transit agencies; and (3) reporting requirements under which transit agencies must demonstrate compliance with the urban transit bus fleet rule.

Omnibus Low-NOx Rule

The CARB approved the Omnibus Low-NOx Rule on August 28, 2020, which will require engine NOx emissions to be cut to approximately 75% below current standards beginning in 2024, and 90% below current standards in 2027. The rule also places nine additional regulatory requirements on new heavy-duty truck and engines. Those additional requirements include a 50% reduction in particulate matter emissions, stringent new low-load and idle standards, a new in-use testing protocol, extended deterioration requirements, a new California-only credit program, and extended mandatory warranty requirements. The regulatory requirements in the Omnibus Low-NOX Rule will first become effective in 2024, at the same time as the Advanced Clean Trucks regulations that CARB approved that mandates manufacturers convert increasing percentages of their heavy-duty trucks sold in California to zero-emission vehicles.

Assembly Bill 170

Assembly Bill 170, Reyes (AB 170), was adopted by state lawmakers in 2003, creating Government Code Section 65302.1, which requires cities and counties in the San Joaquin Valley to amend their general plans to include data and analysis, comprehensive goals, policies, and feasible implementation strategies designed to improve air quality. The elements to be amended include, but are not limited to, those elements dealing with land use, circulation, housing, conservation, and open space. Section 65302.1.c identifies four areas of air quality discussion required in these amendments:

- A report describing local air quality conditions, attainment status, and state and federal air quality and transportation plans;
- A summary of local, district, state, and federal policies, programs, and regulations to improve air quality;
- A comprehensive set of goals, policies, and objectives to improve air quality; and
- Feasible implementation measures designed to achieve these goals.

LOCAL

Envision Stockton 2040 General Plan

The following goals and policies of the Stockton General Plan related to air quality are applicable to the proposed Project.

POLICIES: LAND USE ELEMENT

- LU-1.1. Encourage retail businesses and housing development in mixed-use developments along regional transportation routes and in areas that serve local residents.
- LU-2.5. Promote Downtown Stockton as a primary transit node that provides multi-modal connections throughout the city and region.
- LU-3.2. Retain narrower roadways and reallocate right-of-way space to preserve street trees and mature landscaping and enhance the pedestrian and bicycle network within and adjacent to residential neighborhoods.
- LU-6.2. Prioritize development and redevelopment of vacant, underutilized, and blighted infill areas.
- LU-6.4: Ensure that land use decisions balance travel origins and destinations in as close proximity as possible, and reduce vehicle miles traveled (VMT).
- LU-TR-1.1. Ensure that roadways safely and efficiently accommodate all modes and users, including private, commercial, and transit vehicles, as well as bicycles and pedestrians and vehicles for disabled travelers.

POLICIES: TRANSPORTATION ELEMENT

- TR-1.2. Enhance the use and convenience of rail service for both passenger and freight movement.

- TR-2.1. Develop safe and interconnected bicycle and pedestrian facilities, including along "complete" streets that target multiple travel modes.
- TR.-2.3. Utilize natural features and routes with lower traffic volumes and speeds to encourage residents to walk and wheel more frequently.
- TR-3.1. Avoid widening existing roadways in an effort to preclude inducement of additional vehicle traffic.
- TR-3.2. Require new development and transportation projects to reduce travel demand and greenhouse gas emissions, support electric vehicle charging, and accommodate multi-passenger autonomous vehicle travel as much as feasible.
- TR-4.2. Replace LOS with: (1) vehicle-miles traveled (VMT) per capita; and (2) impacts to non-automobile travel modes, as the metrics to analyze impacts related to land use proposals under the California Environmental Quality Act, in accordance with SB 743.

POLICIES: SAFETY ELEMENT

- SAF-4.1. Reduce air impacts from mobile and stationary sources of air pollution.
- SAF-4.2. Encourage major employers to participate in a transportation demand management program (TDM) that reduces vehicle trips through approaches such as carpooling, vanpooling, shuttles, car-sharing, bikesharing, end-of-trip facilities like showers and bicycle parking, subscription bus service, transit subsidies, preferential parking, and telecommuting.
- SAF-4.3. Coordinate with the San Joaquin Valley Air Pollution Control District and non-profit organizations to promote public awareness on air quality issues and consistency in air quality impacts analyses.

ACTIONS: LAND USE ELEMENT

- LU-1.1A. Require renovated and new mixed-use projects to be planned and designed to contribute to the corridor's identity through appropriate public spaces, gateways, streetscapes, pedestrian walkways, setbacks, edge treatments, and other design features.
- LU-1.1B. Evaluate the City's parking policies, and amend the Development Code to provide more flexibility as appropriate to facilitate mixed-use redevelopment.
- LU-2.5A. Improve transit, bicycle, and pedestrian connectivity between the Downtown and local colleges and universities.
- LU-3.2A. Implement the "road diet" recommendations from the City's Bicycle Master Plan that reduce roadway widths to provide space for bike lanes and other amenities that improve safety and ease of the streetscape for all modes.
- LU-6.2D. Comply with State requirements that limit the idling of motor vehicles.
- LU-6.4B. Maintain a reasonable proximity and balance (i.e., magnitude) between job-generating uses, housing opportunities, and resident services and amenities, including transit and active transportation.

- LU-6.4C. Reduce Vehicle Miles Traveled (VMT) per household by planning new housing in closest proximity to employment centers, improving and funding public transportation and ridesharing, and facilitating more direct routes for pedestrians and bicyclists.

POLICIES: COMMUNITY HEALTH ELEMENT

- CH-5.1. Accommodate a changing climate through adaptation, mitigation, and resiliency planning and projects.
- CH-5.2. Expand opportunities for recycling, re-use of materials, and waste reduction.

ACTIONS: TRANSPORTATION ELEMENT

- TR-1.1A. Direct truck traffic to designated truck routes that facilitate efficient goods movement and minimize risk to areas with concentrations of sensitive receptors, such as schools, for example by disallowing any new truck routes to pass directly on streets where schools are located, and vulnerable road users, like pedestrians and bicyclists.
- TR-1.1B. Maintain and periodically update a schedule for synchronizing traffic signals along arterial streets and freeway interchanges to facilitate the safe and efficient movement of people and goods and to provide signal priority for transit vehicles at intersections.
- TR-1.1C. Require roadways in new development areas to be designed with multiple points of access and to address barriers, including waterways and railroads, in order to maximize connectivity for all modes of transportation.
- TR-1.1D. Update existing Precise Road Plans to reflect the 2040 General Plan, including changes in land use and level of service requirements, and a shift in priority from vehicular travel to travel by all modes through complete streets.
- TR-1.1E. Work with local school districts to implement pedestrian crossing enhancements like stop signs within neighborhoods around schools, encourage activities like a walking school bus, and create educational programs that teach students bicycle safety.
- TR-1.2A. Actively support and pursue access to high-speed rail.
- TR-1.2B. Support the San Joaquin Regional Transportation District's Regional Bus Service, Altamont Commuter Express (ACE), and AMTRAK's San Joaquin intercity rail service, and pursue and support other regional transit programs and projects, such as:
    - ACE plans to bypass existing bottlenecks (e.g., the Union Pacific railyards in South Stockton);
    - Connecting to the BART system;
    - Extending ACE service south to Merced; and
    - Proposing rail between Stockton and Sacramento along the California Traction and other rail corridors.
- TR-2.1A. Require safe and secure bicycle parking facilities to be provided at major activity centers such as public facilities, employment sites, and shopping and office centers, along with showers and lockers for major employment sites.
- TR-2.1B. Maintain and implement the City of Stockton Bicycle Master Plan.
- TR-2.1C. Maintain and implement the City of Stockton Safe Route to School Plan.

- TR-2.2A. Require major new development to incorporate and fund design features to promote safe and comfortable access to transit, such as a circulation network that facilitates efficient and connected bus travel, clear pedestrian and bicycle routes connecting origins and destinations to transit stops, sheltered bus stops, park-and-ride facilities, and highly visible transit information and maps.
- TR-2.2B. Obtain input from community residents, non-profit organizations, and local and regional transit operators on major new development projects, and support transit operators by ensuring major projects are designed to support transit and provide fair share funding of the cost of adequate transit service and access.
- TR-2.2C. Request that public transit service providers expand routes and increase frequency and operational hours consistent with current short- and long-range transit planning, with the assistance of new development funding.
- TR-2.2D. Support efforts to electrify buses.
- TR-2.3A. Develop and maintain bikeways on separate rights-of-way (e.g., Calaveras River, East Bay Municipal Utility District easement, French Camp Slough, and Shima Tract Levee).
- TR-2.3B. Require dedication of adequate right-of-way for bicycle use in new arterial and collector streets, and where feasible, in street improvement projects.
- TR-3.1A. Limit street widths to the minimum necessary to adequately carry the volume of anticipated traffic, while allowing for safe bicycle and pedestrian facilities, emergency access, and large vehicle access.
- TR-3.1B. Where feasible and appropriate, reduce the width of existing streets using bulb-outs, medians, pedestrian islands, shade tree landscaping, appropriate signage, and similar methods, while not jeopardizing emergency response.
- TR-3.1C. Preserve right-of-way for transit and bicycle uses when designing new roadways and improving existing roadways, and ensuring adequate and clear signage.
- TR-3.2A. Amend the parking requirements in the Development Code to encourage shared parking, require preferential parking for rideshare vehicles, and allow reduced parking requirements to support transit, bicycling, and walking.
- TR-3.2B. Require commercial, retail, office, industrial, and multifamily residential development to provide charging stations and prioritized parking for electric and alternative fuel vehicles.
- TR-3.2C. Respond to the implications and opportunities associated with connected vehicles and autonomous vehicles by monitoring technological advances and adjusting roadway infrastructure and parking standards to accommodate autonomous vehicle technology and parking needs.
- TR-3.2D. Continue to coordinate with the San Joaquin Council of Governments to increase opportunities for additional park and ride facilities, consistent with the San Joaquin County Regional Park and Ride Lot Master Plan.
- TR-4.2A. To evaluate the effects of new development and determine mitigation measures and impact fees, require projects to evaluate per capita VMT and impacts to transit, bicycle, and pedestrian modes.
- TR-4.2B. Amend the City's Transportation Impact Analysis Guidelines to include alternative travel metrics and screening criteria.

ACTIONS: SAFETY ELEMENT

- SAF-4.1A. Require the construction and operation of new development to implement best practices that reduce air pollutant emissions, including:
    - Use of low-emission and well-maintained construction equipment, with idling time limits.
    - Development and implementation of a dust control plan during construction.
    - Installation of electrical service connections at loading docks, where appropriate.
    - Installation of Energy Star-certified appliances.
    - Entering into Voluntary Emissions Reduction Agreements with the San Joaquin Valley Air Pollution Control District.
- SAF-4.1B. Use the results of the Health Risk Assessments required by the California Air Toxics "Hot Spots" Act to establish appropriate land use buffer zones around any new sources of toxic air pollutants that pose substantial health risks.
- SAF-4.1C. Require the use of electric-powered construction and landscaping equipment as conditions of project approval when appropriate.
- SAF-4.1D. Limit heavy-duty off-road equipment idling time to meet the California Air Resources Board's idling regulations for on-road trucks.
- SAF-4.2D. Provide information and conduct marketing and outreach to major existing and new employers about the transportation demand management (TDM) program facilitated by the San Joaquin Council of Governments.
- SAF-4.3A. Distribute educational materials from the San Joaquin Valley Air Pollution Control District on the City's website and at its Permit Center.
- SAF-4.3B. Coordinate review of development project applications with the San Joaquin Valley Air Pollution Control District to ensure that air quality impacts are consistently identified and mitigated during CEQA review.

POLICIES: COMMUNITY HEALTH

- CH-5.1A. Upon the next revision of the City's Local Hazard Mitigation Plan, conduct a comprehensive climate change vulnerability assessment to inform the development of adaptation and resilience policies and strategies, and incorporate them into the Safety Element, in accordance with SB 379.
- CH-5.1B. Maintain and implement the City of Stockton Climate Action Plan (CAP) and update the CAP to include the following:
    - Updated communitywide GHG emissions inventory;
    - 2030 GHG emissions reduction target, consistent with SB 32;
    - Estimated 2030 GHG emissions reduction benefits of State programs;
    - Summary of the City's progress toward the 2020 local GHG emissions reduction target;
    - New and/or revised GHG reduction strategies that, when quantified, achieve the 2030 reduction target and continue emission reductions beyond 2030; and
    - New or updated implementation plan for the CAP.

- CH-5.1C. Accommodate a changing climate through adaptation and resiliency planning and projects.
- CH-5.2A. Use recycled materials and products for City projects and operations where economically feasible, and work with recycling contractors to encourage businesses to use recycled products in their manufacturing processes and encourage consumers to purchase recycled products.
- CH-5.2B. Continue to require recycling in private and public operations, including construction/demolition debris.
- CH-5.2C. Expand educational and outreach efforts to promote recycling by occupants of multi-family housing, businesses, and schools.

San Joaquin Valley Air Pollution Control District

The primary role of SJVAPCD is to develop plans and implement control measures in the SJVAB to control air pollution. These controls primarily affect stationary sources such as industry and power plants. Rules and regulations have been developed by SJVAPCD to control air pollution from a wide range of air pollution sources. SJVAPCD also provides uniform procedures for assessing potential air quality impacts of proposed projects and for preparing the air quality section of environmental documents.

AIR QUALITY PLANNING

The U.S. EPA requires states that have areas that do not meet the National AAQS to prepare and submit air quality plans showing how the National AAQS will be met. If the states cannot show how the National AAQS will be met, then the states must show progress toward meeting the National AAQS. These plans are referred to as the State Implementation Plans (SIP). California's adopted 2007 State Strategy was submitted to the U.S. EPA as a revision to its SIP in November 2007.[5] More recently, in October 2018, the CARB adopted the 2018 Updates to the California State Implementation Plan.

In addition, the CARB requires regions that do not meet California AAQS for ozone to submit clean air plans (CAPs) that describe measures to attain the standard or show progress toward attainment. To ensure federal CAA compliance, SJVAPCD is currently developing plans for meeting new National AAQS for ozone and $PM_{2.5}$ and the California AAQS for PM_{10} in the SJVAB (for California CAA compliance)[6] The following describes the air plans prepared by the SJVAPCD, which are incorporated by reference per CEQA Guidelines Section 15150.

1-HOUR OZONE PLAN

Although U.S. EPA revoked its 1979 1-hour ozone standard in June 2005, many planning requirements remain in place, and SJVAPCD must still attain this standard before it can rescind CAA

[5] Note that the plan was adopted by CARB on September 27, 2007; California Air Resources Board. 2007. California Air Resources Board's Proposed State Strategy for California's 2007 State Implementation Plan.
[6] SJVAPCD, 2012. 2012 $PM_{2.5}$ Plan, December 20.

Section 185 fees. The SJVAPCD's most recent 1-hour ozone plan, the 2013 Plan for the Revoked 1-hour Ozone Standard, demonstrated attainment of the 1-hour ozone standard by 2017. However, on July 18, 2016, the U.S. EPA published in the Federal Register a final action determining that SJVAB has attained the 1-hour ozone NAAQS based on the 2012 to 2014 three (3)-year period allowing nonattainment penalties to be lifted under federal Clean Air Act section 179b (SJVAPCD, 2015).

8-HOUR OZONE PLAN

The SJVAPCD's Governing Board adopted the 2007 Ozone Plan on April 30, 2007. This far-reaching plan, with innovative measures and a "dual path" strategy, assures expeditious attainment of the federal 8-hour ozone standard as set by U.S. EPA in 1997. The plan projects that the valley will achieve the 8-hour ozone standard for all areas of the SJVAB no later than 2023. The CARB approved the plan on June 14, 2007. The U.S. EPA approved the 2007 Ozone Plan effective April 30, 2012. SJVAPCD adopted the 2016 Ozone Plan to address the federal 2008 8-hour ozone standard, which must be attained by end of 2031.[7,8]

PM_{10} PLAN

Based on PM_{10} measurements from 2003 to 2006, the U.S. EPA found that the SJVAB has reached federal PM_{10} standards. On September 21, 2007, the SJVAPCD's Governing Board adopted the 2007 PM_{10} Maintenance Plan and Request for Redesignation. This plan demonstrates that the valley will continue to meet the PM_{10} standard. U.S. EPA approved the document and on September 25, 2008, the SJVAB was redesignated to attainment/maintenance (SJVAPCD, 2015).

PM2.5 PLAN

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards on November 15, 2018.[9] This plan addresses the U.S. EPA federal 1997 annual $PM_{2.5}$ standard of 15 µg/m³ and 24-hour $PM_{2.5}$ standard of 65 µg/m³; the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m³; and the 2012 annual $PM_{2.5}$ standard of 12 µg/m³. This plan demonstrates attainment of the federal $PM_{2.5}$ standards as expeditiously as practicable (SJVAPCD, 2020).

All the above-referenced plans include measures (i.e., federal, state, and local) that would be implemented through rule making or program funding to reduce air pollutant emissions in the SJVAB. Transportation control measures are part of these plans.

SJVAPCD RULES AND REGULATIONS

SJVAPCD Indirect Source Review

[7] SJVAPCD. Ozone Plans. http://www.valleyair.org/ Air_Quality_Plans/Ozone_Plans.htm, accessed March 3, 2020.

[8] SJVAPCD. 2016 Plan for the 2008 8-Hour Ozone Standard, http://www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016.htm, accessed March 3, 2020.

[9] SJVAPCD. Particulate Matter Plans. http://valleyair.org/Air_Quality_Plans/PM_Plans.htm, accessed March 9, 2020.

On December 15, 2005, SJVAPCD adopted the Indirect Source Review Rule (ISR or Rule 9510) to reduce ozone precursors (i.e., ROG and NOx) and PM_{10} emissions from new land use development projects. Specifically, Rule 9510 targets the indirect emissions from vehicles and construction equipment associated with these projects and applies to both construction and operational-related impacts. The rule applies to any applicant that seeks to gain a final discretionary approval for a development project, or any portion thereof, which upon full buildout would include any one of the following:

- 50 residential units.
- 2,000 square feet of commercial space.
- 25,000 square feet of light industrial space.
- 100,000 square feet of heavy industrial space.
- 20,000 square feet of medical office space.
- 39,000 square feet of general office space.
- 9,000 square feet of educational space.
- 10,000 square feet of government space.
- 20,000 square feet of recreational space.
- 9,000 square feet of space not identified above.
- Transportation/transit projects with construction exhaust emissions of two or more tons of NOx or two or more tons of PM_{10}.
- Residential projects on contiguous or adjacent property under common ownership of a single entity in whole or in part, that is designated and zoned for the same development density and land use, regardless of the number of tract maps, and has the capability of accommodating more than 50 residential units.
- Nonresidential projects on contiguous or adjacent property under common ownership of a single entity in whole or in part, that is designated and zoned for the same development density and land use, and has the capability of accommodating development projects that emit two (2) or more tons per year of NOx or PM_{10} during project operations.

The rule requires all subject, nonexempt projects to mitigate both construction and operational period emissions by (1) applying feasible SJVAPCD-approved mitigation measures, or (2) paying any applicable fees to support programs that reduce emissions. Off-site emissions reduction fees (off-site fee) are required for projects that do not achieve the required emissions reductions through on-site emission reduction measures. Phased projects can defer payment of fees in accordance with an Off-site Emissions Reduction Fee Deferral Schedule (FDS) approved by the SJVAPCD.

To determine how an individual project would satisfy Rule 9510, each project would submit an air quality impact assessment (AIA) to the SJVAPCD as early as possible, but no later than prior to the project's final discretionary approval, to identify the project's baseline unmitigated emissions inventory for indirect sources: on-site exhaust emissions from construction activities and operational activities from mobile and area sources of emissions (excludes fugitive dust and permitted sources). Rule 9510 requires the following reductions, which are levels that the SJVAPCD has identified as necessary, based on their air quality management plans, to reach attainment for ozone and particulate matter:

Construction Equipment Emissions

The exhaust emissions for construction equipment greater than 50 horsepower (hp) used or associated with the development project shall be reduced by the following amounts from the statewide average as estimated by CARB:

- 20 percent of the total NOx emissions
- 45 percent of the total PM_{10} exhaust emissions

Mitigation measures may include those that reduce construction emissions on-site by using less polluting construction equipment, which can be achieved by utilizing add-on controls, cleaner fuels, or newer, lower emitting equipment.

Operational Emissions

- NOx Emissions. Applicants shall reduce 33.3 percent of the project's operational baseline NOx emissions over a period of 10 years as quantified in the approved AIA.
- PM_{10} Emissions. Applicants shall reduce 50 percent of the project's operational baseline PM_{10} emissions over a period of 10 years as quantified in the approved AIA.

These requirements listed above can be met through any combination of on-site emission reduction measures. If a project cannot achieve the above standards through imposition of mitigation measures, then the project would be required to pay the applicable off-site fees. These fees are used to fund various incentive programs that cover the purchase of new equipment, engine retrofit, and education and outreach.

Fugitive PM_{10} Prohibitions

SJVAPCD controls fugitive PM_{10} through Regulation VIII, Fugitive PM_{10} Prohibitions. The purpose of this regulation is to reduce ambient concentrations of PM_{10} and $PM_{2.5}$ by requiring actions to prevent, reduce, or mitigate anthropogenic (human caused) fugitive dust emissions.

- Regulation VIII, Rule 8021 applies to any construction, demolition, excavation, extraction, and other earthmoving activities, including, but not limited to, land clearing, grubbing, scraping, travel on-site, and travel on access roads to and from the site.
- Regulation VIII, Rule 8031 applies to the outdoor handling, storage, and transport of any bulk material.
- Regulation VIII, Rule 8041 applies to sites where carryout or trackout has occurred or may occur on paved roads or the paved shoulders of public roads.
- Regulation VIII, Rule 8051 applies to any open area having 0.5 acre or more within urban areas or 3.0 acres or more within rural areas, and contains at least 1,000 square feet of disturbed surface area.
- Regulation VIII, Rule 8061 applies to any new or existing public or private paved or unpaved road, road construction project, or road modification project.
- Regulation VIII, Rule 8071 applies to any unpaved vehicle/equipment traffic area.
- Regulation VIII, Rule 8081 applies to off-field agricultural sources.

Sources regulated are required to provide Dust Control Plans that meet the regulation requirements. Under Rule 8021, a Dust Control Plan is required for any residential project that will include 10 or more acres of disturbed surface area, a nonresidential project with 5 or more acres of disturbed surface area, or a project that relocates 2,500 cubic yards per day of bulk materials for at least three days. The Dust Control Plan is required to be submitted to SJVAPCD prior to the start of any construction activity. The Dust Control Plan must also describe fugitive dust control measures to be implemented before, during, and after any dust-generating activity. For sites smaller than those listed above, the project is still required to notify SJVAPCD a minimum of 48 hours prior to commencing earthmoving activities.

National Emission Standards for Hazardous Air Pollutants

Rule 4002 applies in the event an existing building will be renovated, partially demolished, or removed (National Emission Standards for Hazardous Air Pollutants); this rule applies to all sources of Hazardous Air Pollutants.

Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations

If asphalt paving will be used, then paving operations of the proposed Project will be subject to Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.

Nuisance Odors

SJVAPCD controls nuisance odors through implementation of Rule 4102, Nuisance. Pursuant to this rule, "a person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health, or safety of any such person or the public or which cause or have a natural tendency to cause injury or damage to business or property."

Employer Based Trip Reduction Program

SJVAPCD has implemented Rule 9410, Employer Based Trip Reduction. The purpose of this rule is to reduce VMT from private vehicles used by employees to commute to and from their worksites to reduce emissions of NOx, ROG, and particulate matter (PM_{10} and $PM_{2.5}$). The rule applies to employers with at least 100 employees. Employers are required to implement an Employer Trip Reduction Implementation Plan (ETRIP) for each worksite with 100 or more eligible employees to meet applicable targets specified in the rule. Employers are required to facilitate the participation of the development of ETRIPs by providing information to its employees explaining the requirements and applicability of this rule. Employers are required to prepare and submit an ETRIP for each worksite to the District. The ETRIP must be updated annually. Under this rule, employers shall collect information on the modes of transportation used for each eligible employee's commutes both to and from work for every day of the commute verification period, as defined in using either the mandatory commute verification method or a representative survey method. Annual reporting includes the results of the commute verification for the previous calendar year along with the measures implemented as outlined in the ETRIP and, if necessary, any updates to the ETRIP.

3.3.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on the environment associated with air quality if it will:

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

APPROACH TO ANALYSIS

While the final determination of whether a project is significant is within the purview of the Lead Agency pursuant to Section 15064(b) of the CEQA Guidelines, the SJVAPCD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the Lead Agency finds that the project would exceed these air pollution thresholds, the project should be considered to have significant air quality impacts. The applicable SJVAPCD thresholds and methodologies are contained under each impact statement below, as the City, in its discretion, has determined to utilize these thresholds and methodologies, which are based on scientific and factual data.

This analysis was performed consistent with the guidance and methodologies provided by the SJVAPCD's GAMAQI.[10] Based on the SJVAPCD New Source Review (NSR) offset requirements for stationary sources, the SJVAPCD has established thresholds of significance for criteria pollutant emissions, shown in Table 3.3-6. These thresholds apply to the project because these air pollutants would be generated during project construction and operation and constitute criteria pollutants or precursor emissions for criteria pollutants, which are regulated by the federal and State Clean Air Acts.

The SJVAPCD has also established significance thresholds to assess the impacts of project-related construction and operational emissions on regional and local ambient air quality. Table 3.3-7 shows the daily mass emissions screening criteria for construction and operation as adopted by the SJVAPCD for CAP and TAC emissions. The analysis summarized in this report estimates project-related construction and operational mass emissions and compares the emissions to these significance thresholds.

[10] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impact. Website: https://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI%20Jan%202002%20Rev.pdf Accessed June 8, 2022.

TABLE 3.3-6: SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT SIGNIFICANCE THRESHOLDS

POLLUTANT	*CONSTRUCTION THRESHOLDS (TPY)*	*OPERATIONAL THRESHOLDS (TPY)*
ROG	10	10
NOx	10	10
CO	100	100
SOx	27	27
PM_{10}	15	15
$PM_{2.5}$	15	15

SOURCES: SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT (SJVAPCD). 2015. GUIDANCE FOR ASSESSING AND MITIGATING AIR QUALITY IMPACT. WEBSITE: HTTPS://WWW.VALLEYAIR.ORG/TRANSPORTATION/CEQA%20RULES/GAMAQI%20JAN%202002%20REV.PDF ACCESSED JUNE 8, 2022.

TABLE 3.3-7: SJVAPCD DAILY MASS EMISSIONS SCREENING CRITERIA

POLLUTANT	*CONSTRUCTION THRESHOLDS (POUNDS PER DAY)*	*OPERATIONAL THRESHOLDS (POUNDS PER DAY)*
ROG	100	100
NOx	100	100
CO	100	100
SOx	100	100
PM_{10}	100	100
$PM_{2.5}$	100	100

SOURCES: SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT (SJVAPCD). 2015. GUIDANCE FOR ASSESSING AND MITIGATING AIR QUALITY IMPACT. WEBSITE: HTTPS://WWW.VALLEYAIR.ORG/TRANSPORTATION/CEQA%20RULES/GAMAQI%20JAN%202002%20REV.PDF ACCESSED JUNE 8, 2022.

The daily mass emissions screening criteria provided in Table 3.3-7 represent screening-level thresholds that can be used to evaluate whether project-related emissions would cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. If emissions exceed those thresholds, modeling would be required to demonstrate that the project's total air quality impacts result in ground-level concentrations that are below the CAAQS and NAAQS, including appropriate background levels.

CRITERIA POLLUTANT EMISSIONS MODELING

California Emission Estimator Model (CalEEMod)™ (v.2022.1), developed for the California Air Pollution Officers Association (CAPCOA) in collaboration with California air districts, was used to estimate emissions for the proposed Project. Project construction was assumed to be completed in 2026. However, the exact timing of Project construction would depend on market conditions. The modeled construction schedule is conservative, in that it assumes buildout of the Project much earlier than when it is likely to occur; this represents a conservative approach to modeling, since the emissions efficiency of on- and off-road construction vehicles would increase over time.

The land use assumptions for the modeling are: Single Family Housing (1,217 dwelling units); Apartments - Low Rise (194 dwelling units); City Park (30.7 acres); Other Asphalt Surfaces (4.50

acres). Vehicle trips and vehicle miles traveled (VMT) used in the modeling are consistent with those provided by SK Shijo Consulting, LLC in its traffic analysis (see Appendix F of the Draft EIR for further detail).

The construction phase details are provided in Table 3.3-8, below. The construction schedule was provided using CalEEMod defaults, which are based on Project characteristics (such as land uses and size). See Appendix B of this Draft EIR for further detail.

TABLE 3.3-8: ANTICIPATED CONSTRUCTION SCHEDULE

CALEEMOD PHASE	*CALEEMOD PHASE START DATE*	*CALEEMOD PHASE END DATE*
Site Preparation	1/1/2025	3/25/2025
Grading	3/26/2025	6/17/2025
Building Construction	6/18/2025	10/5/2027
Paving	10/6/2027	2/22/2028
Architectural Coatings	5/19/2027	10/5/2027

SOURCE: CALEEMOD (V.2022.1)

The following additional non-default CalEEMod model assumption was utilized, based on information provided by the Project applicant:

- The 'General Category' consumer products emissions factor was revised to reflect the CARB adjustments applied to their Consumer and Commercial Product Survey Emission data, made after the 2008 consumer products emissions factor (the adjustment made to reflect the average adjustment factor).[11]

IMPACTS AND MITIGATION MEASURES

Impact 3.3-1: Project operation has the potential to result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment, or conflict or obstruct implementation of the District's air quality plan. (Significant and Unavoidable)

The SJVAPCD is tasked with implementing programs and regulations required by the Federal Clean Air Act and the California Clean Air Act. In that capacity, the SJVAPCD has prepared plans to attain Federal and State ambient air quality standards. To achieve attainment with the standards, the SJVAPCD has established thresholds of significance for criteria pollutant emissions in their *SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts* (2015). Projects with emissions below the thresholds of significance for criteria pollutants would be determined to "Not conflict or obstruct implementation of the District's air quality plan."

The proposed Project would be both a direct and indirect source of air pollution. Direct sources of

[11] See for further detail: https://ww2.arb.ca.gov/our-work/programs/consumer-products-program/consumer-products-emissions-inventory-and-temporal 0.0000107

pollution include area, energy, and water and waste sources, due to development of the on-site buildings and associated infrastructure. Indirect sources of pollution would be due to the generation of trips of from vehicles traveling to and from the Project site.

CalEEMod™ (v.2022.1) was used to model operational emissions of the proposed Project. Table 3.3-9 shows proposed Project unmitigated emissions as provided by CalEEMod. The SJVAPCD provides a list of applicable air quality emissions thresholds.

TABLE 3.3-9: OPERATIONAL PROJECT GENERATED EMISSIONS (TONS PER YEAR) - UNMITIGATED

POLLUTANT	*CO*	*NOX*	*ROG*	*SOX*	*PM_{10}*	*$PM_{2.5}$*
THRESHOLD	100	10	10	27	15	15
EMISSIONS						
MOBILE	54.1	7.1	7.7	0.1	12.7	3.3
AREA	7.2	0.1	6.5	<0.1	<0.1	<0.1
ENERGY	0.8	1.8	0.1	<0.1	0.1	0.1
WATER	0	0	0	0	0	0
WASTE	0	0	0	0	0	0
TOTAL EMISSIONS	**62.1**	**8.9**	**14.3**	**0.2**	**12.9**	**3.5**
EXCEEDS THRESHOLD?	**N**	**N**	**Y**	**N**	**N**	**N**

SOURCES: CALEEMOD (V.2022.1)

The SJVAPCD has established their thresholds of significance by which the Project emissions are compared against to determine the level of significance. The SJVAPCD has established operations related emissions thresholds of significance as follows: 100 tons per year of carbon monoxide (CO, 10 tons per year of oxides of nitrogen (NO_x), 10 tons per year of reactive organic gases (ROG), 27 tons per year of sulfur oxides (SO_x), 15 tons per year particulate matter of 10 microns or less in size (PM_{10}), and 15 tons per year particulate matter of 2.5 microns or less in size ($PM_{2.5}$). If the proposed Project's emissions will exceed the SJVAPCD's threshold of significance for operational-generated emissions, the proposed Project will have a significant impact on air quality and all feasible mitigation are required to be implemented to reduce emissions to the extent feasible. As shown in Table 3.3-9 above, the unmitigated operational emissions would exceed the SJVACPD operational thresholds of significance for ROG. Based on this, mitigation measures are required to be implemented to reduce ROG emissions.

The Project's operational ROG emissions are primarily from the Project's mobile vehicle emissions. However, a substantial portion of the ROG emissions are also from area sources, which include off-gassing from architectural coatings, off-gassing from consumer products, and the usage of landscape equipment. The only feasible mitigation to reduce the Project's operational emissions are to reduce the ROG content off-gassed from architectural coatings (by using architectural coatings that have fewer ROG emissions) and by utilizing landscaping equipment with fewer or no ROG emissions. There is no feasible mitigation to reduce mobile vehicle ROG emissions, or to reduce the amount of ROG off-gassing from consumer products, as these are not activities that the Project applicant would have the ability to feasibly influence.

With implementation of the available feasible mitigation measures (Mitigation Measures 3.3-1 through 3.3-4, as provided below), the proposed Project's emissions would be reduced as shown in Table 3.3-10, below.

TABLE 3.3-10: OPERATIONAL PROJECT GENERATED EMISSIONS (TONS PER YEAR) - MITIGATED

POLLUTANT	*CO*	*NOX*	*ROG*	*SOX*	*PM_{10}*	*$PM_{2.5}$*
THRESHOLD	100	10	10	27	15	15
EMISSIONS						
MOBILE	54.1	7.1	7.7	0.1	12.7	3.3
AREA	0	0	5.2	0	0	0
ENERGY	0.8	1.8	0.1	<0.1	0.1	0.1
WATER	0	0	0	0	0	0
WASTE	0	0	0	0	0	0
TOTAL EMISSIONS	**54.9**	**8.8**	**13.0**	**0.2**	**12.8**	**3.5**
EXCEEDS THRESHOLD?	**N**	**N**	**Y**	**N**	**N**	**N**

SOURCES: CALEEMOD (V.2022.1)

As shown in Table 3.3-10, above, the Project's ROG emissions could be reduced from approximately 14.3 to 13.0 tons per year, with the implementation of Mitigation Measures 3.3-1 through 3.3-3. However, this would not be sufficient to ensure a reduction of ROGs to below the applicable Air District criteria pollutant threshold of 10 tons per year. Therefore, this impact would be considered ***significant and unavoidable***.

PROJECT EFFECTS ON PUBLIC HEALTH

San Joaquin County has a state designation of nonattainment for ozone, PM_{10} and $PM_{2.5}$. The SJVAPCD developed these Project-level thresholds based on the emissions that would exceed a CAAQS or contribute substantially to an existing or projected violation of a CAAQS. Ambient levels of these criteria pollutants are likely to decrease in the future, based on current and future implementation of federal and/or state regulatory requirements, such as improvements to the statewide vehicle fleet over time (including the long-term replacement of internal combustion engine vehicles with electric vehicles in coming decades).

It should be noted that the emissions of ozone precursors such as ROG and NO_x attributable to the proposed Project would not be substantial enough on a regional basis for the City to be able, with currently available technical tools, to predict how the emissions of such pollutants would translate into either physical environmental changes, such as measurable effects on ambient ozone concentrations within the air basin, or health effects, such as increased respiratory problems, within any discrete population within the City or the region. Such an analysis is not reasonably feasible within the meaning of CEQA because it would require a level of speculation.

Ozone

O_3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOC) (also known as ROG) and oxides of

nitrogen (NO_x) in the presence of sunlight. The reactivity of O_3 causes health problems because it damages lung tissue, reduces lung function, and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O_3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. Environmental Protection Agency 2019a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggest that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 parts per billion (U.S. Environmental Protection Agency 2019b).

Health incidence rates and other health data are typically collected by the government as well as the World Health Organization. The Environmental Benefits Mapping and Analysis Program (BenMAP), developed by the U.S. EPA, is a powerful and flexible tool that helps users estimate human health effects and economic benefits resulted from changes in air quality. BenMAP outputs include PM- and ozone-related health endpoints such as premature mortality, hospital admissions, and emergency room visits. BenMAP calculates background health incidence rates based on the available health statistics and population data, with preference given to individual-level data counts (e.g., mortality counts or hospital and emergency department discharges) at the County-level. For California counties, data were available at the individual-level. The background health incidence data are also based on different years depending on data availability. For example, hospital admissions and emergency department visits for California are based on 2011 data. For mortality background incidence rates, the U.S. EPA obtained data for 2012-2014 from the Centers for Disease Control WONDER database[12], and generated age-, cause-, and county-specific mortality rates as described in the BenMAP manual.

[12] See: http://wonder.cdc.gov

The estimated background health incidences of mean ozone annual health effects across the San Joaquin Valley are shown in Table 3.3-11.[13],[14] The background health incidences provide an estimate of the average number of people over a given population that suffer from some adverse health effect over a given period. For example, the background health incidence in the San Joaquin Valley for total asthma-related emergency room visits for adults is 11,039 per year; this represents approximately 0.3% of the population as experiencing such incidents in a given year.

TABLE 3.3-11: BENMAP-ESTIMATED ANNUAL MEAN OZONE HEALTH EFFECTS OF THE PROJECT EMISSIONS ACROSS THE SAN JOAQUIN VALLEY MODEL DOMAIN[1]

HEALTH ENDPOINT[2]	*BACKGROUND HEALTH INCIDENCE (ANNUAL)*	*SAN JOAQUIN VALLEY POPULATION[15]*	*PERCENTAGE OF INCIDENTS AS A PROPORTION OF POPULATION*
HOSPITAL ADMISSIONS, ALL RESPIRATORY [65-99]	35,103	4,300,000	0.8%
MORTALITY, RESPIRATORY [30-99]	11,222	4,300,000	0.3%
EMERGENCY ROOM VISITS, ASTHMA [0-17]	11,039	4,300,000	0.3%
EMERGENCY ROOM VISITS, ASTHMA [18-99]	25,345	4,300,000	0.6%

NOTES: [1]HEALTH EFFECTS ARE SHOWN TERMS OF INCIDENCES OF EACH HEALTH ENDPOINT AND HOW IT COMPARES TO THE BASE VALUES. YEAR 2025 IS USED FOR BASE YEAR HEALTH EFFECT INCIDENCES, OR "BACKGROUND HEALTH INCIDENCE". HEALTH EFFECTS AND BACKGROUND HEALTH INCIDENCES ARE ACROSS THE SAN JOAQUIN VALLEY MODEL DOMAIN. [2]AFFECTED AGE RANGES ARE SHOWN IN SQUARE BRACKETS.
SOURCE: RAMBOLL, 2023.

The Project would generate emissions of ROG and NOx during Project operational activities, as shown in Table 3.3-9 and Table 3.3-10. Increases in ROG and NOx could affect people with impaired respiratory systems, but also healthy adults and children. Although NOx would not exceed the applicable air district criteria pollutant threshold, operational ROG would exceed the applicable air district criteria pollutant threshold. These increases in ROG would be primarily due to the operational mobile vehicles generated by the Project, but also due to the use of consumer products (such as cleaning supplies, kitchen aerosols, cosmetics, and toiletries) by residents of the Project site. Consumer products are known to generate ROG through off-gassing. Such increases in ROG could fuel potential increases in health effects due to exposure to ozone.

Nevertheless, it should be noted that such exceedance of the ROG threshold would likely only occur at or near buildout of the Project site, rather than in the early phases of Project operation, when only a proportion of the Project is built out. Moreover, this analysis does not consider potential future reductions in overall ROG off-gassing due to anticipated stricter consumer products

[13] As provided for the San Joaquin Valley for Year 2025, as prepared by Ramboll U.S. Consulting Inc. in their *Analysis of Potential Health Effects of Criteria Air Pollutant Emission Impacts, North Manteca Annexation #1 Project*, March 2023.

[14] Note: Although the Ramboll U.S. Consulting Inc. analysis for was prepared for a different project, the background health incidence rates are not project-specific. Rather, they are for the San Joaquin Valley as a whole for year 2025, and therefore are also provide a representative data snapshot for this project.

[15] See: https://www.ppic.org/blog/2020-census-counting-the-san-joaquin-valley/

regulations in the future. Furthermore, as shown in Table 3.3-11, health-related incidences associated with ozone are relatively low in the San Joaquin Valley.

Particulate Matter

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO_2) and laboratory studies of animals and humans, PM can cause major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis, and premature death. The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly, and children.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in $PM_{2.5}$ results in a one percent reduction in mortality rate for individuals over 30 years old (Bay Area Air Quality Management District, 2017). Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. Environmental Protection Agency 2019c).

The Project would generate emissions of PM during Project operational activities, as shown in Table 3.3-6. Although the exact effects of such emissions on local health are not known, it is likely that the increases in PM generated by the proposed Project would be minimal, even for people with impaired respiratory systems, located in the immediate vicinity of the Project site. The increases of these pollutants generated by the proposed Project would not on their own generate an increase in the number of days exceeding the NAAQS or CAAQS standards. In addition, because PM generated by the proposed Project is less than the air district's threshold, and based on the nature of the Project and its size, such emissions when combined with the existing PM emitted regionally would have minimal health effect on people located in the immediate vicinity of the Project site.

UFPs are a subset of PM and represent a health concern. Such particles have been shown to have the potential for even greater health effects than PM_{10} or $PM_{2.5}$, due to their even smaller particle sizes. However, there are no adopted rules or regulations by the U.S. EPA or California air districts regarding UFPs. Moreover, attainment status related to UFPs is not monitored by the U.S. EPA or California air districts, and the SJVAPCD does not provide any guidance for assessment, thresholds, or mitigation associated with UFPs. Additionally, air districts are not required to monitor UFPs. Nevertheless, funding for harm reduction and monitoring of UFPs is occurring throughout California. For example, the Bay Area Air Quality Management District (BAAQMD), a neighboring air district, established in 2011 a comprehensive program to study UFPs. As part of this program, the BAAQMD began making measurements at four air monitoring stations, with additional monitoring stations expected to be online in the future. At each station, the number of particles in a specified volume

of air is counted every second. In addition to the number counts, sampling began in 2015 at two stations to gather data on UFP composition. Collected samples are analyzed for nineteen metals. Data obtained from these measurements is used to identify major UFP sources in the San Francisco Bay Area, and to evaluate models and refine estimates of UFP's public health impact.[16] Separately, the SJVAPCD provides grant funding for off-road engine projects through their grants and incentives programs, which reduce UFPs[17]; the U.S. EPA Pacific Southwest region has provided funding for both the South Coast Air Quality Management District and the S SJVAPCD District to help spur early-stage, innovative technologies that need further testing and demonstration prior to massive deployment and commercialization of California Clean Air Initiative (CATI) projects.[18] Examples of such projects include Hybrid Natural Gas-Electric and Fully Electric Class 8 Trucks, Zero Emission Heavy-Duty Electric Trucks, Zero- and Near-Zero Emission School Buses, Electric Delivery Trucks, and School Bus Air Filtration. Other, numerous efforts are underway throughout the state to reduce PM emissions, which also tend to reduce emissions of UFPs (since UFPs are a subset of PM).

Different sources of PM generate differing levels of UFPs. For example, almost all the PM emitted by natural gas combustion is in the $PM_{0.1}$ size fraction, whereas this is only true for less than half of the PM emitted by gasoline and diesel fuel combustion.[19] Therefore, estimating $PM_{0.1}$ can be difficult, given that it is not incorporated into the modeling software recommended by the CARB and the California air districts (i.e. CalEEMod). Nevertheless, a quantitative estimate of the Project's $PM_{0.1}$ is provided under Impact 3.3-4, based on assumptions provided in available literature.

Discussion

SJVAPCD has not established any methodology or thresholds (quantitative or qualitative) for assessing the health effects from criteria pollutants, except to the extent that they have established threshold quantities for air emissions. The quantitative modeling is presented in this document, and it shows that there is an exceedance of the SJVAPCD threshold for ROG. Given the nature and size of the Project, a qualitative approach to correlating the expected air quality emissions of Project to the likely health consequences of the increased emissions is appropriate.

From a qualitative perspective, it is well documented from scientific studies that criteria pollutants can have adverse health effects. The federal and state governments have established the NAAQS or CAAQS as an attempt to regionally, and cumulatively, assess and control the health effects that criteria pollutants have within Air Basins. It is anticipated that public health will continue to be affected by the emission of criteria pollutants, especially by those with impaired respiratory systems in the City of Stockton and the surrounding region so long as the region does not attain the CAAQS or NAAQS. The Project's emissions would make a cumulatively considerable contribution to the region's exceedances of the CAAQS or NAAQS for ozone, and therefore would be expected to have

[16]See: https://www.baaqmd.gov/about-air-quality/air-quality-measurement/special-air-monitoring-projects/special-reports/ultrafine-particulate-matter?sc_lang=en&switch_lang=true

[17] See: https://ww2.valleyair.org/grants/

[18] See: https://www.epa.gov/cati/california-clean-air-technology-initiative-cati-projects

[19] Venecek, M. A., Yu, X., and Kleeman, M. J.: Predicted ultrafine particulate matter source contribution across the continental United States during summertime air pollution events, Atmos. Chem. Phys., 19, 9399–9412, https://doi.org/10.5194/acp-19-9399-2019, 2019.

a significant and unavoidable health effect on people located in the immediate vicinity of the Project site.

The health effects expected from the emissions could include impaired respiratory systems, decreased lung function, respiratory inflammation, chest pain, coughing, sneezing and pulmonary congestion. These symptoms would be most prominent in asthmatics but could also affect healthy adults and children as well in the regional vicinity. Long-term exposure to the emissions may increase the risk of respiratory-related deaths (U.S. EPA, 2019a) based on a variety of daily living factors.

CONCLUSION

As shown in Table 3.3-9 and Table 3.3-10, the proposed Project's operational criteria pollutant would exceed the applicable SJVAPCD thresholds of significance for ROG, even after implementation of mitigation measures (see Mitigation Measures 3.3-1 through 3.3-3, below). Therefore, the Project's criteria pollutant emissions would be considered to have a ***significant and unavoidable*** impact. Further the analysis of criteria air pollutants is inherently cumulative and impacts also would be ***cumulatively considerable***.

MITIGATION MEASURES

Mitigation Measure 3.3-1: *The project shall comply with SJVAPCD Rule 4101, which prohibits emissions of visible air contaminants to the atmosphere and applies to any source operation that emits or may emit air contaminants.*

Mitigation Measure 3.3-2: *The project shall comply with SJVAPCD Rule 4601, which limits project has agreed to abide by more stringent VOC emissions requirements. Emissions of volatile organic compounds from architectural coatings by specifying storage, clean up and labeling requirements. (The project has agreed to abide by more stringent VOC emissions requirements.)*

Mitigation Measure 3.3-3: *The project shall utilize low-VOC paints, equivalent to 10 g/L of ROG, if commercially available.*

Impact 3.3-2: Proposed Project construction activities would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment, or conflict or obstruct implementation of the District's air quality plan. (Less than Significant with Mitigation)

Emissions from construction activities represent temporary impacts that are typically short in duration, depending on the size, phasing, and type of project. Air quality impacts can nevertheless be acute during construction periods, resulting in significant localized impacts to air quality. Construction-related activities would result in Project-generated emissions from demolition, site preparation, grading, paving, building construction, and architectural coatings. CalEEMod™ (v.2022.1) was used to estimate construction emissions for the proposed Project. Table 3.3-12, below, provides the construction criteria pollutant emissions associated with implementation of the proposed Project.

TABLE 3.3-12: MAXIMUM CONSTRUCTION PROJECT GENERATED EMISSIONS (TONS PER YEAR)

POLLUTANT	*CO*	*NOX*	*ROG*	*SOX*	*PM_{10}*	*$PM_{2.5}$*
THRESHOLD	100	10	10	27	15	15
EMISSIONS	4.9	3.1	8.5	<0.1	1.4	0.6
EXCEEDS THRESHOLD?	**N**	**N**	**N**	**N**	**N**	**N**

SOURCES: CALEEMOD (V.2022.1)

If the proposed Project's emissions will exceed the SJVAPCD's threshold of significance for construction-generated emissions, the proposed Project will have a significant impact on air quality and conflict with the Clean Air Plan and all feasible mitigation are required to be implemented to reduce emissions. As shown in Table 3.3-12, Project maximum construction emissions would not exceed the SJVAPCD thresholds of significance. Nevertheless, regardless of emission quantities, the SJVAPCD requires construction related mitigation in accordance with their rules and regulations. Nevertheless, implementation of the Mitigation Measure 3.3-4 through 3.3-7 (see below), would further reduce proposed Project construction related emissions to the extent possible.

CONCLUSION

The proposed Project would comply with pre-existing requisite federal, State, SJVAPCD, and other local regulations and requirements, as well as implement the mitigation measures provided by the SJVAPCD for construction-related PM_{10} emissions, including those provided in Mitigation Measure 3.3-4 through 3.3-7. Therefore, the Project's criteria pollutant emissions would be considered to have a ***less than significant*** impact and the Project would not impede or conflict with the Clean Air Plan.

MITIGATION MEASURE(S)

Mitigation Measure 3.3-4: *Prior to the issuance of a Grading Permit for each phase of the Project, the Project Proponent shall prepare and submit a Dust Control Plan that meets all the applicable requirements of APCD Rule 8021, Section 6.3, for the review and approval of the APCD Air Pollution Control Officer.*

Mitigation Measure 3.3-5: *During all construction activities, the Project Proponent shall implement dust control measures, as required by APCD Rules 8011-8081, to limit Visible Dust Emissions to 20% opacity or less. Dust control measures shall include application of water or chemical dust suppressants to unpaved roads and graded areas, covering or stabilization of transported bulk materials, prevention of carryout or trackout of soil materials to public roads, limiting the area subject to soil disturbance, construction of wind barriers, access restrictions to inactive sites as required by the applicable rules.*

Mitigation Measure 3.3-6: *During all construction activities, the Project proponent shall implement the following dust control practices identified in Tables 6-2 and 6-3 of the GAMAQI (2002).*

a. *All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover.*

b. *All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.*
c. *All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall control fugitive dust emissions by application of water or by presoaking.*
d. *When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained.*
e. *All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.*
f. *Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.*
g. *Limit traffic speeds on unpaved roads to 5 mph.*
h. *Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.*

Mitigation Measure 3.3-7: *Asphalt paving shall be applied in accordance with APCD Rule 4641, the purpose of which is to limit VOC emissions by restricting the application and manufacturing of certain types of asphalt for paving and maintenance operations. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations. The Project Applicant shall coordinate with the APCD, prior to Project asphalt paving activities, to ensure all Project asphalt paving would comply with this rule. The Project Applicant shall provide the City of Stockton with evidence of consultation with the APCD, including confirmation of compliance with APCD Rule 4641.*

Impact 3.3-3: The proposed Project would not generate carbon monoxide hotspot impacts. (Less than Significant)

Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. They are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (U.S. EPA, 2016). Such acute effects may occur under current ambient conditions for some sensitive individuals, while increases in ambient CO levels could increase the risk of such incidences.

The Project site is in a state attainment area and a federal attainment-unclassified area for carbon monoxide. In addition, CO emissions under Project operation are below the applicable significance threshold promulgated by the SJVAPCD. Therefore, no project-level conformity analysis is necessary for CO. Increases in proposed Project VMT would increase concentrations of carbon monoxide (CO)

along streets and intersections that provide access to the Project site. Carbon monoxide is a local pollutant (i.e., high concentrations are normally only found very near sources) and can form local elevated concentrations under specific conditions. The major source of carbon monoxide, a colorless, odorless, poisonous gas, is automobile traffic. Elevated concentrations (i.e., hotspots), therefore, are usually only found near areas of very high traffic volume and congestion.

Consider the CO "hot spot" analysis conducted by the South Coast Air Quality Management District (SCAQMD) for their request to the USEPA for resignation as a CO attainment area (SCAQMD 2003). In SCAQMD's analysis, they modeled the four (4) most congested intersections identified in their basin (South Coast Air Basin [SCAB]), which included the following:

- Long Beach Boulevard and Imperial Highway – proximity to the Lynwood monitoring station, which consistently records the highest 8-hour CO concentrations in the SCAB each year.
- Wilshire Boulevard and Veteran Avenue – the most congested intersection in Los Angeles County, with an average daily traffic volume of 100,000 vehicles/day.
- Highland Avenue and Sunset Boulevard – one of the most congested intersections in the City of Los Angeles.
- Century Boulevard and La Cienega Boulevard – one of the most congested intersections in the City of Los Angeles.

The SCAQMD's analysis found that these intersections had an average 7.7 ppm 1-hour CO concentrations predicted by the models, which is only 38.5% of the 1-hour CO CAAQS of 20 ppm. Therefore, even the most congested intersections in SCAQMD's air basin would not experience a CO "hot spot."

Several factors combine to make substantial concentrations of carbon monoxide unlikely. Existing physical constraints such as high-density, high-profile buildings or other obstructions that could prevent dispersion of carbon monoxide are largely absent. Predominant weather conditions in the area include air movement that would help facilitate carbon monoxide dispersion. Congested traffic conditions that otherwise could result in concentration of carbon monoxide would be of short duration. Further, under existing regulatory and legislative mandates, emissions volumes from all vehicle classes will continue to decline. Given these factors, substantial concentrations of carbon monoxide are not expected at or along any affected roadways or intersections. Finally, for the Project, there are no roadways/segments identified as deficient facilities under the worst-case traffic scenario that have an ADT greater than the 100,000 that was anticipated for the most congested intersection analyzed by SCAQMD and which still did not have a significant hotspot impact.[20]

CONCLUSION

This Project is in an area that is designated attainment and attainment-unclassified for carbon monoxide. No Project-level conformity analysis is necessary for CO. Substantial concentrations of

[20] See: California Department of Transportation (Caltrans), Traffic Volumes. 2017 Traffic Volumes : Route 99.

carbon monoxide are not expected at or along any streets or intersections affected by the development of the Project site. Impacts associated with carbon monoxide hotspots would be **less than significant**, and no additional mitigation is required.

Impact 3.3-4: The proposed Project has the potential for public exposure to toxic air contaminants. (Less than Significant)

A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air. However, their high toxicity or health risk may pose a threat to public health even at very low concentrations. In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. This contrasts with the criteria pollutants for which acceptable levels of exposure can be determined and for which the state and federal governments have set ambient air quality standards.

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. EPA regulate 188 air toxics, also known as hazardous air pollutants. The U.S. EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources. In addition, the U.S. EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment. These are acrolein, benzene, 1,3-butidiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter.

The 2007 U.S. EPA rule requires controls that will dramatically decrease Mobile Source Air Toxics (MSAT) emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's MOBILE6.2 model, even if vehicle activity (VMT) increases by 145 percent, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050. California maintains stricter standards for clean fuels and emissions compared to the national standards, therefore it is expected that MSAT trends in California will decrease consistent with or more than the U.S. EPA's national projections.

The California Air Resources Board (CARB) published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB, 2005) to provide information to local planners and decision-makers about land use compatibility issues associated with emissions from industrial, commercial, and mobile sources of air pollution. The CARB Handbook indicates that mobile sources continue to be the largest overall contributors to the State's air pollution problems, representing the greatest air pollution health risk to most Californians. The most serious pollutants on a statewide basis include diesel exhaust particulate matter (diesel PM), benzene, and 1,3-butadiene, all of which are emitted by motor vehicles. These mobile source air toxics are largely associated with freeways and high traffic roads. Non-mobile source air toxics are largely associated with industrial and commercial uses. Table 3.3-13 provides the California Air Resources Board minimum separation recommendations on siting sensitive land uses.

TABLE 3.3-13: CARB MINIMUM SEPARATION RECOMMENDATIONS ON SITING SENSITIVE LAND USES

SOURCE CATEGORY	*ADVISORY RECOMMENDATIONS*
Freeways and High-Traffic Roads	• Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	• Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	• Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. • Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	• Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the CARB on the status of pending analyses of health risks.
Refineries	• Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	• Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloro-ethylene	• Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. • Do not site new sensitive land uses in the same building with perc dry cleaning operations.
Gasoline Dispensing Facilities	• Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.

SOURCES: AIR QUALITY AND LAND USE HANDBOOK: A COMMUNITY HEALTH PERSPECTIVE" (CARB 2005)

Residences are proposed as part of the Project, which are considered traditional sensitive receptors. However, no residences would be located within 500 feet of a freeway, urban road with 100,000 vehicles/day or more, or a rural road with 50,000 vehicles/day or more. Additionally, under CEQA, an EIR need not analyze the impacts of the existing environment on the Project.

Virtually no residual TAC emissions and corresponding cancer risk are anticipated after Project construction. The proposed Project is not anticipated to generate long-term, operational sources of TAC emissions because the proposed Project would only include residential land uses and public open space. The Project would not include heavy industrial uses or other land uses typically associated with stationary sources of TACs.

It should be noted that the mobile vehicles generated by the Project during operation would generate UFPs through vehicle emissions, braking, and tire wear. Like PM in general, (though generating even higher risk per unit than larger particle sizes) UFPs are notable for their potential to generate chronic risks associated with cardiovascular disease, potential long-term loss of long-function, and cancer. According to a recent study prepared for the European Geosciences Union, UFPs vary widely as a proportion of PM overall, depending on location; specifically, the $PM_{0.1}$ to $PM_{2.5}$ ratio analyzed in approximately 39 cities in the United States varied from approximately 1% to

16%.[21] These factors vary so widely because the sources of $PM_{0.1}$ vary substantially from city to city. For example, cities that are located close to substantial sources of natural gas combustion have higher $PM_{0.1}$ to $PM_{2.5}$ ratios, since almost all the PM emitted by natural gas combustion is in the $PM_{0.1}$ size fraction, whereas this is only true for less than half of the PM emitted by gasoline and diesel fuel combustion. Taken together, these facts support the potential importance of natural gas combustion for ambient $PM_{0.1}$ concentrations.

The city analyzed in the study with the greatest similarity to the City of Stockton (i.e. where the Project is located) was the City of Bakersfield, given its similarity in location within the Central Valley region. The ratio of $PM_{0.1}$ to $PM_{2.5}$ for Bakersfield was found to be approximately 11%. Absent data specific to the City of Stockton, this data is presumed to be the best available data and reasonable for use in estimating $PM_{0.1}$ levels in this case. Therefore, given the Project's estimated 3.5 tons per year of $PM_{2.5}$ (see Table 3.3-10), the total $PM_{0.1}$ generated by the Project is estimated to be approximately 0.39 tons per year (780 lbs/year). This is equivalent to 2.14 lbs/day of $PM_{0.1}$. While there is not specifically a quantitative threshold of significance established by the SJVAPCD for $PM_{0.1}$, the quantity estimated is considered small relative to thresholds established for other particulate matter. From an incremental health perspective, this level of UFPs generated by the Project would not be substantial. As such, the Project would not result in substantial UFP emissions that may affect nearby receptors.

Further, the Project would not be exposed to substantial nearby sources of TACs. Since the proposed Project would not site land uses that would generate a significant risk of public exposure to TACs, the proposed Project would have a ***less than significant*** impact relative to this topic.

Impact 3.3-5: The proposed Project would not cause exposure to other emissions (such as those leading to odors) adversely affecting a substantial number of people. (Less than Significant)

The following text addresses odors. Other emissions (including criteria pollutants and TACs) are addressed in Impacts 3.3-1 through 3.3-4.

While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the SJVAPCD. The general nuisance rule (Health and Safety Code §41700) is the basis for the threshold.

Examples of facilities that are known producers of odors include: Wastewater Treatment Facilities, Chemical Manufacturing, Sanitary Landfill, Fiberglass Manufacturing, Transfer Station, Painting/Coating Operations (e.g. auto body shops), Composting Facility, Food Processing Facility, Petroleum Refinery, Feed Lot/Dairy, Asphalt Batch Plant, and Rendering Plant.

[21] Venecek, M. A., Yu, X., and Kleeman, M. J.: Predicted ultrafine particulate matter source contribution across the continental United States during summertime air pollution events, Atmos. Chem. Phys., 19, 9399–9412, https://doi.org/10.5194/acp-19-9399-2019, 2019.

If a project proposes to locate receptors and known odor sources in proximity to each other, further analysis may be warranted. However, if a project would not locate receptors and known odor sources in proximity to each other, then further analysis is not warranted. The proposed Project does not include new industrial uses that are not already present in the vicinity of the Project site. Air district Rule 402 prohibits any mobile or stationary source generating an objectionable odor, except for odors emanating from certain agricultural operations. The California Health and Safety Code §41700 and Air District Rule 402 prohibit emissions of air contaminants from any source that cause nuisance or annoyance to a considerable number of people or that present a threat to public health or cause property damage. Compliance with these rules would preclude land uses proposed under the proposed Project from emitting objectionable odors.

Odors would be potentially generated from vehicle and equipment exhaust emissions during construction of the Project. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application. Such odors would disperse rapidly from the Project site and generally occur at magnitudes that would not affect substantial numbers of people. Furthermore, SJVAPCD Rule 4641 limits the amount of VOC emissions from cutback asphalt. Thus, any potential odors generated during asphalt paving would be regulated through mandatory compliance with SJVAPCD rules. Therefore, impacts associated with odors during construction would be less than significant.

Land uses that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The Project would not include land uses that generate odors during operation. Therefore, Project operations would result in odor impacts that are less than significant.

CONCLUSION

The proposed Project does not propose uses that would create new odors that would adversely affect substantial numbers of people. Construction odors would be temporary, limited by compliance with SJVAPCD rules, and would not affect a substantial number of people. Therefore, construction and operation of the proposed Project would not result in significant objectionable odors. Impacts associated with exposure to odors would be ***less than significant.***

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This section describes the regulatory setting, regional biological resources, and impacts that are likely to result from Project implementation. The analysis contained in this section is intended to be at a Project-level, and covers impacts associated with the conversion of the entire site to an urban use. This section is based in part on the following: Envision Stockton 2040 General Plan (2018), Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR (City of Stockton, 2018), City of Stockton Municipal Code (2020), as well as site specific surveys and analysis.

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: San Joaquin Council of Governments (SJCOG) (August 1, 2023), Central Valley Regional Water Quality Control Board (CVRWQCB) (August 30, 2023), and California Department of Fish and Wildlife (CDFW) (August 29, 2023). The portions of these comment letters related to this topic are addressed within this section. Full comments received are included in Appendix A.

KEY TERMS

The following key terms are used throughout this section to describe biological resources and the framework that regulates them:

Hydric Soils. One of the three (3) wetland identification parameters, according to the Federal definition of a wetland, hydric soils have characteristics that indicate they were developed in conditions where soil oxygen is limited by the presence of saturated soil for long periods during the growing season. There are approximately 2,000 named soils in the United States that may occur in wetlands.

Hydrophytic Vegetation. Plant types that typically occur in wetland areas. Nearly 5,000 plant types in the United States may occur in wetlands. Plants are listed in regional publications of the U.S. Fish and Wildlife Service (USFWS) and include such species as cattails, bulrushes, cordgrass, sphagnum moss, bald cypress, willows, mangroves, sedges, rushes, arrowheads, and water plantains.

Sensitive Natural Community. A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, is structurally complex, or is in other ways of special concern to local, State, or Federal agencies. The California Environmental Quality Act (CEQA) identifies the elimination or substantial degradation of such communities as a significant impact. The CDFW tracks sensitive natural communities in the California Natural Diversity Database (CNDDB).

Special-Status Species. Special-status species are those plants and animals that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by Federal, State, or other agencies. Some of these species receive specific protection that is defined by Federal or State endangered species legislation. Others have been designated as "sensitive" on the basis of adopted policies and expertise of State resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. These species are referred to collectively as "special status species" in this report, following a convention that has developed in

practice but has no official sanction. For the purposes of this assessment, the term “special status” includes those species that are:

- Federally listed or proposed for listing under the Federal Endangered Species Act (50 CFR 17.11-17.12);
- Candidates for listing under the Federal Endangered Species Act (61 FR 7596-7613);
- State listed or proposed for listing under the California Endangered Species Act (14 CCR 670.5);
- Species listed by the USFWS or the CDFW as a species of concern (USFWS), rare (CDFW), or of special concern (CDFW);
- Fully protected animals, as defined by the State of California (California Fish and Game Code Section 3511, 4700, and 5050);
- Species that meet the definition of threatened, endangered, or rare under CEQA (CEQA Guidelines Section 15380);
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.); and
- Plants listed by the California Native Plant Society (CNPS) as rare, threatened, or endangered (List 1A and List 2 status plants in Skinner and Pavlik 1994).

Waters of the U.S. The Federal government defines waters of the U.S. as "lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows" [33 C.F.R. §328.3(a)]. Waters of the U.S. exhibit a defined bed and bank and ordinary high-water mark (OHWM). The OHWM is defined by the U.S. Army Corps of Engineers (USACE) as “that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” [33 C.F.R. §328.3(e)].

Wetlands. Wetlands are ecologically complex habitats that support a variety of both plant and animal life. The Federal government defines wetlands as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” [33 C.F.R. §328.3(b)]. Wetlands require wetland hydrology, hydric soils, and hydrophytic vegetation. Examples of wetlands include freshwater marsh, seasonal wetlands, and vernal pool complexes that have a hydrologic link to waters of the U.S.

METHODS

Pre-Field Investigation

Prior to the field investigation, numerous maps, databases, and reports were reviewed including:

- U.S. Geological Survey (USGS) 7.5-minute Quadrangle
- USGS National Hydrography Data Set
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps
- National Resource Conservation Service (NRCS) Soil Survey
- California Wildlife Habitat Relationships (CWHR) maps

- CNDDB
- CNPS Inventory of Rare and Endangered Plants
- USFWS IPac
- USFWS Official List

Field Survey

The Project site was subject to a field survey by Principal Biologist Steve McMurtry on April 22, 2022, and May 15, 2023. The site reconnaissance surveys served several purposes. First, they served as reconnaissance of the site to establish the existing conditions of the site and to verify information gathered in the pre-field investigation. This included identification of the habitat types, hydrologic features, topography, soil characteristics, and vegetation. The field investigations followed the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2009). Habitat was recorded. Visibility during each survey was excellent.

3.4.1 ENVIRONMENTAL SETTING

GEOMORPHIC PROVINCES/BIOREGION

The City of Stockton is located in the western portion of the Great Valley Geomorphic Province of California. The Great Valley Province is a broad structural trough bounded by the tilted block of the Sierra Nevada on the east and the complexly folded and faulted Coast Ranges on the west. The San Joaquin River is located just south and west of the City. This major river drains the Great Valley Province into the San Joaquin Delta to the north, ultimately discharging into the San Francisco Bay to the northwest.

The City of Stockton is located within the San Joaquin Valley Bioregion, which is comprised of Kings County, most of Fresno, Kern, Merced, and Stanislaus counties, and portions of Madera, San Luis Obispo, and Tulare counties. The San Joaquin Valley Bioregion is the third most populous of the ten bioregions in the State, with an estimated 2 million people. The largest cities are Fresno, Bakersfield, Modesto, and Stockton. Interstate 5 and State Route 99 are the major north-south roads that run the entire length of the bioregion.

The bioregion is bordered on the west by the coastal mountain ranges. Its eastern boundary joins the southern two-thirds of the Sierra bioregion, which features Yosemite, Kings Canyon, and Sequoia National Parks. At its northern end, the San Joaquin Valley bioregion borders the southern end of the Sacramento Valley bioregion. To the west, south, and east, the bioregion extends to the edges of the valley floor.

Habitat in the bioregion includes vernal pools, valley sink scrub and saltbush, freshwater marsh, grasslands, arid plains, orchards, and oak savannah. Historically, millions of acres of wetlands flourished in the bioregion, but stream diversions for irrigation dried all but about five percent (5%). Remnants of the wetland habitats are protected in this bioregion in publicly owned parks, reserves, and wildlife areas. The bioregion is considered the State's top agricultural producing region with the abundance of fertile soil.

LOCAL SETTING

Location

The Project site is 306.03 acres located on 11 assessor parcels (APNs) and remaining County right-of-way as follows: Development Area (six parcels totaling 236.30 acres), Non-development Area (six parcels totaling 56.03 acres), and Right-of-Way Annexation Area (13.7 acres of remaining County right-of-way).

The Development Area is bordered on the north by Eight Mile Road, on the east by West Lane, on the west by agricultural land, a residential home, a church and commercial building along Lower Sacramento Road, and on the south by Marlette Road, a partially paved frontage road. The Development Area is predominantly comprised of agricultural and undeveloped uses; sheds and associated agricultural equipment exist in the center portion of the site. Additionally, two (2) dirt/gravel roadways bisect the Development Area, including one roadway extending north to south from Eight Mile Road to the southern boundary at Marlette Road, and another extending east to west from West Lane connecting to the dirt/gravel roadway in the center of the Development Area. Irrigation canals, operated by the Woodbridge Irrigation District (WID), run along the northern, eastern, and southern borders of the Development Area, separating existing agricultural uses from the respective roadways.

The Non-development Area is bordered on the north by Eight Mile Road, on the east and south by agricultural lands within the Development Area, and on the west by Lower Sacramento Road. The Non-development area consists of agricultural land, one (1) existing residential home in the northwestern portion, a commercial use (single building), and a church.

The Right-of-Way Annexation Area includes Eight Mile Road, forming the northern border of the Project site.

Topography

The Project site is relatively flat with a natural gentle slope increased from north to south. Topographic features within the Project site include level fields, farm roads, and irrigation ditches. The Project site is relatively flat and ranges in elevation from approximately 22 to 31 feet above sea level.

Climate

The City of Stockton is located in the northern portion of the San Joaquin Valley, which has a Mediterranean climate that is subject to cool, wet winters (often blanketed with fog) and hot, dry summers. The average annual precipitation is approximately 13.81 inches. Precipitation occurs as rain most of which falls between the months of November through April, peaking in January at 2.85 inches. The average temperatures range from December lows of 37.5 F to July highs of 94.3 F.

Vegetation

Vegetation on the Project site consists of agricultural, ruderal, and landscaping. Because of the active agricultural use, there is very limited natural vegetation on the Project site with the exception of the perimeter of the agricultural fields. Common plant species observed in these areas include: wild oat (*Avena barbata*), rip-gut brome (*Bromus diandrus*), softchess (*Bromus hordeaceus*) alfalfa (*Medicago sativa*), Russian thistle (Salsola tragus), Italian thistle (*Carduus pycnocephalus*), rough pigweed (*Amaranthus retroflexus*), sunflower (*Helianthus annuus*), tarragon (*Artemisia dracunculus*), coyote brush (*Baccharis pilularis*), prickly lettuce (*Lactuca serriola*), milk thistle (*Silybum marianum*), sow thistle (*Sonchus asper*), telegraph weed (*Heterotheca grandiflora*), barley (*Hordeum* sp.), mustard (*Brassica niger*), and heliotrope (*Heliotropium curassavicum*).

Wildlife

Agricultural and ruderal vegetation found on the Project site provides habitat for both common and a few special-status wildlife populations. For example, some commonly observed wildlife species in the region include: California ground squirrel (*Spermophilus beecheyi*), California vole (*Microtus californicus*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus),* American kestrel (*Falco sparverius*), white-tailed kite (*Elanus leucurus*), American killdeer (*Charadrius vociferus*), gopher snake (*Pituophis melanoleucus*), garter snake (*Thamnophis species*), and western fence lizard (*Sceloporus occidentalis*), as well as many native insect species. There are also several bat species in the region. Bats often feed on insects as they fly over agricultural and natural areas.

Locally common and abundant wildlife species are important components of the ecosystem. Due to habitat loss, many of these species must continually adapt to using agricultural, ruderal, and ornamental vegetation for cover, foraging, dispersal, and nesting.

Soils

The USDA/NRCS Web Soil Survey indicates the presence of three soil series occurring within the Project site. The NRCS Soils Map is provided in Figure 3.6-1 in Section 3.6, Geology and Soils.

Jacktone clay: This series consists of somewhat poorly drained soils in basins. These soils are artificially drained and are moderately deep to a hardpan. Slopes range from 0 to 2 percent (0%-2%). This series is characterized as poorly drained, slow runoff, high shrink/swell potential, and permeability is slow rapid. The vast majority of the Development Area contains this soil series.

Stockton clay: This series consists of somewhat poorly drained soils in basins. These soils are artificially drained and are deep to a hardpan. Stockton clay is formed in alluvium derived from mixed rock sources. Slope ranges from 0 to 2 percent (0%-2%). This series is characterized as poorly drained, slow runoff, high shrink/swell potential, and permeability is slow rapid. This soils series is located along the eastern boundary of the Project site.

Rioblancho clay loam: This series consists of somewhat poorly drained soils in rims on basin floors. Slope ranges from 0 to 2 percent (0%-2%). This series is characterized as having medium runoff. This

soils series is largely located in the Non-Development Area; the western portion of the Development Area contains a small amount of this soil series.

Stockton clay: This series consists of somewhat poorly drained soils in basins. These soils are artificially drained and are deep to a hardpan. Stockton clay is formed in alluvium derived from mixed rock sources. Slope ranges from 0 to 2 percent (0%-2%). This series is characterized as poorly drained, slow runoff, high shrink/swell potential, and permeability is slow rapid. This soils series is located along the eastern boundary of the Project site.

Aquatic Resources

Waters of the U.S., including wetlands, are broadly defined under 33 Code of Federal Regulations (CFR) 328 to include navigable waterways, their tributaries, and adjacent wetlands. Both the CDFW and the USACE have jurisdiction over modifications to riverbanks, lakes, stream channels and other wetland features.

The Project site includes a number of agricultural irrigation ditches that can be categorized into three types: agricultural runoff collection facilities, agricultural irrigation conveyance facilities, and main ditches. The agricultural runoff collection facilities are small field ditches that collect agricultural runoff during irrigation and during precipitation. The agricultural runoff conveyance facilities are small field ditches that convey irrigation water from the main ditches to the individual fields. Lastly, there are main ditches that are the main conveyance facility that the irrigation district uses to convey irrigation water to agricultural customers on the Project site, as well as customers farther downstream.

The main agricultural ditches provide adequate water, and sufficient emergent vegetation for much of agricultural growing season, but generally lacks appropriate and adequate undisturbed adjacent upland habitat given the agricultural disturbances that occur. It is noted that the main ditches are largely dry during the non-growing season, with the exception of some agricultural runoff that is collected in the system during precipitation events. This area is not considered to be habitat for movement of fish species such as the Chinook salmon and steelhead.

The agricultural ditches are supplied with irrigation water from the WID's upstream gravity canal system. Irrigation canals, operated by the WID, run along West Lane and Marlette Avenue. These facilities are not jurisdictional.

CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM

The California Wildlife Habitat Relationships (CWHR) habitat classification scheme has been developed to support the CWHR System, a wildlife information system and predictive model for California's regularly-occurring birds, mammals, reptiles and amphibians. When first published in 1988, the classification scheme had 53 habitats. At present, there are 59 wildlife habitats in the CWHR System: 27 tree, 12 shrub, 6 herbaceous, 4 aquatic, 8 agricultural, 1 developed, and 1 non-vegetated. Figure 3.4-1 shows the CWHR designations in the Project site. Table 3.4-1 summarizes the designations in the Project site.

TABLE 3.4-1: CWHR LAND COVER TYPES

LAND COVER TYPE	*ACRES IN DEVELOPMENT AREA*	*ACRES IN NON-DEVELOPMENT AREA*	*ACRES IN RIGHT OF WAY*	*GRAND TOTAL*
Cropland	28.44	25.70	8.38	62.52
Deciduous Orchard	3.54	0.48	0.17	4.19
Dryland Grain Crops	60.20	1.57	0.75	62.53
Fresh Emergent Wetland	1.97	2.13	2.86	6.95
Irrigated Grain Crops	13.57	0.22	-	13.79
Irrigated Hayfield	92.88	23.35	3.02	119.25
Irrigated Row and Field Crops	22.39	0.30	0.00	22.68
Rice	1.11	-	-	1.11
Urban	0.06	0.58	0.10	0.74
Vineyard	8.85	3.85	0.17	12.87
Grand Total	***233.00***	***58.17***	***15.46***	***306.63***

SOURCES: FRAP VEGETATION DATASET; SAN JOAQUIN COUNTY GIS. MAP DATE: JULY 13, 2023.

Below is a brief description of these CWHR habitats.

DEVELOPED COVER TYPES

Croplands are located on flat to gently rolling terrain. Within the Project site, there are 62.52 acres of Cropland habitat. When flat terrain is put into crop production, it usually is leveled to facilitate irrigation. Rolling terrain is either dry farmed or irrigated by sprinklers. Soils often dictate the crops grown. Corn requires better soils than barley, which can grow on poor quality soils, and rice does well on clay soils not suitable for other crops. Leaching can remove contaminants in areas of high salt or alkali levels, making the soils highly productive. This has occurred extensively in the San Joaquin and Imperial Valleys. Climate also influences the type of crops grown. Only hardy crops such as potatoes, barley, and wheat do well in the short growing season in Klamath Basin; whereas, in the Imperial Valley, a variety of crops grow over an eleven month, frost-free growing season.

Orchard – Deciduous are typically open single species tree dominated habitats. Within the Project Site, there are 4.19 acres of Orchard – Deciduous habitat. Depending on the tree type and pruning methods they are usually low, bushy trees with an open understory to facilitate harvest. Trees range in height at maturity for many species from 15 to 30 feet, but may be 10 feet or less depending on the species. Crowns usually touch, and are usually in a linear pattern. Spacing between trees is uniform depending on desired spread of mature trees. The understory is usually composed of low-growing grasses, legumes, and other herbaceous plants, but may be managed to prevent understory growth totally or partially, such as along tree rows. Deciduous orchards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. Although some deciduous orchards are non-irrigated, most are irrigated. Some flat soils are flood irrigated, but many deciduous orchards are sprinkler irrigated. Large numbers of orchards are irrigated by drip or trickle irrigation systems. Most deciduous orchards are in valley or foothill areas, with a few, such as, apples and pears, up to 3,000 feet elevation.

Dryland Grain Crops are composed of vegetation in the dryland (nonirrigated) grain and seed crops habitat includes seed producing grasses, primarily barley, cereal rye, oats, and wheat. Within the Project site, there are 62.53 acres of Dryland Grain Crop habitat. These seed and grain crops are annuals. They are usually planted by drilling in rows which produce solid stands, forming 100 percent canopy at maturity in good stands. They are normally planted in fall and harvested in spring. However, they may be planted in rotation with other irrigated crops and winter wheat or barley may be planted after harvest of a previous crop in the fall, dry farmed (during the wet winter and early spring months), and then harvested in late spring.

Irrigated Grain Crops include a variety of sizes, shapes and growing patterns. Within the Project site, there are 13.79 acres of Irrigated Grain Crop habitat. Field corn can reach ten feet tall while dry beans are only several inches tall. Most irrigated grain and seed crops are grown in rows. Some may form 100 percent canopy while others may have significant bare areas between rows. All seed and grain crops are annuals. They are usually planted in spring and harvested in summer or fall. However, they may be planted in rotation with other irrigated crops and sometimes winter wheat or barley may be planted after harvest of a previous crop in the fall, dry farmed (during the wet winter and early spring months) or they may be irrigated, and then harvested in the late spring.

Irrigated Hayfield normally has a 2 to 6 months initial growing period, depending on climate, and soil, this habitat is dense, with nearly 100 percent cover. Within the Project site, there are 119.25 acres of Irrigated Hayfield habitat. Average height is about 0.46 m. (1.5 feet) tall. Planted fields generally are monocultures (the same species or mixtures or a few species with similar structural properties). Structure changes to a lower stature following each harvest, grows up again and reverts to bare ground following plowing or discing. Plowing may occur annually, but is usually less often. Layering generally does not occur in this habitat. Unplanted "native" hay fields may contain short and tall patches. If not harvested for a year, they may develop a dense thatch of dead leaves between the canopy and the ground. Within the Planning Area, there are 1,179.00 acres of Irrigated Hayfield habitat.

Irrigated Row and Field Crops include a variety of sizes, shapes and growing patterns. Within the Project site, there are 22.68 acres of Irrigated Row and Field Crop habitat. Alfalfa fields, hay, row crops, orchards, annual grasslands, cattle pasture, and dairies dominate the agricultural areas in the region. Agricultural fields commonly have irrigation canals, ditches, and stock ponds that serve as a water source or drainage for the fields and habitat for a variety of plants and animals. Such irrigation canals/ditches and catchment systems are located on the western and northern boundary of the Project site and are used in association with existing agricultural production. The western half of the Project site is under row crop production, and the eastern half is a vineyard.

Rice and wild rice are flood irrigated crops that are seed producing annual grasses. Within the Project site, there are 1.11 acres of Rice habitat. Commercial rice generally is only a couple of feet tall, whereas, commercially grown wild rice may be six feet tall or taller. They are usually grown in leveed fields that are flooded much of the growing period, and dried out to mature and to facilitate harvesting. Rice is usually located on flat terrain. When flat terrain is put into rice production, it usually is leveled to facilitate irrigation. Rice can grow on poor quality soils, and rice and barley can do well on clay soils not suitable for other crops. Leaching or flushing can remove contaminants in

areas of high salt or alkali levels, making the soils more productive. This has occurred in both the San Joaquin and Sacramento valleys.

Vineyards are composed of single species planted in rows, usually supported on wood and wire trellises. Most vineyards are in valley or foothill areas. Within the Project site, there are 12.87 acres of Vineyard habitat. Vines are normally intertwined in the rows but open between rows. Rows under the vines are usually sprayed with herbicides to prevent growth of herbaceous plants. Between rows of vines, grasses and other herbaceous plants may be planted or allowed to grow as a cover crop to control erosion. Vineyards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. All are irrigated. Most vineyards are sprinkler irrigated. Large numbers of vineyards are irrigated by drip or trickle irrigation systems.

Urban habitats are not limited to any particular physical setting. Within the Project site, there are 0.74 acres of Urban habitat. Three urban categories relevant to wildlife are distinguished: downtown, urban residential, and suburbia. The heavily-developed downtown is usually at the center, followed by concentric zones of urban residential and suburbs. There is a progression outward of decreasing development and increasing vegetative cover. Species richness and diversity is extremely low in the inner cover. The structure of urban vegetation varies, with five types of vegetative structure defined: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. A distinguishing feature of the urban wildlife habitat is the mixture of native and exotic species.

HERBACEOUS COVER TYPES

Fresh Emergent Wetland habitats occur on virtually all exposures and slopes, provided a basin or depression is saturated or at least periodically flooded. Within the Project site, there are 6.95 acres of Fresh Emergent Wetland habitat. However, they are most common on level to gently rolling topography. They are found in various landscape depressions or at the edge of rivers or lakes. Fresh emergent wetland vegetation zones characteristically occur as a series of concentric rings which follow basin contours and reflect the relative depth and duration of flooding. If the bottom of the wetland is very uneven, vegetation zones may be present in a patchy configuration rather than the classic concentric ring pattern. Soils are predominantly silt and clay, although coarser sediments and organic material may be intermixed). In some areas organic soils (peat) may constitute the primary growth medium. Climatic conditions are highly variable and range from the extreme summer heat of Imperial County to the Great Basin climate of Modoc County where winter temperatures often are well below freezing.

SPECIAL-STATUS SPECIES

The following discussion is based on a background search of special-status species that are documented in the CNDDB, the CNPS Inventory of Rare and Endangered Plants, and the USFWS records of listed endangered and threatened species from the IPAC database. The background search was regional in scope and focused on the documented occurrences within the 9-quadrangle (approximately 10 miles) region for the Project site. Table 3.4-2 provides a list of special-status plants and Table 3.4-3 provides a list of special-status animals. Figure 3.4-2 presents the documented occurrences within a one-mile radius of the Project site.

TABLE 3.4-2: SPECIAL-STATUS PLANT SPECIES WHICH MAY OCCUR IN PROJECT AREA

SPECIES	*STATUS (FED./CA/ CNPS/SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT AND BLOOMING PERIOD*	*PRESENCE DETERMINATION*
Alkali milk-vetch *Astragalus tener var. tener*	--/--/1B.2/Yes	Eastern San Francisco Bay region, the Delta, and western San Joaquin Valley south to the lower Salinas and San Benito valleys	Grassy alkaline flats and vernally moist meadows at elevations below 500 ft. March-June.	Not Present. Not observed during field survey. No appropriate habitat.
Big tarplant *Blepharizonia plumosa*	--/--/1B.1/No	San Francisco Bay area with occurrences in Alameda, Contra Costa, San Joaquin, Stanislaus, and Solano Counties	Valley and foothill grassland; 30-505 m. July-Oct.	Not Present. Not observed during field survey. No appropriate habitat.
Bolander's water-hemlock *Cicuta maculata var. bolanderi*	--/--/2B.1/No	Marin, Solano, Contra Costa, Sacramento, and San Joaquin Counties	Marshes and swamps. In fresh or brackish water. 0-20 m. July-Sept.	Not Present. Not observed during field survey. No appropriate habitat.
bristly sedge *Carex comosa*	--/--/2B.1/Yes	Scattered occurrences throughout California; Oregon and Washington	Coastal prairie, marshes and swamps at lake margins, valley and foothill grassland; below 625 m	Not Present. Not observed during field survey. No appropriate habitat.
Delta mudwort *Limosella australis*	--/--/2B.1/ Yes	Found in Contra Costa County, Sacramento County, San Joaquin County, and Solano County.	Riparian scrub, marshes and swamps. Usually on mud banks of the Delta in marshy or scrubby riparian associations; often with Lilaeopsis masonii. 0-5 m. May-Aug.	Not Present. Not observed during field survey. No appropriate habitat.
Delta tule pea *Lathyrus jepsonii var. jepsonii*	--/--/1B.2/Yes	Found mainly in the Sacramento-San Joaquin Delta and has been documented in Contra Costa, Sacramento, San Joaquin, Solano, Napa, and Alameda Counties	Marshes and swamps. In freshwater and brackish marshes. Often found with Typha, Aster lentus, Rosa californica, Juncus spp., Scirpus, etc. Usually on marsh and slough edges. 0-5 m. May-Jul(Aug-Sep)	Not Present. Not observed during field survey. No appropriate habitat.
Heartscale *Atriplex cordulata var. cordulata*	--/--/1B.2/Yes	Central Valley and interior valleys of the Coast Range from Butte to Kern counties.	Saline or alkaline sandy soils in grassland or saltbush scrub. March-October	Not Present. Not observed during field survey. No appropriate habitat.

SPECIES	*STATUS (FED./CA/ CNPS/SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT AND BLOOMING PERIOD*	*PRESENCE DETERMINATION*
legenere *Legenere limosa*	--/--/1B.1/Yes	Central Valley or primarily located in the lower Sacramento Valley, also from north Coast Ranges, San Joaquin Valley, and the Santa Cruz Mountains	Deep, seasonally wet habitats such as vernal pools, ditches, marsh edges, and riverbanks; below 150 m. April-June	Not Present. Not observed during field survey. No appropriate habitat.
Mason's lilaeopsis *Lilaeopsis masonii*	--/R/1B.1/Yes	Sacramento-San Joaquin River Delta and nearby shores of San Francisco Bay	Marshes and swamps, riparian scrub. Tidal zones, in muddy or silty soil formed through river deposition or river bank erosion. In brackish or freshwater. 0-10 m. Apr-Nov.	Not Present. Not observed during field survey. No appropriate habitat.
Palmate-bracted bird's-beak *Chloropyron palmatum*	E/E/1B.1/Yes	Scattered locations in Fresno and Madera counties in the San Joaquin Valley, San Joaquin, Yolo, and Colusa counties in the Sacramento Valley, and the Livermore Valley area of Alameda County	Saline-alkaline soils in seasonally-flooded lowland plains and basins at elevations of less than 500 feet. May-October	Not Present. Not observed during field survey. No appropriate habitat.
Recurved larkspur *Delphinium recurvatum*	--/--/1B.2/Yes	Central Valley from Colusa to Kern Counties	Alkaline soils in saltbush scrub, cismontane woodland, valley and foothill grassland; 3-750 m. March-May.	Not Present. Not observed during field survey. No appropriate habitat.
Saline clover *Trifolium hydrophilum*	--/--/1B.2/No	Eastern and Northern San Francisco Bay region, the Delta, western San Joaquin Valley, southern San Jose	Marshes and swamps, Valley and foothill grassland (mesic, alkaline), and Vernal pools. April-June	Not Present. Not observed during field survey. No appropriate habitat.
San Joaquin spearscale *Extriplex joaquinana*	--/--/1B.2/Yes	Delta region, central valley and central coast	Alkaline. Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland. April-October	Not Present. Not observed during field survey. No appropriate habitat.
Sanford's arrowhead *Sagittaria sanfordii*	--/--/1B.2/Yes	Butte, Del Norte, El Dorado, Fresno, Merced, Mariposa, Marin, Napa, Orange, Placer, Sacramento, San Bernardino, Shasta, San Joaquin, Solano, Tehama, Tulare, Ventura, and Yuba Counties	Marshes and swamps. In standing or slow-moving freshwater ponds, marshes, and ditches. 0-605 m. May-Oct(Nov)	Not Present. Not observed during field survey. No appropriate habitat.

SPECIES	*STATUS (FED./CA/ CNPS/SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT AND BLOOMING PERIOD*	*PRESENCE DETERMINATION*
side-flowering skullcap *Scutellaria lateriflora*	--/--/2B.2/Yes	Northern San Joaquin Valley, east of the Sierra Nevada, Inyo and San Joaquin Counties; New Mexico, Oregon, and elsewhere	Mesic meadows, marshes and swamps; below 500 m	Not Present. Not observed during field survey. No appropriate habitat.
succulent owl's-clover *Castilleja campestris var. succulenta*	T/E/1B.2/Yes	Solano, Stanislaus, Merced, Madera, and Fresno Counties	Vernal pools. Moist places, often in acidic soils. 20-705 m. April-May.	Not Present. Not observed during field survey. No appropriate habitat.
Suisun Marsh aster *Symphyotrichum lentum*	--/--/1B.2/Yes	Contra Costa, Napa, Sacramento, San Joaquin, Solano, and Yolo Counties	Marshes and swamps (brackish and freshwater). Most often seen along sloughs with Phragmites, Scirpus, blackberry, Typha, etc. 0-15 m. (Apr)May-Nov	Not Present. Not observed during field survey. No appropriate habitat.
Watershield *Brasenia schreberi*	--/--/2B.3/No	Butte, Calaveras, El Dorado, Fresno, Kern, Lake, Lassen, Mendocino, Merced, Nevada, Plumas, Sacramento, Shasta, Sierra, Siskiyou, San Joaquin, Sonoma, Sutter, Tehama, Trinity, Tulare, and Tuolumne Counties	Freshwater marshes and swamps. Aquatic known from water bodies both natural and artificial in California. 1-2180 m. Jun-Sep	Not Present. Not observed during field survey. No appropriate habitat.
Woolly rose-mallow *Hibiscus lasiocarpos var. occidentalis*	--/--/1B.2/No	Central Valley of California, as well as populations in eastern North America	All along the waterways of the Delta. June-September	Not Present. Not observed during field survey. No appropriate habitat.

SOURCES: CNDDB, 2023; DE NOVO PLANNING GROUP, 2023.

NOTES: CNPS = CALIFORNIA NATIVE PLANT SOCIETY
SJMSCP = SAN JOAQUIN MULTI-SPECIES HABITAT CONSERVATION AND OPEN SPACE PLAN

FEDERAL

E = ENDANGERED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
T = THREATENED UNDER THE FEDERAL ENDANGERED SPECIES ACT.

STATE

E = ENDANGERED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.

CALIFORNIA NATIVE PLANT SOCIETY

1B = RARE, THREATENED, OR ENDANGERED IN CALIFORNIA AND ELSEWHERE.
2 = RARE, THREATENED, OR ENDANGERED IN CALIFORNIA, BUT MORE COMMON ELSEWHERE.
.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).

TABLE 3.4-3: SPECIAL-STATUS WILDLIFE AND FISH SPECIES WHICH MAY OCCUR IN PROJECT AREA

SPECIES	*STATUS (FED/CA/ SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*	*PRESENCE DETERMINATION*
INVERTEBRATES				
American bumble bee *Bombus pensylvanicus*	--/--/No	Southern Arizona, New Mexico, and California	Long-tongued; forages on a wide variety of flowers including vetches (Vicia), clovers (Trifolium), thistles (Cirsium), sunflowers (Helianthus), etc. Nests above ground under long grass or underground. Queens overwinter in rotten wood or underground.	Not Present. Appropriate habitat is not present.
Crotch bumble bee *Bombus crotchii*	--/C/No	Central California south to Baja California del Norte, Mexico, and includes coastal areas east to the edges of the deserts and the Central Valley	Open grassland and scrub	Not Present. Appropriate habitat is not present.
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T/--/Yes	Stream side habitats below 3,000 feet throughout the Central Valley	Riparian and oak savanna habitats with elderberry shrubs; elderberries are the host plant.	Not Present. Appropriate habitat is not present.
California linderiella *Linderiella occidentalis*	--/--/No	Ranges from near Redding in the north to as far south as Fresno County, mainly to the east of the Sacramento and San Joaquin Rivers	Natural, and artificial, seasonally ponded habitat types including: vernal pools, swales, ephemeral drainages, stock ponds, reservoirs, ditches, backhoe pits, and ruts caused by vehicular activities	Not Present. No appropriate habitat.
Midvalley fairy shrimp *Branchinecta mesovallensis*	--/--/Yes	Have been found in Sacramento, Solano, Yolo, Contra Costa, San Joaquin, Madera, Merced and Fresno counties. The increase of known locations lends additional support to the idea that the range and distribution of midvalley fairy shrimp is greater than the distribution of known occurrences.	Shallow ephemeral pools, vernal swales, and various artificial ephemeral wetland habitats.	Not Present. No appropriate habitat.

SPECIES	*STATUS (FED/CA/ SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*	*PRESENCE DETERMINATION*
Vernal pool fairy shrimp *Branchinecta lynchi*	T/--/Yes	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County	Common in vernal pools; they are also found in sandstone rock outcrop pools.	Not Present. No appropriate habitat.
Vernal pool tadpole shrimp *Lepidurus packardi*	E/--/Yes	Shasta County south to Merced County	Vernal pools and ephemeral stock ponds.	Not Present. No appropriate habitat.
western ridged mussel *Gonidea angulata*	--/--/No	Extirpated throughout their original range in California, particularly in southern California and the Central Valley. They have also been extirpated from many sites in the Snake and Columbia watersheds.	Primarily creeks and rivers and less often lakes. Originally in most of state, now extirpated from Central and Southern California.	Not Present. No appropriate habitat.
AMPHIBIANS				
California tiger salamander *Ambystoma californiense (A. tigrinum c.)*	T/SSC/Yes	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Butte County south to northeastern San Luis Obispo County.	Small ponds, lakes, or vernal pools in grass-lands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy.	Not Present. No appropriate habitat.
foothill yellow-legged frog - south Sierra DPS *Rana boylii pop. 5*	PE/E/Yes	Occurs in the Klamath, Cascade, north Coast, south Coast, Transverse, and Sierra Nevada Ranges up to approximately 6,000 feet	Creeks or rivers in woodland, forest, mixed chaparral, and wet meadow habitats with rock and gravel substrate and low overhanging vegetation along the edge. Usually found near riffles with rocks and sunny banks nearby.	Not Present. No appropriate habitat.
western spadefoot *Spea hammondii*	--/SSCC/Yes	Found along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehama County to Fresno County	Permanent and semi-permanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May estivate in rodent burrows or cracks during dry periods.	Not Present. No appropriate habitat.

SPECIES	STATUS (FED/CA/ SJMSCP)	GEOGRAPHIC DISTRIBUTION	HABITAT REQUIREMENTS	PRESENCE DETERMINATION
BIRDS				
Burrowing owl *Athene cunicularia*	BCC/SSC/Yes	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas. Rare along south coast	Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows	Potentially Present. Nesting and foraging habitat is present on the Project site. No nests were located on the Project site.
California black rail *Laterallus jamaicensis coturniculus*	--/T(FP)/Yes	Permanent resident in the San Francisco Bay and east-ward through the Delta into Sacramento and San Joaquin Counties; small populations in Marin, Santa Cruz, San Luis Obispo, Orange, Riverside, and Imperial Counties	Tidal salt marshes associated with heavy growth of pickleweed; also occurs in brackish marshes or freshwater marshes at low elevations	Known to occur in the region. No appropriate nesting habitat. Limited foraging habitat associated with the irrigation ditches. Low possibility for presence.
Least Bell's vireo *Vireo bellii pusillus*	E/E/No	Central Valley of California and other low-elevation river valleys.	Dense brush, mesquite, willow-cottonwood forest, streamside thickets, and scrub oak.	Known to occur in the region. No appropriate nesting habitat. Limited foraging habitat associated with the irrigation ditches. Low possibility for presence.
Song sparrow (Modesto Population) *Melospiza melodia*	BCC/SSC/Yes	Restricted to California, where it is locally numerous in the Sacramento Valley, Sacramento–San Joaquin River Delta, and northern San Joaquin Valley. Exact boundaries of range uncertain.	Found in emergent freshwater marshes dominated by tules (Scirpus spp.) and cattails (Typha spp.) as well as riparian willow (Salix spp.) thickets. They also nest in riparian forests of Valley Oak (Quercus lobata) with a sufficient understory of blackberry (Rubus spp.), along vegetated irrigation canals and levees, and in recently planted Valley Oak restoration sites.	Known to occur in the region. No appropriate nesting habitat. Limited foraging habitat associated with the irrigation ditches.
Swainson's hawk *Buteo*	BCC/T/Yes	Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley. Highest nesting densities occur near Davis	Nests in oaks or cottonwoods in or near riparian habitats. Forages in grasslands, irrigated pastures, and grain fields	Known to occur in the region. Potential nesting and foraging habitat

SPECIES	*STATUS (FED/CA/ SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*	*PRESENCE DETERMINATION*
swainsoni		and Woodland, Yolo County		present within Project area. Observed foraging over the Project site.
Tricolored blackbird *Agelaius tricolor*	BCC/C (SSC)/Yes	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony	Known to occur in the region. No appropriate nesting habitat. Limited foraging habitat associated with the irrigation ditches. Low possibility for presence.
White-tailed kite *Elanus leucurus*	--/FP/Yes	Gulf Coast in Texas and Mexico and in the valley and coastal regions of central and southern California	Grasslands, marshes, row crops and alfalfa, where they hover while foraging for rodents and insects.	Potentially Present. Nesting and foraging habitat is present on the Project site. No nests were located on the Project site.
yellow warbler *Setophaga petechia*	--/SSC/Yes	Coast range in Del Norte county, east to Modoc plateau, south along coast range to Santa Barbara and Ventura counties and along western slope of Sierra Nevada south to Kern county	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	Known to occur in the region. No appropriate nesting habitat. Limited foraging habitat associated with the irrigation ditches. Low possibility for presence.
FISH				
Delta smelt *Hypomesus transpacificus*	T/T/Yes	Primarily in the Sacramento–San Joaquin Estuary but has been found as far upstream as the mouth of the American River on the Sacramento River and Mossdale on the San Joaquin River; range extends downstream to San Pablo Bay.	Occurs in estuary habitat in the Delta where fresh and brackish water mix in the salinity range of 2–7 parts per thousand.	Not Present. No appropriate habitat.
green sturgeon - southern DPS	T/--/Yes	Spawns in the Sacramento, Feather and Yuba Rivers. Presence in upper Stanislaus and San Joaquin Rivers may indicate	Spawning site fidelity. Non-spawning adults occupy marine/estuarine waters. Delta Estuary is important for rearing juveniles.	Not Present. No appropriate habitat.

SPECIES	*STATUS (FED/CA/ SJMSCP)*	*GEOGRAPHIC DISTRIBUTION*	*HABITAT REQUIREMENTS*	*PRESENCE DETERMINATION*
Acipenser medirostris pop. 1		spawning.	Spawning occurs primarily in cool (11-15 C) sections of mainstem rivers in deep pools (8-9 meters) with substrate containing small to medium sized sand, gravel, cobble, or boulder.	
Longfin smelt *Spirinchus thaleichthys*	--/SSC/Yes	Occurs in estuaries along the California coast. Adults concentrated in Suisun, San Pablo, and North San Francisco Bays.	Prior to spawning, these fish aggregate in deepwater habitats available in the northern Delta, including, primarily, the channel habitats of Suisun Bay and the Sacramento River. Spawning occurs in fresh water on the San Joaquin River below Medford Island and on the Sacramento River below Rio Vista.	Not Present. No appropriate habitat.
Sacramento splittail *Pogonichthys macrolepidotus*	--/SSC/Yes	Sacramento splittail are found only in California's Central Valley. Currently largely confined to: (1) the Delta, (2) Suisun Bay, (3) Suisun Marsh, (4) Napa River, (5) Petaluma River, and (6) other parts of the Sacramento-San Joaquin Estuary.	Adults require flooded vegetation for spawning and rearing, and are often found in areas subject to flooding. Spawning occurs on submerged vegetation in temporarily flooded upland and riparian habitat. Spawning occurs in the lower reaches of rivers, bypasses used for flood management, dead-end sloughs and in larger sloughs such as Montezuma Slough.	Not Present. No appropriate habitat.
Steelhead - Central Valley DPS *Oncorhynchus mykiss irideus pop. 11*	T/--/No	From Russian River, south to Soquel Creek and to, but not including, Pajaro River. Also San Francisco and San Pablo Bay basins.	Aquatic, flowing waters. Populations in the Sacramento and San Joaquin rivers and their tributaries.	Not Present. No appropriate habitat.
MAMMALS				
Riparian brush rabbit *Sylvilagus bachmani*	E/E/Yes	Limited to San Joaquin County at Caswell State Park near the confluence of the Stanislaus and San Joaquin Rivers and Paradise Cut area on Union Pacific right-of-	Native valley riparian habitats with large clumps of dense shrubs, low-growing vines, and some tall shrubs and trees	Not Present. No appropriate habitat.

SPECIES	STATUS (FED/CA/ SJMSCP)	GEOGRAPHIC DISTRIBUTION	HABITAT REQUIREMENTS	PRESENCE DETERMINATION
riparius		way lands		
REPTILES				
Giant garter snake *Thamnophis couchi gigas*	T/T/Yes	Central Valley from the vicinity of Burrel in Fresno County north to near Chico in Butte County; has been extirpated from areas south of Fresno	Sloughs, canals, low gradient streams and freshwater marsh habitats where there is a prey base of small fish and amphibians; they are also found in irrigation ditches and rice fields; requires grassy banks and emergent vegetation for basking and areas of high ground protected from flooding during winter.	Aquatic habitat is present in the irrigation ditches within the Project site. The upland areas on the Project site are not expected to serve as habitat given that they are regularly disturbed in association with the agricultural operations.
western pond turtle *Emys marmorata*	--/SSC/Yes	Occurs from the Oregon border of Del Norte and Siskiyou Counties south along the coast to San Francisco Bay, inland through the Sacramento Valley, and on the western slope of Sierra Nevada	Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests	Potentially Present. Appropriate habitat is present within the irrigation ditches. The upland areas on the Project site are not expected to serve as habitat given that they are regularly disturbed in association with the agricultural operations.

SOURCES: CNDDB, 2023; DE NOVO PLANNING GROUP, 2023.

NOTE: SJMSCP = SAN JOAQUIN MULTI-SPECIES HABITAT CONSERVATION AND OPEN SPACE PLAN

STATUS EXPLANATIONS:

FEDERAL

E = ENDANGERED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
T = THREATENED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
C = CANDIDATE SPECIES FOR LISTING UNDER THE FEDERAL ENDANGERED SPECIES ACT.
PE = PROPOSED ENDANGERED UNDER THE FEDERAL ENDANGERED SPECIES ACT.
BCC = BIRD OF CONSERVATION CONCERN.

STATE

E = ENDANGERED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.
T = THREATENED UNDER THE CALIFORNIA ENDANGERED SPECIES ACT.
C = CANDIDATE SPECIES FOR LISTING UNDER THE STATE ENDANGERED SPECIES ACT.
FP = FULLY PROTECTED UNDER THE CALIFORNIA FISH AND GAME CODE.
SSC = SPECIES OF SPECIAL CONCERN IN CALIFORNIA.

3.4.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the natural resources of the state and nation including the CDFW, USFWS, USACE, and the CVRWQCB. These agencies often respond to declines in the quantity of a particular habitat or plant or animal species by developing protective measures for those species or habitat type. The following is an overview of the federal, state and local regulations that are applicable to the proposed Project.

FEDERAL

Federal Endangered Species Act

The Federal Endangered Species Act (FESA), passed in 1973, defines an endangered species as any species or subspecies that is in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as any species or subspecies that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Once a species is listed it is fully protected from a "take" unless a take permit is issued by the USFWS. A take is defined as the harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct, including modification of its habitat (16 USC 1532, 50 CFR 17.3). Proposed endangered or threatened species are those species for which a proposed regulation, but not a final rule, has been published in the Federal Register.

Migratory Bird Treaty Act

To kill, posses, or trade a migratory bird, bird part, nest, or egg is a violation of the Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., §703, Supp. I, 1989), unless it is in accordance with the regulations that have been set forth by the Secretary of the Interior.

Federal Bald and Golden Eagle Protection Act

The Federal Bald and Golden Eagle Protection Act provide regulations to protect bald and golden eagles as well as their nests and eggs from willful damage or injury.

Clean Water Act – Section 404

Section 404 of the CWA regulates all discharges of dredged or fill material into waters of the U.S. Discharges of fill material includes the placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)].

Waters of the U.S. include lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated

soil conditions" [33 C.F.R. §328.3(b)]. Waters of the U.S. exhibit a defined bed and bank and ordinary high-water mark (OHWM). The OHWM is defined by the USACE as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. §328.3(e)].

The USACE is the agency responsible for administering the permit process for activities that affect waters of the U.S. Executive Order 11990 is a federal implementation policy, which is intended to result in no net loss of wetlands.

Clean Water Act – Section 401

Section 401 of the CWA (33 U.S.C. 1341) requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the CVRWQCB. To obtain the water quality certification, the CVRWQCB must indicate that the proposed fill would be consistent with the standards set forth by the state.

Rivers and Harbors Act of 1899

The Rivers and Harbors Act prohibits the obstruction or alteration of any navigable water of the United States. The Act requires authorization from the USACE for any excavation or deposition of materials into these waters or for any work that could affect the course, location, condition, or capacity of rivers or harbors.

STATE

Fish and Game Code §2050-2097 – California Endangered Species Act

The California Endangered Species Act (CESA) protects certain plant and animal species when they are of special ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the State. CESA established that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats.

CESA was expanded upon the original Native Plant Protection Act and enhanced legal protection for plants. To be consistent with Federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the Act as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Under State law, plant and animal species may be formally designated by official listing by the California Fish and Game Commission.

Fish and Game Code §1900-1913 – California Native Plant Protection Act

In 1977 the State Legislature passed the Native Plant Protection Act (NPPA) in recognition of rare and endangered plants of the state. The intent of the law was to preserve, protect, and enhance endangered plants. The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants. The NPPA includes provisions that prohibit the taking of plants designated as "rare"

from the wild, and a salvage mandate for landowners, which requires notification of the CDFW 10 days in advance of approving a building site.

Fish and Game Code §3503, 3503.5, 3800 – Predatory Birds

Under the California Fish and Game Code, all predatory birds in the order Falconiformes or Strigiformes in California, generally called "raptors," are protected. The law indicates that it is unlawful to take, posses, or destroy the nest or eggs of any such bird unless it is in accordance with the code. Any activity that would cause a nest to be abandoned or cause a reduction or loss in a reproductive effort is considered a take. This generally includes construction activities.

Fish and Game Code §1601-1603 – Streambed Alteration

Under the California Fish and Game Code, CDFW has jurisdiction over any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream. Private landowners or project proponents must obtain a "Streambed Alteration Agreement" from CDFW prior to any alteration of a lake bed, stream channel, or their banks. Through this agreement, the CDFW may impose conditions to limit and fully mitigate impacts on fish and wildlife resources. These agreements are usually initiated through the local CDFW warden and will specify timing and construction conditions, including any mitigation necessary to protect fish and wildlife from impacts of the work.

Public Resources Code §21000 - California Environmental Quality Act

CEQA identifies that a species that is not listed on the federal or state endangered species list may be considered rare or endangered if the species meets certain criteria. (CEQA Guidelines § 15380) Species that are not listed under FESA or CESA, but are otherwise eligible for listing (i.e. candidate, or proposed) may be protected by the local government until the opportunity to list the species arises for the responsible agency.

Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFW. Additionally, the CNPS maintains a list of plant species native to California that have low populations, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. List 1A contains plants that are believed to be extinct. List 1B contains plants that are rare, threatened, or endangered in California and elsewhere. List 2 contains plants that are rare, threatened, or endangered in California, but more numerous elsewhere.

California Wetlands Conservation Policy

In August 1993, the Governor announced the "California Wetlands Conservation Policy." The goals of the policy are to establish a framework and strategy that will:

- Ensure no overall net loss and to achieve a long-term net gain in the quantity, quality, and permanence of wetland acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.

- Reduce procedural complexity in the administration of State and federal wetland conservation programs.
- Encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetland conservation and restoration.

The Governor also signed Executive Order W-59-93, which incorporates the goals and objectives contained in the new policy and directs the Resources Agency to establish an Interagency Task Force to direct and coordinate administration and implementation of the policy.

Natural Community Conservation Planning Act

The Natural Community Conservation Planning Act provides long-term protection of species and habitats through regional, multi-species planning before the special measures of the CESA become necessary.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act authorizes the SWRCB to regulate state water quality and protect beneficial uses.

Water Quality Control Plan for the Sacramento-San Joaquin River Basins

The Water Quality Control Plan for the Sacramento-San Joaquin River Basins (Basin Plan), adopted by the CVRWQCB in 1998, identifies the beneficial uses of water bodies and provides water quality objectives and standards for waters of the Sacramento River and SJR basins, including the Delta.

State and federal laws mandate the protection of designated "beneficial uses" of water bodies. State law defines beneficial uses as "domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves" (Water Code Section 13050[f]). Additional protected beneficial uses of the SJR include groundwater recharge and fresh water replenishment. Major issues and the general conditions of existing beneficial uses in the SJR are as follows:

- Water Supply: The City's water supplies include purchased water, surface water, and groundwater. The surface water component of the water supply comes from Delta water at the DWSP intake facility, from the San Joaquin River. The City's water rights application addressed a long-term planning horizon through the year 2050, requesting an ultimate diversion of 160 million gallons per day (mgd) (125,900 AFY). The State Water Resources Control Board (SWRCB) divided the water rights application into two separate applications, Application 30531A and 30531B. Application 30531A covers the initial phase of the DWSP up to 30 mgd (33,600 AFY) and the place of use is confined to the current 1990 General Plan boundary. The initial phase was granted a water right under California Water Code Section 1485. The City has a permit from the SWRCB issued on March 8, 2006 for a 33,600 AFY supply from the Sacramento/San Joaquin Delta. The DWSP intake and water treatment plant was operational in 2012 with an initial capacity of 30 mgd (33,600 AFY). The projected capacity of the DWSP by 2035 is 90 mgd with an annual production of approximately 50,000 AFY. The DWSP will expand as needed up to 120 mgd provided water rights are granted. The City's

supply from the San Joaquin River is curtailed annually from February through June of each year due to U.S. Department of Fish and Wildlife Service and Department of Fish and Game restrictions. California Water Code (CWC) Section 1485 Water Rights allows the City to take out of the Delta as much water as the City's wastewater treatment plant discharges into the Delta. This quantity, which fully covers the 33,600 AFY, is not restricted as long as the same amount of wastewater is discharged into the Delta. Section 1485 water may be subject to pumping restriction in some months due to fish protection.

- Agricultural Supply: Extensive use is made of SJR and Delta waters for agricultural purposes. Annual water diversions from the Delta by the State Water Project (SWP) and the Central Valley Project (CVP) for agriculture are estimated to reach 4.3 million acre-feet (MAF) per year by 2030. In addition, about 2,000 privately owned agricultural water supply diversions are scattered throughout the Delta, generally consisting of riverside pumping stations.
- Recreation: Water-dependent recreation uses of the SJR and the Delta include swimming, wading, waterskiing, sport fishing, and a variety of other activities that involve contact with the water. Noncontact (water-enhanced) recreation uses include picnicking, camping, pleasure boating, hunting, bird watching, education, and aesthetic enjoyment.
- Groundwater Recharge: Water from the SJR and the Delta recharges the San Joaquin Valley groundwater basin. Recharge serves to maintain salt balance in the soil column, prevent saltwater intrusion into freshwater aquifers, and provide for water supplies. Groundwater is replenished through deep percolation of streamflow, precipitation, and applied irrigation water. Groundwater quality is generally adequate throughout the San Joaquin Valley and the Delta, although at shallow depths within the Delta the water is often saline and contains high levels of total dissolved solids (TDS) and dissolved minerals. Enforceable TDS standards do not exist for drinking water. The need for treatment generally depends on consumer acceptance.
- Fish and Wildlife: The SJR and the waterways of the Delta provide important habitat for a diverse variety of aquatic life and terrestrial wildlife. This includes temporary habitat and migration routes for anadromous and other migratory species, as well as permanent habitat for resident species. Fish dependent on the Delta as a migration corridor, nursery, or permanent residence include Chinook salmon, steelhead, delta smelt, Sacramento splittail, striped bass, American shad, sturgeon, catfish, largemouth bass, and numerous other estuary and freshwater species. The amount and quality of water flowing through the Delta greatly influences the overall productivity of the area on an annual basis. A large assemblage of wildlife uses the Delta either seasonally or year round, including waterfowl; migratory and resident songbirds; mice, rabbits, and other small mammals; water dependent mammals, such as beaver and muskrat; and predators such as skunk, raccoon, northern harrier, and coyote.

LOCAL

San Joaquin County Multi-Species Habitat Conservation and Open Space Plan

A Habitat Conservation Plan (HCP) is a federal planning document that is prepared pursuant to Section 10 of the FESA. An approved HCP within a defined plan area allows for the incidental take of species and habitat that are otherwise protected under FESA during development activities.

A Natural Community Conservation Plan (NCCP) is a state planning document administered by CDFW. An approved NCCP within a defined plan area allows for the incidental take of species and habitat that are otherwise protected under CESA during growth and development activities.

BACKGROUND

The key purpose of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), is to provide a strategy for balancing the need to conserve Open Space and the need to Convert Open Space to non-Open Space uses while protecting the region's agricultural economy; preserving landowner property rights; providing for the long-term management of plant, fish and wildlife species, especially those that are currently listed, or may be listed in the future, under the Federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA); providing and maintaining multiple-use Open Spaces which contribute to the quality of life of the residents of San Joaquin County; and accommodating a growing population while minimizing costs to Project Proponents and society at large.

San Joaquin County's past and future (2001-2051) growth has affected and will continue to affect 97 special status plant, fish and wildlife species in 52 vegetative communities scattered throughout San Joaquin County's 1,400+ square miles and 900,000+ acres, which include 43% of the Sacramento-San Joaquin Delta's Primary Zone. The SJMSCP, in accordance with ESA Section 10(a)(1)(B) and CESA Section 2081(b) Incidental Take Permits, provides compensation for the Conversion of Open Space to non-Open Space uses which affect the plant, fish and wildlife species covered by the Plan, hereinafter referred to as "SJMSCP Covered Species". In addition, the SJMSCP provides some compensation to offset the impacts of open space land conversions on non-wildlife related resources such as recreation, agriculture, scenic values and other beneficial Open Space uses.

The SJMSCP compensates for Conversions of Open Space for the following activities: urban development, mining, expansion of existing urban boundaries, non-agricultural activities occurring outside of urban boundaries, levee maintenance undertaken by the San Joaquin Area Flood Control Agency, transportation projects, school expansions, non-federal flood control projects, new parks and trails, maintenance of existing facilities for non-federal irrigation district projects, utility installation, maintenance activities, managing Preserves, and similar public agency projects. These activities will be undertaken by both public and private individuals and agencies throughout San Joaquin County and within the County's incorporated cities of Escalon, Manteca, Lodi, Manteca, Ripon, Stockton and Tracy. Public agencies including Caltrans (for transportation projects), and the

San Joaquin Council of Governments (for transportation projects) also will undertake activities which will be covered by the SJMSCP. In addition, 5,340 acres is allocated for anticipated projects (e.g., annexations, general plan amendments)

The 97 SJMSCP Covered Species include 25 state and/or federally listed species. The SJMSCP Covered Species include 27 plants (6 listed), 4 fish (2 listed), 4 amphibians (1 listed), 4 reptiles (1 listed), 33 birds (7 listed), 15 mammals (3 listed) and 10 invertebrates (5 listed).

IMPLEMENTATION

The SJMSCP is administered by a Joint Powers Authority consisting of members of the San Joaquin County Council of Governments (SJCOG), the CDFW, and the USFWS. Development project applicants are given the option of participating in the SJMSCP as a way to streamline compliance with required local, State and federal laws regarding biological resources, and typically avoid having to approach each agency independently. According to the SJMSCP, adoption and implementation by local planning jurisdictions provides full compensation and mitigation for impacts to plants, fish and wildlife. Adoption and implementation of the SJMSCP also secures compliance pursuant to the state and federal laws such as CEQA, the National Environmental Policy Act (NEPA), the Planning and Zoning Law, the State Subdivision Map Act, the Porter-Cologne Act and the Cortese-Knox Act in regard to species covered under the SJMSCP.

Applicants pay mitigation fees on a per-acre basis, as established by the Joint Powers Authority according to the measures needed to mitigate impacts to the various habitat and biological resources. Different types of land require different levels of mitigation; i.e., one category requires that one acre of a similar land type be preserved for each acre developed, while another type requires that two acres be preserved for each acre developed. The entire County is mapped according to these categories so that land owners, project proponents and project reviewers are easily aware of the applicable SJMSCP fees for the proposed development.

The appropriate fees are collected by the City and remitted to SJCOG for administration. SJCOG uses the funds to preserve open space land of comparable types throughout the County, often coordinating with other private or public land trusts to purchase conservation easements or buy land outright for preservation. Development occurring on land that has been classified under the SJMSCP as “no-pay” would not be required to pay a fee. This category usually refers to already urbanized land and infill development areas. Although the fees are automatically adjusted on an annual basis, based on the construction cost index, they often cannot keep pace with the rapidly rising land prices in the Central Valley.

The Project site is designated as Category C/Pay Zone B. This zone consists of “Agricultural Habitat Lands.”

Envision Stockton 2040 General Plan

The Envision Stockton 2040 General Plan includes several policies and actions that are relevant to biological resources. General Plan policies and actions applicable to the Project are identified below:

POLICIES: LAND USE ELEMENT

- LU-5.2. Protect natural resource areas, fish and wildlife habitat, scenic areas, open space areas, agricultural lands, parks, and other cultural/historic resources from encroachment or destruction by incompatible development.
- LU-5.3. Define discrete and clear city edges that preserve agriculture, open space, and scenic views.

ACTIONS: LAND USE ELEMENT

- LU-5.2A. Continue to coordinate with the San Joaquin Council of Governments and comply with the terms of the Multi-Species Habitat Conservation and Open Space Plan to protect critical habitat areas that support endangered, threatened, and special-status species.
- LU-5.2B. For projects on or within 100 feet of sites that have the potential to contain special-status species or critical or sensitive habitats, including wetlands, require preparation of a baseline assessment by a qualified biologist following appropriate protocols, such as wetland delineation protocol defined by the US Army Corps of Engineers. If such sensitive species or habitats are found to be present, development shall avoid impacting the resource, and if avoidance is not feasible, impacts shall be minimized through project design or compensation identified in consultation with a qualified biologist.
- LU-5.2C. Require new development to implement best practices to protect biological resources, including incidental take minimization measures and other federal and State requirements and recommendations that are consistent with the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan.

POLICY: SAFETY ELEMENT

- SAF-2.3. Protect the community from potential flood events.

ACTIONS: SAFETY ELEMENT

- SAF-2.3A. Coordinate with appropriate State, federal, and local flood control agencies to develop a flood protection plan for the levee systems protecting the city that:
    - Identifies the levees protecting the city and the entities responsible for the operation and maintenance of the levees;
    - Determines the flood levels in the waterways and the level of protection offered by the existing levees along the waterways;
    - Identifies a long-term plan to upgrade the system as necessary to provide at least a 100-year level of flood protection to the city, and 200-year level of flood protection, where feasible;
    - Encourages multi-purpose flood management projects that, where feasible, incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of the city's streams, creeks, and lakes; and

- Includes provisions for updates to reflect future State or federally mandated levels of flood protection.

City of Stockton Municipal Code

The California Environmental Quality Act provides guidance to ensure that an environmental analysis considers the potential for a proposed Project to conflict with local ordinances that are designed to protect biological resources, including tree preservation ordinances. The Stockton Municipal Code, Title 16 Development Code provides for the protection of Heritage Oak Trees. Section 16.130.020 provides the Director with Review Authority for permits to remove heritage trees. The decision of the Director is subject to an appeal to the Council in compliance with Chapter 16.100 (Appeals). (Ord. 015-09 C.S., eff. 12-3-09). Section 16.130.030 provides the permit requirements, and describes the process for approval or denial of a permit application. Section 16.130.040 establishes fines for violation of this requirement. Section 16.130.050 provides exemptions under emergencies. Section 16.130.060 establishes the replacement requirements. An analysis of the proposed Project relative to this ordinance is provided under the impact analysis section of this chapter.

3.4.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on biological resources if it will:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

IMPACTS AND MITIGATION

Impact 3.4-1: The proposed Project would not have a direct or indirect effect on special-status invertebrate species (Less than Significant)

There are eight (8) special-status invertebrates that are documented within the nine (9)-quadrangle region for the Project site according to the CNDDB, including: American bumble bee (*Bombus pensylvanicus*), Crotch bumble bee (*Bombus crotchii*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), California linderiella (*Linderiella occidentalis*), Midvalley fairy shrimp (*Branchinecta mesovallensis*), Vernal pool fairy shrimp (*Branchinecta lynchi*), Vernal pool tadpole shrimp (*Lepidurus packardi*), and western ridged mussel (*Gonidea angulata*) (Refer to Table 3.2-4).

Field surveys and habitat evaluations for the entire Project site were performed on April 22, 2022, and May 15, 2023. No special-status invertebrates were observed within the Project site during field surveys and none are expected to be affected by the proposed Project based on the lack of appropriate habitat.

The valley elderberry longhorn beetle, Midvalley fairy shrimp, Molestan blister beetle, Vernal pool fairy shrimp, and Vernal pool tadpole shrimp are covered species under the SJMCP. The remaining three special-status invertebrate species are not covered under the SJMSCP.

Vernal Pool Branchiopods: The record search lists several occurrences of the federally endangered vernal pool tadpole shrimp (*Lepidurus packardi*), federally threatened vernal pool fairy shrimp (*Branchinecta lynchi*), the non-listed Midvalley fairy shrimp (*Branchinecta mesovallensis*), and the non-listed California linderiella (*Linderiella occidentalis*) and midvalley fairy shrimp (*Branchinecta mesovallensis*) as occurring within the nine (9)-quad region for the project site. These species exclusively inhabit vernal pools or other seasonally ponded wetlands that sustain inundation during the winter before drying in the late spring. The irrigation ditches have limited water during the non-irrigation season, which coincides with the wet season for this species. This means that the irrigation ditches have very limited potential to serve as aquatic habitat for this species.

Valley Elderberry Longhorn Beetle: The valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is a federally threatened insect that is dependent upon the elderberry plant (*Sambucus* sp.) as a primary host species. Elderberry shrubs are a common component of riparian areas throughout the Central Valley region. Given that no riparian habitat exists on-site and no elderberry plants were observed during the field survey, valley elderberry longhorn beetle is not anticipated to be directly affected by any individual phase or component of the proposed Project

Western Ridged Mussel: The western ridged mussel (*Gonidea angulata*) is not a formally listed species. This species primarily inhabits creeks and rivers and less often lakes. Given that no creeks, rivers, or lakes are found on site, and this species was not observed during the field survey, western ridged mussel is not anticipated to be directly affected by any individual phase or component of the proposed Project.

Other Insects: There are two other insects that are not formally listed, special-status species, but are included in the CNDDB search results. These include crotch bumble bee (*Bombus crotchii*) and American bumble bee (*Bombus pensylvanicus*). It is noted that the crotch bumble is a candidate species for listing under the State Endangered Species Act. While these species are documented within the nine (9)-quad region for the Project site, they are not documented on the Project site. The habitat present on the Project site is not ideal natural habitat for these species and none are believed to be present.

Conclusion: The Project site is located within the jurisdiction of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan ("Plan" or "SJMSCP") and is located within the Central Zone of the SJMSCP. Within the Central Zone, the Project site is located in the Category C/Pay Zone B. The Category C/Pay Zone B includes parcels containing habitat types classified as Agricultural Habitat Lands which are not otherwise exempt. Applicants pay mitigation fees on a per-acre basis, as established by the JPA, according to the measures needed to mitigate impacts to the various habitat and biological resources. The project applicant would be required to seek coverage under the SJMSCP and would be subject to the Category C/Pay Zone B fees in order to mitigate for any habitat impacts. Coverage involves compensation for habitat impacts on covered species through payment of development fees for conversion of lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. In addition, coverage includes incidental take avoidance and minimization measures for species that could be affected as a result of the proposed project. The valley elderberry longhorn beetle, longhorn fairy shrimp, vernal pool fairy shrimp, and midvalley fairy shrimp are covered species under the SJMCP.

As noted previously, the Development Area is predominantly comprised of agricultural and undeveloped uses; sheds and associated agricultural equipment exist in the center portion of the site. According to the CNDDB records search, there are no documented or observed special-status invertebrate species on the Project site. Additionally, appropriate habitat for these special-status invertebrates were not observed within the Project site during the field survey and none are expected to be affected by the proposed Project. Overall, the proposed Project would have a ***less than significant*** impact on special-status invertebrate species.

Impact 3.4-2: The proposed Project has the potential to have direct or indirect effects on special-status reptile and amphibian species (Less than Significant with Mitigation)

There are two (2) special-status amphibians and two (2) special-status reptiles that are documented within the nine (9)-quadrangle area for the Project site according to the CNDDB, including: Giant garter snake (*Thamnophis couchi gigas*), Northern California legless lizard (*Anniella pulchra*), California tiger salamander (*Ambystoma californiense*), and western spadefoot (*Spea hammondii*). The Giant garter snake, California tiger salamander, and western spadefoot are covered species under the SJMCP; the Northern California legless lizard is not covered.

Giant garter snake: This species is a state and federal threatened species. The nearest CNDDB occurrence for this species is located approximately 0.6 miles west of the Project site. The Bear Creek

located to the south contains adequate habitat for giant garter snake along. There is also some limited habitat for this species within the irrigation ditches located on the Project site. It is noted that this species was not observed during the field surveys and has not been documented on the Project site. It is noted that the project is subject to the SJMSCP which will require obtaining coverage for the Project. This would mean that the SJCOG, under authorization from the USFWS and CNDDB would review the project and issue incidental take authorization (permits) under the Endangered Species Act Section 10(a), California Fish and Game Code Section 2081, and the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species. Therefore, with full coverage under the SJMSCP (Mitigation Measure 3.4-1), the proposed Project would have a **less than significant** impact on this special-status species.

Northern California legless lizard: This species is a Species of Special Concern. The nearest CNDDB occurrence for this species is located approximately 23.2 miles southeast of the Project site. The Project site does not contain adequate habitat for Northern California legless lizard. This species was not observed during the field surveys and has not been documented on the Project site. Based on field surveys, this species is not present. Therefore, the proposed Project would have a **less than significant** impact on this special-status species.

California tiger salamander: This species is a Species of Special Concern and federal threatened species. The nearest CNDDB occurrence for this species is located approximately 6 miles south of the Project site. The Project site does not contain adequate estivation habitat for this species because of the frequency of disturbance associated with the agricultural activities. The Bear Creek could be aquatic breeding or movement habitat for this species, although the likelihood is low considering the number of predators (i.e., fish) that live within this water feature. The irrigation ditches have limited water during the non-irrigation season, which coincides with the breeding season. This means that the irrigation ditches have very limited potential to serve as aquatic habitat for this species. This species was not observed and has not been documented on the Project site. This species is not anticipated to be present due to the lack of adequate habitat. It is noted that the project is subject to the SJMSCP which will require obtaining coverage for the Project. This would mean that the SJCOG, under authorization from the USFWS and CNDDB would review the project and issue incidental take authorization (permits) under the Endangered Species Act Section 10(a), California Fish and Game Code Section 2081, and the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species. Therefore, with full coverage under the SJMSCP (Mitigation Measure 3.4-1), the proposed Project would have a **less than significant** impact on this special-status species.

Western spadefoot: This species is a Species of Special Concern. The nearest CNDDB occurrence for this species is located approximately 7.6 miles south of the Project site. The Project site does not contain appropriate and adequate habitat for western spadefoot. This species was not observed during the field surveys (De Novo Planning Group, 2023) and has not been documented on the Project site. Overall, the proposed Project would have a ***less than significant*** impact on this special-status species.

MITIGATION MEASURE(S)

Mitigation Measure 3.4-1: *Prior to commencement of any grading activities, the Project proponent shall seek coverage under the San Joaquin County Multi-Species Habitat Conservation Plan (SJMSCP) to mitigate for habitat impacts to covered special status species. Coverage involves compensation for habitat impacts on covered species through implementation of incidental take and minimization measures (ITMMs) and payment of fees for conversion of lands that may provide habitat for covered special status species. These fees are used to preserve and/or create habitat in preserves to be managed in perpetuity. Obtaining coverage for a Project includes incidental take authorization (permits) under the Endangered Species Act Section 10(a), California Fish and Game Code Section 2081, and the Migratory Bird Treaty Act (MBTA). Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species.*

Impact 3.4-3: The proposed Project has the potential to have direct or indirect effects on special-status bird species (Less than Significant with Mitigation)

There are eight (8) special-status birds that are documented in the CNDDB within the nine (9)-quadrangle area for the Project site according to the CNDDB, including: Burrowing owl (*Athene cunicularia*), California black rail (*Laterallus jamaicensis coturniculus*), Least Bell's vireo (*Vireo bellii pusillus*), Song sparrow (Modesto Population) (*Melospiza melodia*), Swainson's hawk (*Buteo swainsoni*), Tricolored blackbird (*Agelaius tricolor*), White-tailed kite (*Elanus leucurus*), and Yellow-headed blackbird (*Xanthocephalus xanthocephalus*). All of these bird species, except for Least bell's vireo, are covered species under the SJMSCP.

Potential nesting habitat is present in a variety of trees located within the Project site and in the vicinity. There is also the potential for other special-status birds that do not nest in this region and represent migrants or winter visitants to forage on the Project site.

Year-round birds: Special-status birds that can be present in the region throughout the year include: burrowing owl (*Athene cunicularia*), California black rail (*Laterallus jamaicensis coturniculus*), song sparrow (Modesto population) (*Melospiza melodia*), tricolored blackbird *(Agelaius tricolor*), and Least Bell's vireo (*Vireo bellii pusillus*), among others. Some of these species are migratory, but also reside year-round in California.

Summering Birds: The only special-status bird listed in the CNDDB search that is only present in the region in the spring and summer months is Yellow-headed blackbird (*Xanthocephalus xanthocephalus*).

Nesting Raptors (Birds of Prey): All raptors (owls, hawks, eagles, falcons), including species and their nests, are protected from take pursuant to the Fish and Game Code of California Section 3503.5, and the federal Migratory Bird Treaty Act, among other federal and State regulations. Special-status raptors that are known to occur in the region include: Swainson's hawk *(Buteo swainsoni*) and white-tailed kite *(Elanus leucurus*), among others.

Analysis: Powerlines and trees located in the region represent potentially suitable nesting habitat for a variety of special-status birds. Additionally, the agricultural land represents potentially suitable nesting habitat for some ground-nesting birds. In general, most nesting occurs from late February and early March through late July and early August, depending on various environmental conditions. The CNDDB currently contains records for Swainson's hawk, burrowing owl, and tricolored blackbird in the vicinity of the Project site. In addition to the species described above, common raptors, may nest in or adjacent to the Project site.

New sources of noise and light during the construction and operational phases of the project could adversely affect nesters if they located adjacent to the Project site in any given year. Additionally, the proposed Project would eliminate the agricultural areas on the Project site, which serve as potential foraging habitat for birds throughout the year. Mitigation Measure 3.4-1 requires participation in the SJMSCP. As part of the SJMSCP, SJCOG requires preconstruction surveys for projects that initiate grading activities during the avian breeding season (March 1 – August 31). When active nests are identified, the biologists develop buffer zones around the active nests as deemed appropriate until the young have fledged. SJCOG also uses the fees to purchase habitat as compensation for the loss of foraging habitat. Implementation of the proposed Project, with the Mitigation Measure 3.4-1, would ensure that potential impacts to special status birds are reduced to a ***less than significant*** level.

MITIGATION MEASURE(S)

*Implement **Mitigation Measure 3.4-1.***

Impact 3.4-4: The proposed Project would not result in direct or indirect effects on special-status mammal species (Less than Significant with Mitigation)

There are two (2) special-status mammals that are documented within the nine (9)-quadrangle area for the Project site, including: Riparian brush rabbit (*Sylvilagus bachmani riparius*) and Pallid bat (*Antrozous pallidus*). Riparian brush rabbit is a covered species under the SJMSCP, while Pallid bat is not.

Riparian brush rabbit: This species is a state and federal endangered species. The Project site does not contain appropriate habitat for riparian brush rabbit. This species was not observed during the field surveys and has not been documented on the Project site (De Novo Planning Group, 2023). The nearest CNDDB occurrence for this species is located approximately 10.3 miles northwest of the Project site. Regardless, the project is subject to the SJMSCP which will require obtaining coverage for the Project. This would mean that the SJCOG, under authorization from the USFWS and CNDDB would review the project and issue incidental take authorization (permits) under the Endangered Species Act Section 10(a), California Fish and Game Code Section 2081, and the MBTA. Coverage under the SJMSCP would fully mitigate all habitat impacts on covered special-status species. Therefore, with full coverage under the SJMSCP (Mitigation Measure 3.4-1), the proposed Project would have a ***less than significant*** impact on this special-status species.

Pallid bat (and other bats): The Pallid bat is a Species of Special Concern, that is less common to the region. Other bats known to the region include: Greater western mastiff bat (*Eumops perotis californicus*), western red bat (*Lasiurus blossevillii*), small-footed myotis/bat (*Myotis ciliolabrum*), long-eared myotis/bat (*Myotis evotis*), fringed myotis/bat (*Myotis thysanodes*), long-legged myotis/bat (*Myotis volans*), and Yuma myotis/bat (*Myotis yumanensis*). These species are not Federal or State listed; however, they are considered CDFW species of special concern and/or are tracked by the CNDDB. These bats species are highly mobile species that can occupy a variety of habitats, both natural and manmade. The most sensitive habitat type for these species is roosting habitat, including maternal roosts, as well as non-maternal day or night roosting habitat.

The Project site does not provide roosting habitat for bats, although roosting habitat is found throughout the region. It is anticipated that there may be numerous undocumented individuals throughout the region.

Development of the Project site would eliminate foraging habitat for special status bats by removing the open agricultural areas. With the exception of Pallid bat, these bat species are covered species under the SJMCP and participation in the SJMSCP will provide the coverage for the incidental take of a species if it were to occur. SJCOG, Inc. as administrator of the SJMSCP will impose appropriate avoidance and minimization measures as part of the incidental take permit. Mitigation Measure 3.4-1, previously listed, will ensure coverage under the SJMSCP. Therefore, this impact would be ***less than significant***.

MITIGATION MEASURE(S)

*Implement **Mitigation Measure 3.4-1.***

Impact 3.4-5: The proposed Project would not result in direct or indirect effects on candidate, sensitive, or special-status plant species (Less than Significant)

There are 19 special-status plants that are documented within the nine-quadrangle area for the Project site, including: Alkali milk-vetch (*Astragalus tener var. tener*), Big tarplant (*Blepharizonia plumosa*), Bolander's water-hemlock (*Cicuta maculata var. bolanderi*), bristly sedge (*Carex comosa*), Delta mudwort (*Limosella australis*), Delta tule pea (*Lathyrus jepsonii var. jepsonii*), Heartscale (*Atriplex cordulata var. cordulata*), legenere (*Legenere limosa*), Mason's lilaeopsis (*Lilaeopsis masonii*), Palmate-bracted bird's-beak (*Chloropyron palmatum*), Recurved larkspur (*Delphinium recurvatum*), Saline clover (*Trifolium hydrophilum*), San Joaquin spearscale (*Extriplex joaquinana*), Sanford's arrowhead (*Sagittaria sanfordii*), side-flowering skullcap (*Scutellaria lateriflora*), succulent owl's-clover (*Castilleja campestris var. succulenta*), Suisun Marsh aster (*Symphyotrichum lentum*), Watershield (*Brasenia schreberi*), and Woolly rose-mallow (*Hibiscus lasiocarpos var. occidentalis*).

Of the 19 documented species, there are two (2) federal listed species (endangered), three (3) state listed species (endangered and rare), 14 CNPS 1B listed species, and five (5) CNPS 2 listed species (including 2B.1, 2B.2, and 2B.3). Five (5) of the 19 plant species are not covered by the SJMSCP (Big

tarplant, Saline clover, Watershield, and Woolly rose-mallow), while the remaining 14 species are covered.

Field surveys and habitat evaluations for the entire Project site were performed on April 22, 2022, and May 15, 2023. The collection of field surveys included two (2) surveys that coincided with the blooming period for special many status plants known to occur within the region. It is noted, however, that the conditions of the Project site are highly disturbed due to the active agricultural operations and there is very little potential for any vegetation growth outside the agriculturally planted vegetation. No special-status plants were observed within the Project site during field surveys. Implementation of the individual phases, and the proposed Project as a whole, will have a ***less than significant*** impact on special status plants.

Impact 3.4-6: The proposed Project would not result in direct or indirect effects on candidate, sensitive, or special-status fish species (Less than Significant)

There are five (5) special-status fish that are documented within the nine (9)-quadrangle area for the Project site, including: Delta smelt (*Hypomesus transpacificus*), green sturgeon - southern DPS (*Acipenser medirostris pop. 1*), longfin smelt (*Spirinchus thaleichthys*), Sacramento splittail (*Pogonichthys macrolepidotus*), and Steelhead - Central Valley DPS (*Oncorhynchus mykiss irideus pop. 11*).

Of the five (5) documented species, there are three (3) federal listed species (threatened) and three (3) state listed species (Species of Special Concern and threatened). Four (4) of the five (5) fish species are covered by the SJMSCP, while the remaining species is not covered (Steelhead - Central Valley DPS).

The Project site does not include appropriate habitat for any of these species. No special-status fish were observed within the Project site during field surveys. Implementation of the individual phases, and the proposed Project as a whole, will have a ***less than significant*** impact on special status fish.

Impact 3.4-7: The proposed Project would not affect protected wetlands and jurisdictional waters (Less than Significant)

The Project site does not contain jurisdictional wetland habitat. The irrigation ditches are manmade agricultural irrigation facilities that are not jurisdictional. Water flows are controlled by the irrigation district that owns the facilities. There are no other aquatic features.

Development of the proposed Project would include construction of a new storm basin near Eight Mile Road, and two (2) options for connecting to offsite drainage facilities are being considered and evaluated. Option One would connect to a new outfall structure to the north of the basin and pump storm water into the Woodbridge Irrigation District (WID) drainage ditch that is located south of, and parallel to Eight Mile Road. Option Two is construction of a force main to Pixley Slough to an existing outfall structure. The force main would be located south of, and parallel Eight Mile Road. Should Option Two be required, no encroachment into Pixley Slough would be required. Therefore,

implementation of the proposed Project would have a ***less than significant*** impact on wetlands and jurisdictional waters.

Impact 3.4-8: The proposed Project would not result in adverse effects on riparian habitat or a sensitive natural community (Less than Significant)

The CNDDB record search revealed documented occurrences of one sensitive habitat within the nine-quadrangle area for the Project site: Valley Oak Woodland. This sensitive natural community does not occur within the Project site.

The Project site does not contain riparian habitat. Therefore, implementation of the proposed Project would have a ***less than significant*** impact on riparian habitats or natural communities.

Impact 3.4-9: The proposed Project would not result in interference with the movement of native fish or wildlife species or with established wildlife corridors, or impede the use of native wildlife nursery sites (Less than Significant)

The CNDDB record search did not reveal any documented wildlife corridors or wildlife nursery sites on or adjacent to the Project site. The Project site includes a number of agricultural irrigation ditches that can be categorized into three types: agricultural runoff collection facilities, agricultural irrigation conveyance facilities, and main ditches. The agricultural runoff collection facilities are small field ditches that collect agricultural runoff during irrigation and during precipitation. The agricultural runoff conveyance facilities are small field ditches that convey irrigation water from the main ditches to the individual fields. Lastly, there are main ditches that are the main conveyance facility that the irrigation district uses to convey irrigation water to agricultural customers on the Project site, as well as customers farther downstream.

The main agricultural ditches provide adequate water, and sufficient emergent vegetation for much of agricultural growing season, but generally lacks appropriate and adequate undisturbed adjacent upland habitat given the agricultural disturbances that occur. It is noted that the main ditches are largely dry during the non-growing season, with the exception of some agricultural runoff that is collected in the system during precipitation events. This area is not considered to be habitat for movement of fish species such as the Chinook salmon and steelhead.

There are a variety of birds that utilize this area for movement mostly for foraging the abundance of insects that live within this aquatic environment. Upland species such as mammals would also find refuge along the banks of the aquatic feature give the cover, food, and water resources.

The small ditches along the fields that are used to collect runoff, and convey irrigation water will be removed as there will be no purpose for these facilities once the project develops. The main ditches are located along West Lane and Marlette Avenue. The West Lane ditch will be undergrounded, and the Marlette ditch will remain undisturbed. The West Lane ditch will continue to receive irrigation water at the discretion of the irrigation district, which will then flow into the West Lane ditch and other downstream areas. Neither ditch is jurisdictional, and both ditches are frequently disturbed during vegetation maintenance activities. The undergrounding of the West Lane ditch would

eliminate any use of the ditch for movement, but it has such limited habitat function for movement that it is considered a ***less than significant*** impact.

Impact 3.4-10: The proposed Project would not conflict with an adopted Habitat Conservation Plan (Less than Significant)

The proposed Project is subject to the SJMSCP. The proposed Project does not conflict with the SJMSCP. Therefore, the proposed Project would have a ***less than significant*** impact relative to this topic. Mitigation Measure 3.4-1 requires participation in the SJMSCP.

Impact 3.4-11: The proposed Project has the potential to conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Less than Significant with Mitigation)

The Land Use and Safety Elements of the General Plan establish numerous policies and implementation measures related to biological resources as listed below:

LAND USE ELEMENT POLICIES

LU-5.2. Protect natural resource areas, fish and wildlife habitat, scenic areas, open space areas, agricultural lands, parks, and other cultural/historic resources from encroachment or destruction by incompatible development.

- ***Consistent****: There are no known cultural or historic resources on site which would be encroached on or destroyed by the proposed Project. Nevertheless, Section 3.5, Cultural and Tribal Resources, of this EIR includes mitigation measures to be followed should cultural resources be found on-site during construction. Natural resources areas, habitat, and agricultural lands are found on-site. Additionally, this section includes mitigation measures to reduce the potential impacts to special-status birds to a less-than-significant level. Further, the Project would be subject to the City and County Right-to-Farm ordinances, which would ensure that the Project does not encroach or destroy agricultural operations in the area.*

LU-5.3. Define discrete and clear city edges that preserve agriculture, open space, and scenic views.

- ***Consistent****: The proposed Project site is located in the northern portion of the City of Stockton Metropolitan Area, within the unincorporated area of San Joaquin County. The Project site is adjacent to the City of Stockton's northern city limits, within the City of Stockton Sphere of Influence (SOI) (as defined in the Envision Stockton 2040 General Plan), and within the City of Stockton Urban Services Boundary. The site has been anticipated for development of residential and institutional urban uses as part of the City's General Plan. As noted previously, the Project includes 12.0 acres of parkland, including an 8.5-acre central park and 3.47-acre northern park. Additionally, 18.5 to 19.6 acres of open space land uses would be provided. However, the agricultural areas on the site would be converted to urban uses as part of the Project. As discussed in Section 3.2, Agricultural Resources, of this EIR, the Envision Stockton 2040 General Plan EIR anticipated development of the Project site as part of the overall evaluation of the buildout of the City. The General Plan EIR determined that impacts associated with the*

conversion and loss of Important Farmland would be significant and unavoidable. According to the General Plan EIR, although the General Plan includes policies and actions that would reduce and partially offset the conversion of farmland, it designates approximately 16,160 acres of farmlands of concern under CEQA for non-agricultural uses. Because these farmland areas are located near existing urbanized areas, they may not be viable for agricultural operations due to conflicts with nearby urbanized areas. The only way to mitigate this impact would be to prohibit any development on farmland of concern. However, as noted, the General Plan identifies this area for development of residential and institutional uses while maintaining other areas for agricultural use.

SAFETY ELEMENT POLICY

SAF-2.3. Protect the community from potential flood events.

- ***Consistent**: Impacts associated with potential flood events are discussed in Section 3.9, Hydrology and Water Quality, of this EIR. As discussed, the Project site is located within Zone X (areas of 0.2 percent annual chance [500-year] flood; areas of one percent annual chance [100-year] flood with average depths of less than one foot or with drainage areas with less than one square mile; and areas protected by levees from the one percent annual chance [100-year] flood). Through compliance with existing regulations, the Project would not result in a flood hazard or result in the release of pollutants due to on- or off-site flooding due to implementation of the proposed Project and impacts would be less than significant in this regard.*

MUNICIPAL CODE

The Stockton Municipal Code, Title 16 Development Code, protects Heritage Oak Trees through permit requirements. Section 16.130.020 provides the Director with Review Authority for permits to remove Heritage Trees. The decision of the Director is subject to an appeal to the Council in compliance with Chapter 16.100 (Appeals). (Ord. 015-09 C.S., eff. 12-3-09). Section 16.130.030 provides the permit requirements, and describes the process for approval or denial of a permit application. Section 16.130.040 establishes fines for violation of this requirement. Section 16.130.050 provides exemptions under emergencies. Section 16.130.060 establishes the replacement requirements.

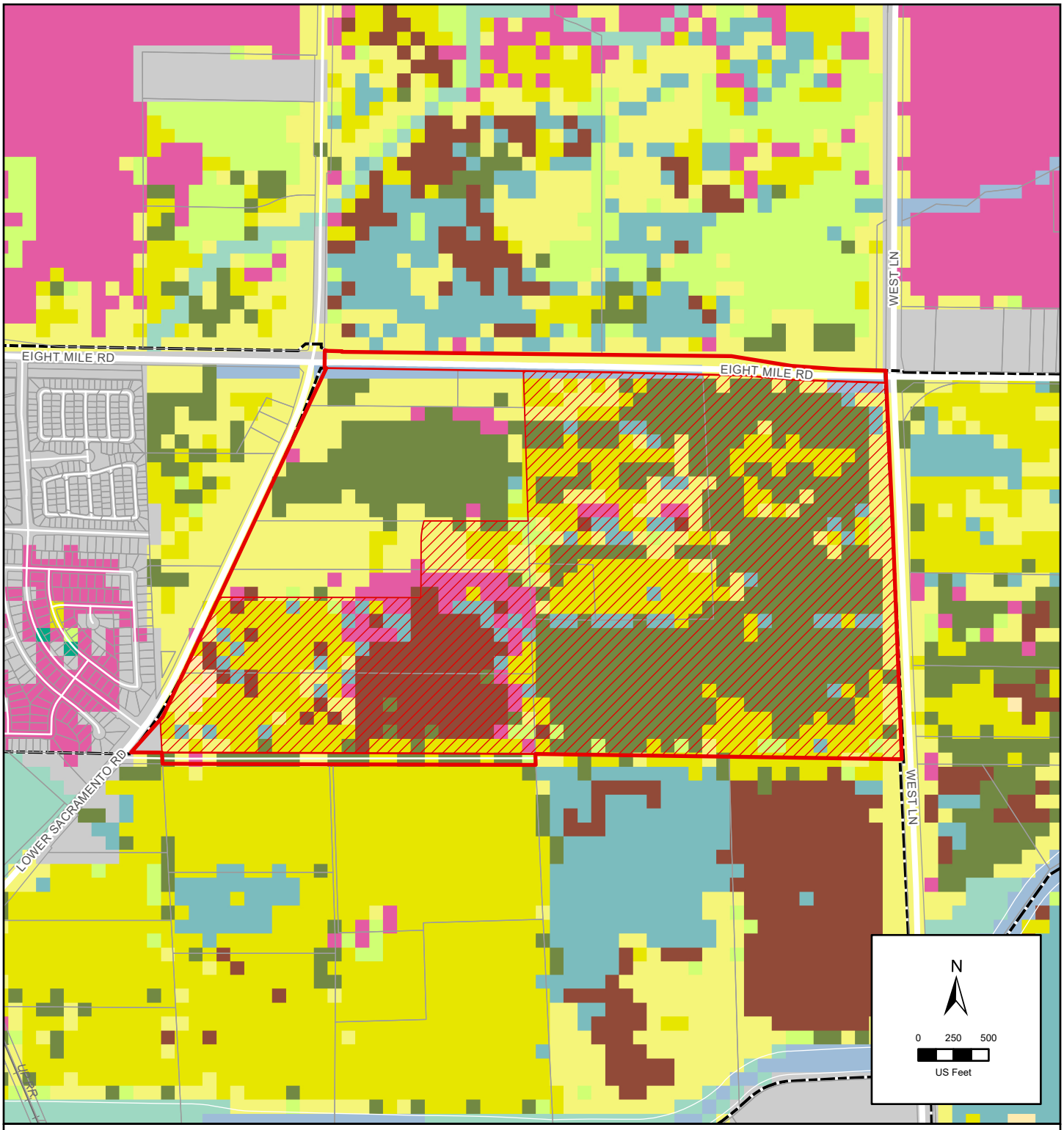
The Development Area contains numerous shade trees along the agricultural parcel boundaries, near the center of the Development Area, and near the southwestern corner of the Development Area. It may be possible for specific trees to be incorporated into the final design of the development once the more detailed engineering effort begins. However, it is likely that removal of the majority of the on-site trees would be required. Any Heritage Trees that cannot remain in the final design must be replaced in accordance with Chapter 16.130 of the Municipal Code if deemed applicable at the time of removal. A "Heritage Tree" is defined as: "Any *Quercus lobata* (commonly known as "Valley Oak"), *Quercus agrifolia* (Coast Live Oak), and *Quercus wislizenii* (Interior Live Oak) tree which is located on public or private property within the limits of the City, and which has a trunk diameter of 16 inches or more, measured at 24 inches above actual grade. For Oak trees of the

species mentioned above, with multiple trunks, the combined total trunk diameter shall be used for all trunks measuring six (6) inches or greater measured at 24 inches above actual grade."

The following mitigation measures would require compliance with the Stockton Municipal Code for removal and replacement of Heritage Oak Trees. With the implementation of the following mitigation measures, the proposed Project would have a ***less than significant*** impact relative to this topic.

MITIGATION MEASURE(S)

Mitigation Measure 3.4-2*: If removal of any oak tree on the project site is required, a certified arborist shall survey the oak trees proposed for removal to determine if they are Heritage Trees as defined in Stockton Municipal Code Chapter 16.130. The arborist report with its findings shall be submitted to the City's Community Development Department. If Heritage Trees are determined to exist on the property, removal of any such tree shall require a permit to be issued by the City in accordance with Stockton Municipal Code Chapter 16.130. The permittee shall comply with all permit conditions, including tree replacement at specified ratios.*



LEGEND

- Project Site
- Development Area
- Stockton City Limits

Land Cover Types

- Annual Grassland
- Cropland
- Deciduous Orchard
- Dryland Grain Crops
- Evergreen Orchard
- Fresh Emergent Wetland
- Irrigated Grain Crops
- Irrigated Hayfield
- Irrigated Row and Field Crops
- Rice
- Urban
- Vineyard

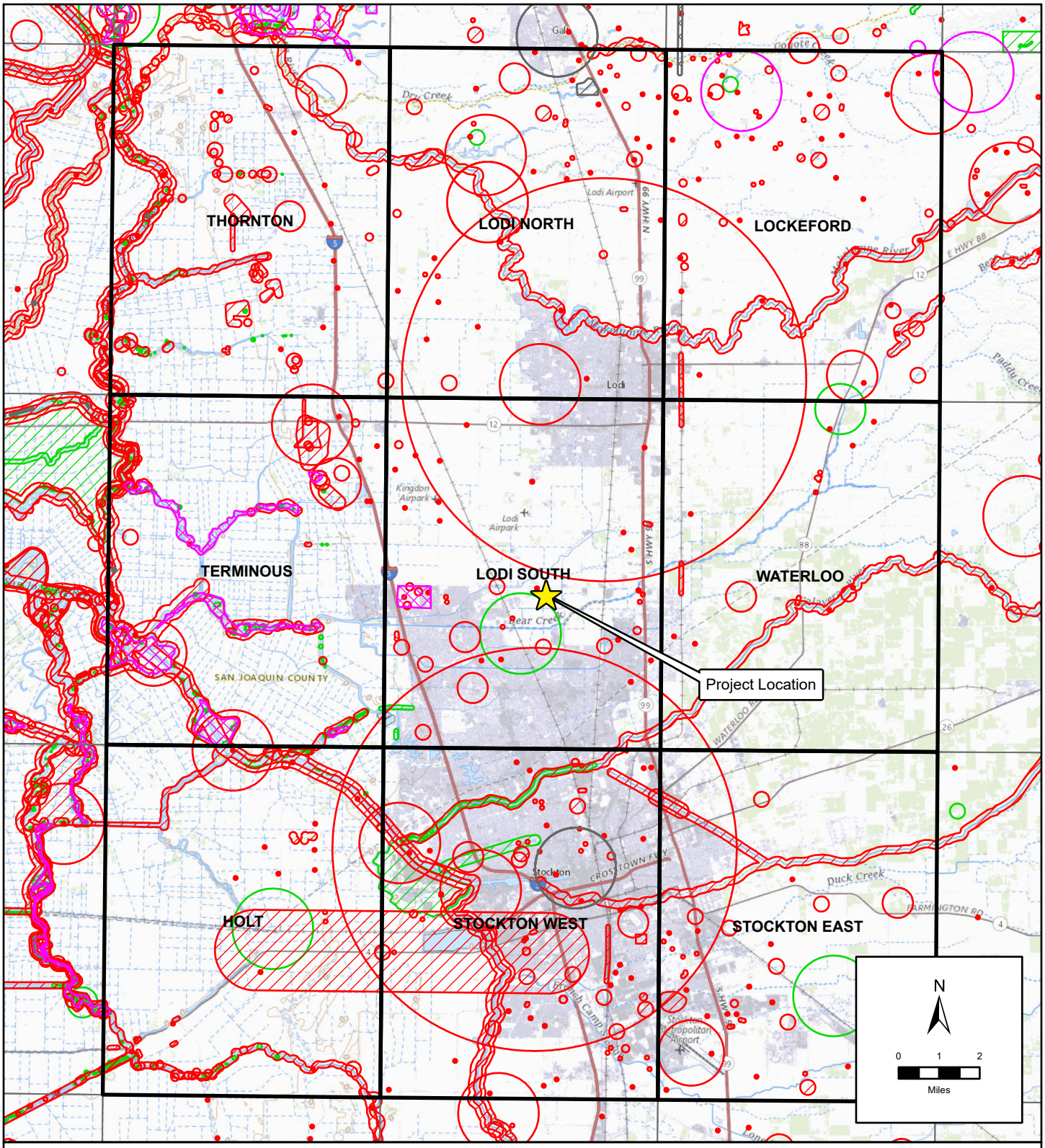
STOCKTON LEBARON RANCH

Figure 3.4-1. Land Cover Map

Sources: FRAP Vegetation dataset; San Joaquin County GIS. Map date: July 13, 2023.

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LEGEND

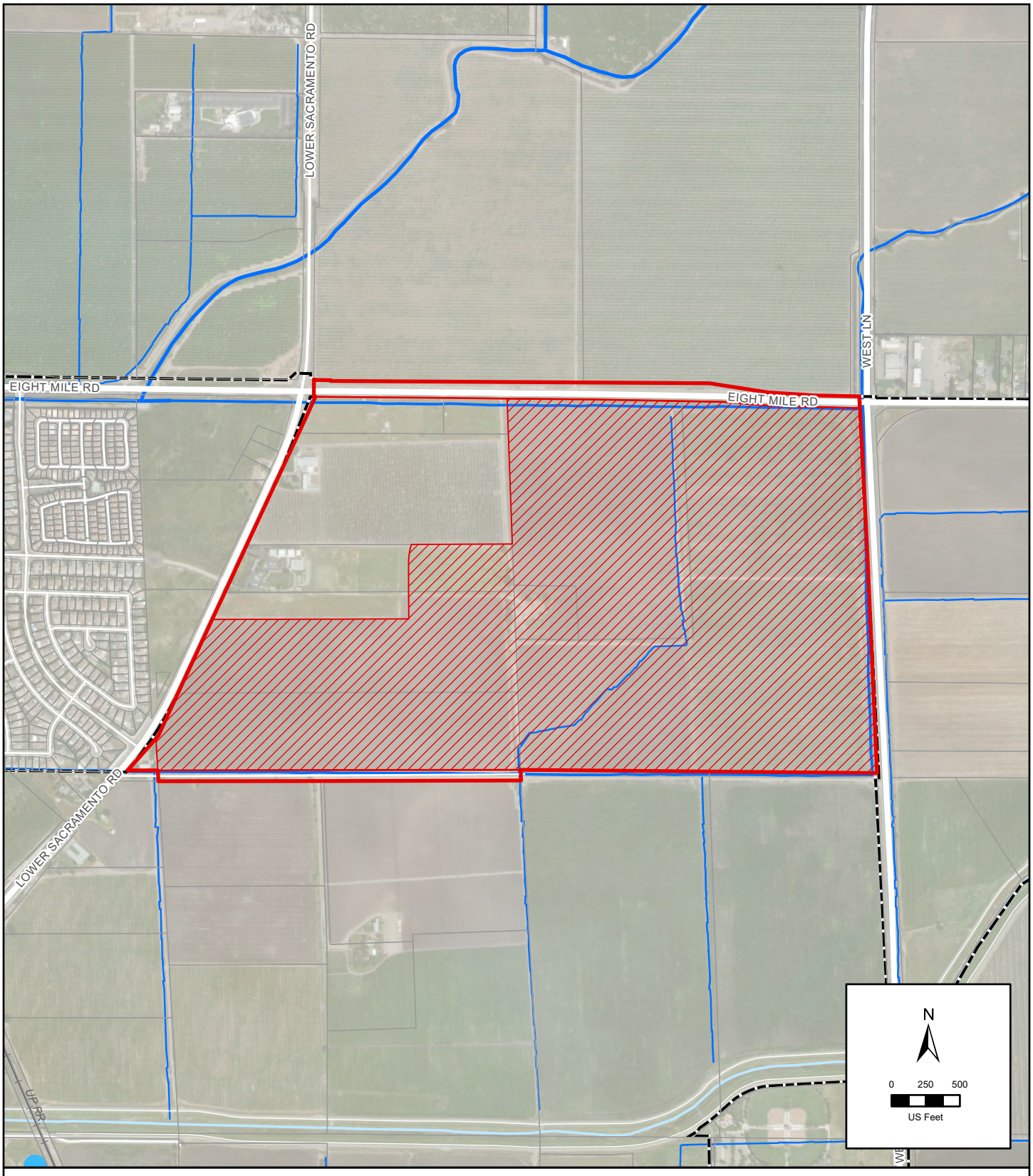
- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Animal (80m)
- Animal (specific)
- Animal (non-specific)
- Animal (circular)
- Terrestrial Comm. (specific)
- Terrestrial Comm. (non-specific)
- Terrestrial Comm. (circular)
- Multiple (80m)
- Multiple (specific)
- Multiple (non-specific)
- Multiple (circular)

STOCKTON LEBARON RANCH

Figure 3.4-2. CNDDB 9-Quad

Source: ArcGIS Online USGS Topo Map Service; CNDDB version 4/1/2023. Note: the occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not been surveyed and/or mapped. Lack of information in the CNDDB about a species or an area can never be used as proof that no special status species occur in an area.
Map date: July 13, 2023.

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LEGEND

- Project Site
- Development Area
- Stockton City Limits

Wetland Types

- Freshwater Emergent Wetland
- Freshwater Pond
- Riverine

STOCKTON LEBARON RANCH

Figure 3.4-3. Aquatic Resources

Sources: USGS National Wetland Inventory; San Joaquin County GIS. Map date: July 13, 2023.

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This section provides a discussion of the prehistoric period background, ethnographic background, historic period background, known cultural resources in the region, the regulatory setting, an impact analysis, and mitigation measures. Information in this section is derived primarily from the Cultural Resource Assessment for the LeBaron Ranch Project, San Joaquin County, California (Peak & Associates, Inc., 2023); refer to Appendix D.

One comment was received during the public review period or scoping meeting for the Notice of Preparation (NOP) regarding this topic from the following: Native American Heritage Commission (NAHC) (August 2, 2023). This comment is addressed within this section. Full comments received are included in Appendix A.

3.5.1 ENVIRONMENTAL SETTING

PROJECT SETTING

Project Site

The proposed Project site is comprised of 306.03 acres located in the northern portion of the City of Stockton Metropolitan Area, within the unincorporated area of San Joaquin County. The Project site consists of several planning area boundaries: the Development Area (six parcels totaling 236.30 acres), Non-development Area (six parcels totaling 56.03 acres), and Right-of-Way Annexation Area (13.7 acres of remaining County right-of-way). The Project site is bounded on the north by Eight Mile Road, to the east by West Lane, and to the west by Lower Sacramento Road. The future Marlette Road, between Lower Sacramento Road and West Lane, will form the property's southern boundary. Figures 2.0-1 and 2.0-2 in Chapter 2.0, Project Description, illustrate the regional location and Project vicinity.

The Project site is relatively flat and ranges in elevation from approximately 22 to 31 feet above sea level. The Development Area is predominantly comprised of agricultural and undeveloped uses; sheds and associated agricultural equipment exist in the center portion of the site. Additionally, two dirt/gravel roadways bisect the Development Area, including one roadway extending north to south from Eight Mile Road to the southern boundary at Marlette Road, and another extending east to west from West Lane connecting to the dirt/gravel roadway in the center of the Development Area. Irrigation canals run along the northern, eastern, and southern borders of the Development Area, separating existing agricultural uses from the respective roadways. The Non-development area consists of agricultural land, one existing residential home in the northwestern portion, a commercial use (single building), and a church.

CULTURAL SETTING

Prehistory

The Central Valley region was among the first in the state to attract intensive fieldwork, and research has continued to the present day. This has resulted in a substantial accumulation of data. In the early decades of the 1900s, E.J. Dawson explored numerous sites near Stockton and Lodi,

later collaborating with W.E. Schenck. By 1933, the focus of work was directed to the Cosumnes locality, where survey and excavation studies were conducted by Sacramento Junior College.

Excavation data from the stratified Windmiller site (CA-Sac-107), suggested two (2) temporally distinct cultural traditions. Later work at other mounds by Sacramento Junior College and the University of California, Berkeley, enabled the investigators to identify a third cultural tradition, intermediate between the previously postulated Early and Late Horizons. The three-horizon sequence, based on discrete changes in ornamental artifacts and mortuary practices, as well as on observed differences in soils within sites, was later refined by Beardsley. An expanded definition of artifacts diagnostic of each time period was developed, and its application extended to parts of the central California coast. Traits held in common allow the application of this system within certain limits of time and space to other areas of prehistoric central California.

The Windmiller Culture (Early Horizon) is characterized by ventrally-extended burials (some dorsal extensions are known), with westerly orientation of heads; a high percentage of burials with grave goods; frequent presence of red ocher in graves; large projectile points, of which 60 percent are of materials other than obsidian; rectangular Haliotis beads; Olivella shell beads (types A1a and L); rare use of bone; some use of baked clay objects; and well-fashioned charmstones, usually perforated.

The Cosumnes Culture (Middle Horizon) displays considerable changes from the preceding cultural expression. The burial mode is predominately flexed, with variable cardinal orientation and some cremations present. There are a lower percentage of burials with grave goods, and ocher staining is common in graves. Olivella beads of types C1, F and G predominate, and there is abundant use of green Haliotis sp. rather than red Haliotis sp. Other characteristic artifacts include perforated and canid teeth; asymmetrical and "fishtail" charmstones, usually unperforated; cobble mortars and evidence of wooden mortars; extensive use of bone for tools and ornaments; large projectile points, with considerable use of rock other than obsidian; and use of baked clay.

Hotchkiss Culture (Late Horizon) -- The burial pattern retains the use of the flexed mode, and there is wide spread evidence of cremation, lesser use of red ocher, heavy use of baked clay, Olivella beads of Types E and M, extensive use of Haliotis ornaments of many elaborate shapes and forms, shaped mortars and cylindrical pestles, bird-bone tubes with elaborate geometric designs, clam shell disc beads, small projectile points indicative of the introduction of the bow and arrow, flanged tubular pipes of steatite and schist, and use of magnesite. The characteristics noted are not all-inclusive but cover the more important traits.

Schulz, in an extensive examination of the central California evidence for the use of acorns, used the terms Early, Middle and Late Complexes, but the traits attributed to them remain generally the same. While it is not altogether clear, Schulz seemingly uses the term “Complex” to refer to the particular archeological entities (above called “Horizons”) as defined in this region. Ragir’s cultures are the same as Schulz's complexes.

Bennyhoff and Hughes have presented alternative dating schemes for the Central California Archeological Sequence. The primary emphasis is a more elaborate division of the horizons to

reflect what is seen as cultural/temporal changes within the three horizons and a compression of the temporal span.

There have been other chronologies proposed, including Fredrickson, and since it is correlated with Bennyhoff's work, it does merit discussion. The particular archeological cultural entities Fredrickson has defined, based upon the work of Bennyhoff, are patterns, phases and aspects. Bennyhoff's work in the Plains Miwok area is the best definition of the Cosumnes District, which likely conforms to Fredrickson's pattern. Fredrickson also proposed periods of time associated heavily with economic modes, which provides a temporal term for comparing contemporary cultural entities. It corresponds with Willey and Phillips' earlier "tradition", although it is tied more specifically to the archeological record in California.

Ethnography

The Project site lies within the northern portion of the ethnographic territory of the Yokuts people. The Yokuts were members of the Penutian language family which held all of the Central Valley, San Francisco Bay Area, and the Pacific Coast from Marin County to near Point Sur. The Yokuts differed from other ethnographic groups in California as they had true tribal divisions with group names. Each tribe spoke a particular dialect, common to its members, but similar enough to other Yokuts that they were mutually intelligible.

The Yokuts held portions of the San Joaquin Valley from the Tehachapi in the south to Stockton in the north. On the north they were bordered by the Plains Miwok, and on the west by the Saclan or Bay Miwok and Costonoan peoples. Although neighbors were often from distinct language families, differences between the people appear to have been more influenced by environmental factors as opposed to linguistic affinities. Thus, the Plains Miwok were more similar to the nearby Yokuts than to foothill members of their own language group. Similarities in cultural inventory co-varied with distance from other groups and proximity to culturally diverse people. The material culture of the southern San Joaquin Yokuts was therefore more closely related to that of their non-Yokuts neighbors than to that of Delta members of their own language group.

Trade was well developed, with mutually beneficial interchange of needed or desired goods. Obsidian, rare in the San Joaquin Valley, was obtained by trade with Paiute and Shoshoni groups on the eastern side of the Sierra Nevada, where numerous sources of this material are located, and to some extent from the Napa Valley to the north. Shell beads, obtained by the Yokuts from coastal people, and acorns, rare in the Great Basin, were among many items exported to the east by Yokuts traders.

Economic subsistence was based on the acorn, with substantial dependency on gathering and processing of wild seeds and other vegetable foods. The rivers, streams, and sloughs that formed a maze within the valley provided abundant food resources such as fish, shellfish, and turtles. Game, wild fowl, and small mammals were trapped and hunted to provide protein augmentation of the diet. In general, the eastern portion of the San Joaquin Valley provided a lush environment of varied food resources, with the estimated large population centers reflecting this abundance.

Settlements were oriented along the water ways, with their village sites normally placed adjacent to these features for their nearby water and food resources. House structures varied in size and shape, with most constructed from the readily available tules found in the extensive marshes of the low-lying valley areas. The housepit depressions for the structures ranged in diameter from three meters to 18 meters.

Historic Period

The agricultural value of the San Joaquin Valley was recognized early in time, with much of the region used for dry land grain farming. The early completion of railroads through the region helped provide a ready means of shipping farm projects. The 1870 San Joaquin County map shows the Western Pacific railroad line west of the Project site. By 1883, the rail line had been acquired by the Central Pacific and by 1905, the Southern Pacific.

The land of the overall Development Area has been used for agricultural purposes, with many different owners over time. It is only now, with increasing urbanization in the region, in part spurred on by the expansion of population growth and increased real estate cost in the Bay Area, that development has also spread to the Stockton area, resulting in conversion of agricultural properties to residential uses.

The entire acreage in the northeastern quarter of section 3, the major portion of the Project site, was owned in 1879 by George H. Ashley. Ashley grew primarily wheat on his many holdings, with his residence in Woodbridge. The land on the east side of the Project site, located in the south half of the northwest quarter was owned by Walter Rundell.

In 1919, the northeast quarter, formerly owned by Ashley, had been divided into two parcels, with the eastern parcel 106 acres valued at $3,185. The western sixty acres were valued at $1,800. The southern 80 acres of the northwest quarter was owned by J.E. Williams, valued at $2,400. It may be that during this era, crops that required irrigation were planted rather than the dry grain farming of previous landowners.

KNOWN CULTURAL RESOURCES

A summary of the record search, Native American consultation, and field survey that was performed for the Project site and surrounding area is included below.

Record Search

The purpose of the cultural records search is to identify all previously recorded cultural resources (prehistoric and historic archaeological sites, historic buildings, structures, objects, or districts) within the Project site. A record search was conducted for the Project site and a 0.25-mile radius at the Central California Information Center (CCIC) of the California Historical Resources Information System (CHRIS) on April 11, 2022 (Record Search File No.: 12150L; Appendix 2 of Appendix D).

According to the CCIC CHRIS results, no cultural resources have been reported within the Project site; however, several resources have been found within the 0.25-mile search radius (P-39-004489,

4870, 4871, 4872, 4873, 4874, and 5250). The record search indicates that three previous reports have been completed that included portions of the Project site, and 11 other studies have been completed within the 0.25-mile search radius.

Native American Consultation

A letter was sent to the NAHC by the City of Stockton requesting a records search of the Sacred Lands files for the Project site, as well as a list of Native American tribes that may have knowledge of cultural resources in the Project site. On August 24, 2023, the NAHC responded indicating that results were negative for Sacred Lands. The NAHC provided a list of individuals and groups to contact regarding potential cultural resources within the Project site. Letters were sent to the groups and individuals listed on July 29, 2023. Refer to Appendix D for tribal consultation communications.

Field Assessment

Peak & Associates completed a field survey of the Development Area of the Project site in April 2022. At time of survey, the Project site contained connecting square agricultural fields that were tilled and planted. The various fields were in different stages of hay production, up to six feet tall. Larger ditches were observed on the north and south side of the Project site, with smaller ditches in the fields, appearing to have been re-routed depending upon the crop grown on the property over the many seasons of agricultural use. Native live oaks, valley oaks and native plants were growing along the edges of the fields and ditches, as well as imported plants such as Russian thistle, common thistle, Star thistle, and vetch. Soil throughout the fields in the Project site was observed to be medium brown, silty loam in nature with light stone component mostly consisting of small pebbles of granitic components (quartzite, mica, and feldspar). Other noted stone types included meta-volcanic and unidentified crypto-crystalline silicates. Soil that was darker and with more loam components was found within a clearing in the center portion of the Project site, consistent with a former barn, shed, or similar structure. Minor staining consistent in appearance with industrial oil from agricultural/industrial equipment was also found in this area.

Due to known pre-contact and historical sites in the general area, parallel transects of no more than three (3) to five (5) meters were used for the field assessment, with the plow rows used for measurement. Closer overlapping inspection occurred within the excavated ditches and areas disturbed by burrowing animals, as well as fence lines and the area where buildings may have been. No prehistoric period artifacts, features or other resources were observed during the survey. A few scattered historic period items were found, consisting of fragments of milk glass, aqua glass with bubbles, amber glass, porcelain, and brick fragments.

Based on the field assessment, the Cultural Resource Assessment concluded that there is no evidence of cultural resources within the Development Area.

3.5.2 REGULATORY SETTING

FEDERAL

National Historic Preservation Act

The National Historic Preservation Act was enacted in 1966 as a means to protect cultural resources that are eligible to be listed on the NRHP. The law sets forth criterion that is used to evaluate the eligibility of cultural resources. The NRHP is composed of districts, sites, buildings, structures, objects, architecture, archaeology, engineering, and culture that are significant to American History.

Virtually any physical evidence of past human activity can be considered a cultural resource. Although not all such resources are considered to be significant and eligible for listing, they often provide the only means of reconstructing the human history of a given site or region, particularly where there is no written history of that area or that period. Consequently, their significance is judged largely in terms of their historical or archaeological interpretive values. Along with research values, cultural resources can be significant, in part, for their aesthetic, educational, cultural and religious values.

National Register of Historic Places

The eligibility criteria for the NRHP are as follows (36 CFR 60.4):

> *The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess aspects of integrity of location, design, setting, materials, workmanship, feeling, association, and*
>
> *(A) that are associated with events that have made a significant contribution to the broad patterns of our history and cultural heritage; or*
> *(B) that are associated with the lives of persons significant in our past; or*
> *(C) that embody the distinctive characteristics of a type, period, region, or method of construction, or that represent the work of a master, or that possess high artistic values or that represent a significant and distinguishable entity whose components may lack individual distinction; or*
> *(D) that have yielded, or may be likely to yield, information important in prehistory or history.*

American Indian Religious Freedom Act and Native American Graves and Repatriation Act

The American Indian Religious Freedom Act recognizes that Native American religious practices, sacred sites, and sacred objects have not been properly protected under other statutes. It establishes as national policy that traditional practices and beliefs, sites (including right of access), and the use of sacred objects shall be protected and preserved. Additionally, Native American remains are protected by the Native American Graves and Repatriation Act of 1990.

Other Federal Legislation

Historic preservation legislation was initiated by the Antiquities Act of 1966, which aimed to protect important historic and archaeological sites. It established a system of permits for conducting archaeological studies on federal land, as well as setting penalties for noncompliance. This permit process controls the disturbance of archaeological sites on federal land. New permits are currently issued under the Archaeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to enhance preservation and protection of archaeological resources on public and Native American lands. The Historic Sites Act of 1935 declared that it is national policy to "Preserve for public use historic sites, buildings, and objects of national significance."

STATE

California Register of Historic Resources

The CRHR was established in 1992 and codified in the Public Resource Code §5020, 5024 and 21085. The law creates several categories of properties that may be eligible for the CRHR. Certain properties are included in the program automatically, including: properties listed in the NRHP; properties eligible for listing in the NRHP; and certain classes of State Historical Landmarks. Determining the CRHR eligibility of historic and prehistoric properties is guided by CCR §§15064.5(b) and Public Resources Code (PRC) §§21083.2 and 21084.1.

Cultural resources, under CRHR guidelines, are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. A cultural resource may be eligible for listing on the CRHR if it:

- is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- is associated with the lives of persons important in our past;
- 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; or
- has yielded, or may be likely to yield, information important in prehistory or history.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines §15064.5 provides guidance for determining the significance of impacts to archaeological and historical resources. Demolition or material alteration of a historical resource, including archaeological sites, is generally considered a significant impact. Determining the CRHR eligibility of historic and prehistoric properties is guided by CCR §§15064.5(b) and PRC §§21083.2 and 21084.1.

CEQA also provides for the protection of Native American human remains (CCR §15064.5[d]). Native American human remains are also protected under the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001 et seq.), which requires federal agencies and certain recipients of federal funds to document Native American human remains and cultural items within

their collections, notify Native American groups of their holdings, and provide an opportunity for repatriation of these materials. This act also requires plans for dealing with potential future collections of Native American human remains and associated funerary objects, sacred objects, and objects of cultural patrimony that might be uncovered as a result of development projects overseen or funded by the federal government.

If a prehistoric or historic period cultural resource does not meet any of the four CRHR criteria, but does meet the definition of a "unique" site as outlined in PRC §21083.2, it may still be treated as a significant resource if it is: an archaeological artifact, object or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- it contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information,
- it has a special and particular quality such as being the oldest of its type or the best available example of its type, or
- it is directly associated with a scientifically recognized important prehistoric or historic event.

California Health and Safety Code

Section 7050.5 of the California Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission. The CEQA Guidelines (Section 15064.5) specify the procedures to be followed in case of the discovery of human remains on non-federal land. The disposition of Native American burials falls within the jurisdiction of the NAHC.

Senate Bill 18 (Burton, Chapter 905, Statutes 2004)

SB 18, authored by Senator John Burton and signed into law by Governor Arnold Schwarzenegger in September 2004, requires local (city and county) governments to consult with California Native American tribes to aid in the protection of traditional tribal cultural places ("cultural places") through local land use planning. This legislation, which amended §65040.2, §65092, §65351, §65352, and §65560, and added §65352.3, §653524, and §65562.5 to the Government Code; also requires the Governor's Office of Planning and Research to include in the General Plan Guidelines advice to local governments for how to conduct these consultations. The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. These consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code §65300 et seq.) and specific plans (defined in Government Code §65450 et seq.).

Assembly Bill 978

In 2001, AB 978 expanded the reach of Native American Graves Protection and Repatriation Act of 1990 and established a state commission with statutory powers to assure that federal and state laws regarding the repatriation of Native American human remains and items of patrimony are fully complied with. In addition, AB 978 also included non-federally recognized tribes for repatriation.

Assembly Bill 52

AB 52, approved in September 2014, creates a formal role for California Native American tribes by creating a formal consultation process and establishing that a substantial adverse change to a tribal cultural resource has a significant effect on the environment. Tribal cultural resources are defined as:

1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
    A) Included or determined to be eligible for inclusion in the CRHR;
    B) Included in a local register of historical resources as defined in PRC Section 5020.1(k).
2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1 (c). In applying the criteria set forth in PRC Section 5024.1 (c) the lead agency shall consider the significance of the resource to a California Native American tribe.

A cultural landscape that meets the criteria above is also a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. In addition, a historical resource described in PRC Section 21084.1, a unique archaeological resource as defined in PRC Section 21083.2(g), or a "non-unique archaeological resource" as defined in PRC Section 21083.2(h) may also be a tribal cultural resource if it conforms with above criteria.

AB 52 requires a lead agency, prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if: (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation.

LOCAL

Envision Stockton 2040 General Plan

The Envision Stockton 2040 General Plan includes several policies and actions that are relevant to cultural and tribal resources. General Plan policies and actions applicable to the Project are identified below:

POLICIES: LAND USE ELEMENT

- LU-3.1. Ensure that exterior remodels and the siting, scale, and design of new development are compatible with surrounding and adjacent buildings, public spaces, and cultural and historic resources.
- LU-5.2. Protect natural resource areas, fish and wildlife habitat, scenic areas, open space areas, agricultural lands, parks, and other cultural/historic resources from encroachment or destruction by incompatible development.

ACTIONS: LAND USE ELEMENT

- LU-3.1E. Maintain and periodically update the City's historical resources inventory and adopt a priority list to protect the most important resources.
- LU-5.2D. Require the following tasks by a qualified archaeologist or paleontologist prior to project approval:
    - Conduct a record search at the Central California Information Center located at California State University Stanislaus, the University of California Museum of Paleontology at Berkeley, and other appropriate historical or archaeological repositories.
    - Conduct field surveys where appropriate.
    - Prepare technical reports, where appropriate, meeting California Office of Historic Preservation or other appropriate standards.
    - Where development cannot avoid an archaeological or paleontological deposit, prepare a treatment plan in accordance with appropriate standards, such as the Secretary of the Interior's Standards for Treatment of Archaeological Sites.
- LU-5.2E. Continue to consult with Native American representatives, including through early coordination, to identify locations of importance to Native Americans, including archaeological sites and traditional cultural properties.
- LU-5.2F. If development could affect a tribal cultural resource, require the developer to contact an appropriate tribal representative to train construction workers on appropriate avoidance and minimization measures, requirements for confidentiality and culturally appropriate treatment, other applicable regulations, and consequences of violating State laws and regulations.
- LU-5.2G. Comply with appropriate State and federal standards to evaluate and mitigate impacts to cultural resources, including tribal, historic, archaeological, and paleontological resources.

City of Stockton Municipal Code

Section 16.36.050, Cultural Resources, of the Stockton Municipal Code notes that if a historical or archaeological resource or human remains may be impacted by a development project requiring a discretionary land use permit, the Secretary of the Cultural Heritage Board (Board) shall be notified, any survey needed to determine the significance of the resource shall be conducted, and the proper environmental documents shall be prepared. In addition:

A. Historical Resources. Resources that have been identified as a landmark or part of a historic district in compliance with Chapter 16.220 (Cultural Resources) shall require a certificate of appropriateness (Section 16.220.060) if any exterior changes to the resource are proposed.
B. Archaeological Resources. In the event that archaeological resources are discovered during any construction, construction activities shall cease, and the Community Development Department (Department) shall be notified so that the extent and location of discovered materials may be recorded by a qualified archaeologist, and disposition of artifacts may occur in compliance with State and federal law.
C. Human Remains. In the event human remains are discovered during any construction, construction activities shall cease, and the County Coroner and Director shall be notified immediately in compliance with CEQA Guidelines 15064.5 (d). A qualified archaeologist shall be contacted to evaluate the situation. If the human remains are of Native American origin, the Coroner shall notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify the most likely descendent of the Native American to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

3.5.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project is considered to have a significant impact on cultural or tribal resources if it will:

- Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- Disturb any human remains, including those interred outside of formal cemeteries;
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
    - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k);
    - 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 resources to a California Native American tribe.

IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: Project implementation would not cause a substantial adverse change to a significant historical resource, as defined in CEQA Guidelines §15064.5 (Less than Significant)

The Project site is comprised of 306.03-acres and consists of several planning area boundaries, as described previously. The Project proposes to construct a primarily residential development within the Development Area of the larger 306.03-acre Project site. The Development Area consists primarily of agricultural and undeveloped uses. Other structures within the Development Area include sheds in the center portion of the site.

As part of the Cultural Resource Assessment, a CHRIS search was requested from the CCIC, which included the Project site and a 0.25-mile radius. According to the CCIC CHRIS results, no cultural resources have been reported within the Project site; however, several resources have been found within the 0.25-mile search radius. Additionally, a field assessment conducted as part of the Cultural Resource Assessment concluded that while historic period items were found, consisting of fragments of milk glass, aqua glass with bubbles, amber glass, porcelain, and brick fragments, there is no evidence of cultural resources within the Development Area. As such, the Project site does not contain a "historical resource" as defined in CEQA Guidelines Section 15064.5 and the proposed Project would have a ***less than significant*** impact on historical resources.

Impact 3.5-2: Project implementation has the potential to cause a substantial adverse change to a significant archaeological resource, as defined in CEQA Guidelines §15064.5, or a significant tribal cultural resource, as defined in Public Resources Code §21074 (Less than Significant with Mitigation)

The Project site is located in an area known to have archaeological, cultural, and tribal cultural resources. As noted above, a CHRIS search was requested from the CCIC, which included the Project site and a 0.25-mile radius. According to the CCIC CHRIS results, no cultural resources have been reported within the Project site; however, several resources have been found within the 0.25-mile search radius. A letter was sent to the NAHC requesting a records search of the Sacred Lands files for the Project site, as well as a list of Native American tribes that may have knowledge of cultural resources in the Project site. On August 24, 2023, the NAHC responded indicating that results were negative for Sacred Lands. The NAHC provided a list of individuals and groups to contact regarding potential cultural resources within the Project site. Letters were sent to the groups and individuals listed on July 29, 2023, in compliance with AB 52; refer to Appendix D for tribal consultation communications. The consultation letters provided information regarding the proposed Project and contact information for the Project Planner. Under AB 52, Native American tribes have 30 days to respond and request further project information and formal consultation.

Although no archeological resources or Native American tribal cultural resources are known to occur within the Project site, as with most projects in the region that involve ground-disturbing

activities, there is the potential for discovery of previously unknown archaeological resources and/or tribal cultural resources. Implementation of Mitigation Measures 3.5-1 through 3.5-2 would ensure that the potential impact to archaeological and tribal cultural resources is ***less than significant***.

MITIGATION MEASURE(S)

Mitigation Measure 3.5-1: *Prior to any ground-disturbing activities on the Project site, a qualified archaeologist and native American monitor shall conduct pre-construction worker cultural resources sensitivity training. The training session shall focus on the recognition of the types of historical and cultural, including Native American, resources that could be encountered, procedures to be followed if resources are found, and pertinent laws protecting these resources. Those in attendance shall be recorded, with records maintained on-site. Any new workers that were not part of the initial training shall be required to undergo a new training session.*

Mitigation Measure 3.5-2: *If any cultural resources, including prehistoric or historic artifacts, or other indications of archaeological resources, are found during grading and construction activities during any phase of the Project, all work shall be halted immediately within a 200-foot radius of the discovery until an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, has evaluated the find(s).*

Work shall not continue at the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR; or 3) not a significant Public Trust Resource.

If Native American resources are identified, a Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage Commission, may also be required and, if required, shall be retained at the Project applicant's expense.

Impact 3.5-3: Project implementation has the potential to disturb human remains, including those interred outside of formal cemeteries (Less than Significant)

Indications suggest that humans have occupied San Joaquin County for over 10,000 years and it is not always possible to predict where human remains may occur outside of formal burials. Therefore, excavation and construction activities, regardless of depth, may yield human remains that may not be interred in marked, formal burials.

Under CEQA, human remains are protected under the definition of archaeological materials as being "any evidence of human activity." Public Resources Code Section 5097 has specific stop-work and notification procedures to follow in the event that human remains are inadvertently discovered during Project implementation. Additionally, Section 16.36.050 of the Stockton Municipal Code requires construction activities to cease in the event human remains are

discovered during construction, and the County Coroner and Director must be notified immediately in compliance with CEQA Guidelines 15064.5(d). A qualified archaeologist shall be contacted to evaluate the situation. If the human remains are of Native American origin, the Coroner shall notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify the most likely descendent of the Native American to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

No human remains are documented on or near the Project site. Compliance with the existing regulatory environment would ensure that all construction activities which inadvertently discover human remains implement State-required consultation methods to determine the disposition and historical significance of any discovered human remains, which would reduce potential impacts to a ***less-than-significant*** level.

The purpose of this section is to disclose and analyze the potential impacts associated with the geology of the Project site and regional vicinity, and to analyze issues such as the potential exposure of people and property to geologic hazards, landform alteration, and erosion. This section is based in part on the following:

- *Envision Stockton 2040 General Plan* (City of Stockton, December 2018);
- *Envision Stockton 2040 General Plan Update Draft Environmental Impact Report* (City of Stockton, June 2018);
- *California Geological Survey (CGS) Information Warehouse: Regulatory Maps* (California Department of Conservation, 2023);
- Natural Resources Conservation Service (NRCS) *Web Soil Survey* (NRCS, 2023);
- *Soil Survey of San Joaquin County, California* (USDA Soil Conservation Service, 1992).

One comment was received during the public review period for the Notice of Preparation regarding this topic from the following: San Joaquin County Environmental Health Department (August 11, 2023). The portion of this comment that relates to this topic is addressed within this section. Full comments received are included in Appendix A.

The proposed Project would connect to the municipal sewer system for wastewater disposal; refer to Section 3.14, Utilities and Service Systems. Septic tanks or septic systems are not proposed as part of the Project. Additionally, as discussed in the Envision Stockton 2040 General Plan EIR, the CGS Mineral Resources Program has assigned the Project site an MRZ-1 mineral classification, signifying that it is in an area where the available information indicates that no significant mineral deposits are present, or where the CGS has determined that little likelihood exists for their presence. The Project site has not been identified as containing significant mineral deposits and is not located in an area delineated as a mineral resource recovery site. As such, no impacts would occur, and these California Environmental Quality Act (CEQA) topics will not be further discussed.

3.6.1 ENVIRONMENTAL SETTING

GEOLOGIC SETTING

Regional Geology

The Project site lies in the San Joaquin Valley in central California. The San Joaquin Valley is in the southern portion of the Great Valley Geomorphic Province. The Great Valley, also known as the Central Valley, is a topographically flat, northwest-trending, structural trough (or basin) about 50 miles wide and 450 miles long. It is bordered by the Tehachapi Mountains on the south, the Klamath Mountains on the north, the Sierra Nevada on the east, and the Coast Ranges on the west. The northern and southern portions of the Great Valley are referred to as the Sacramento Valley and San Joaquin Valley, respectively; with the Sacramento River draining areas to the north and the San Joaquin River draining areas to the south.

The San Joaquin Valley (Valley) is filled with thick sedimentary rock sequences that were deposited as much as 130 million years ago. This geologic unit is commonly referred to as the Great Valley

Sequence. Large alluvial fans have developed on each side of the Valley. The larger and more gently sloping fans are on the east side of the Valley and overlie metamorphic and igneous basement rocks. These basement rocks are exposed in the Sierra Nevada foothills and consist of meta-sedimentary, volcanic, and granitic rocks.

Sediments deposited in the vicinity of Stockton were derived from Sierra Nevada bedrock, and from volcanic activity that occurred in the Sierra Nevada region during the Holocene to Tertiary periods (3 to 38 million years ago). These Tertiary-aged sediments form the principal groundwater aquifers of the Central Valley. The most recent deposits in the area are floodplain deposits consisting of clay, silt, and some sand (City of Stockton, 2007).

Local Setting

The 306.03-acre Project site consists of the Development Area (236.3 acres), Non-development Area (56.03 acres), and Right-of-Way Annexation Area (13.7 acres). The Project site is bounded on the north by Eight Mile Road, to the east by West Lane, and to the west by Lower Sacramento Road. The future Marlette Road, between Lower Sacramento Road and West Lane, will form the property's southern boundary. Figures 2.0-1 and 2.0-2 in Chapter 2.0, Project Description, illustrate the regional location and Project vicinity.

The Project site is relatively flat and ranges in elevation from approximately 22 to 31 feet above sea level. The Development Area is predominantly comprised of agricultural and undeveloped uses; sheds and associated agricultural equipment exist in the center portion of the site. Additionally, two (2) dirt/gravel roadways bisect the Development Area, including one (1) roadway extending north to south from Eight Mile Road to the southern boundary at Marlette Road, and another extending east to west from West Lane connecting to the dirt/gravel roadway in the center of the Development Area. Irrigation canals run along the northern, eastern, and southern borders of the Development Area, separating existing agricultural uses from the respective roadways. The Non-development Area consists of agricultural land, one existing residential home in the northwestern portion, a commercial use (single building), and a church.

A Custom Soil Survey was completed for the Project site using the NRCS Web Soil Survey program. The NRCS Soils Map provided in Figure 3.6-1, identifies the type and range of soils found in the Project site, which is summarized below in Table 3.6-1.

TABLE 3.6-1: PROJECT SITE SOILS (IN ACRES)

NAME	*DEVELOPMENT AREA*	*NON-DEVELOPMENT AREA*	*ROW*	*PROJECT SITE TOTAL*
Rioblancho clay loam, drained, 0 to 2 percent slopes	0.68	21.09	0.47	22.24
Stockton clay, 0 to 2 percent slopes	23.11	-	-	23.11
Jacktone clay, 0 to 2 percent slopes	209.22	37.08	14.98	261.28
Total	*233.00*	*58.17*	*15.46*	*306.63*

NOTE: ROW = RIGHT-OF-WAY ANNEXATION AREA

SOURCE: NATURAL RESOURCES CONSERVATION SERVICE, CUSTOM WEB SOIL SURVEY, 2023.

Rioblancho soil series. This series consists of moderately deep to duripan, somewhat poorly drained soils that formed in alluvium from mixed rock sources. Rioblancho soils are on basin rim. This series is characterized as poorly drained, slow runoff, and permeability is moderately slow. As shown in Table 3.6-1, Rioblancho clay loam, 0 to 2 percent slopes makes up only a small portion (0.3 percent) of the Development Area. This soil type is located within the western-northwestern portion of the Project site, primarily within the Non-development Area.

Jacktone soil series. This series consists of somewhat poorly drained soils in basins. These soils are artificially drained and are moderately deep to a hardpan. Slopes range from 0 to 2 percent. This series is characterized as poorly drained, slow runoff, high shrink/swell potential, and permeability is slow. As shown in Table 3.6-1, the majority of the Development Area (89.8 percent) is made up of Jacktone clay, 0 to 2 percent slopes. This soil type is located throughout the Project site, including the Development Area, Non-development Area, and ROW Annexation Area, except in the western-northwestern and eastern portions of the site.

Stockton soil series. This series consists of somewhat poorly drained soils in basins. These soils are artificially drained and are deep to a hardpan. Stockton clay is formed in alluvium derived from mixed rock sources. Slope ranges from 0 to 2 percent. This series is characterized as poorly drained, slow runoff, high shrink/swell potential, and permeability is slow. As shown in Table 3.6-1, Stockton clay, 0 to 2 percent slopes make up 23.11 acres (9.9 percent) of the Development Area. This soil type is located within the eastern portion of the Project site's Development Area, and is not present within the Non-development Area or ROW Annexation Area.

FAULTS AND SEISMICITY

Faults

A fault is a fracture in the crust of the earth along which rocks on one side have moved relative to those on the other side. A fault trace is the line on the earth's surface defining the fault. Displacement of the earth's crust along faults releases energy in the form of earthquakes and in some cases in fault creep. Most faults are the result of repeated displacements over a long period of time.

Surface rupture occurs when movement on a fault deep within the earth breaks through to the surface. Surface ruptures have been known to extend up to 50 miles with displacements of an inch to 20 feet. Fault rupture almost always follows preexisting faults, which are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by shaking.

The State of California designates faults as active, potentially active, and inactive depending on how recent the movement that can be substantiated for a fault. Table 3.6-2 presents the California fault activity rating system.

TABLE 3.6-2: FAULT ACTIVITY RATING

FAULT ACTIVITY RATING	*GEOLOGIC PERIOD OF LAST RUPTURE*	*TIME INTERVAL (YEARS)*
Active (A)	Holocene	Within last 11,000 years
Potentially Active (PA)	Quaternary	11,000-1.6 Million Years
Inactive (I)	Pre-Quaternary	Greater than 1.6 Million

SOURCE: CALIFORNIA GEOLOGICAL SURVEY

Figure 3.6-2 provides a map of known area faults. No known faults traverse through the Stockton Planning Area; however, the Project does lie within a seismically active region. The U.S. Geological Survey identifies the potential seismic source within 30 miles of the Project site. Three (3) of the closest known faults classified as active by the California Geological Survey include the Vernalis Fault east of the Tracy, the San Joaquin Fault southeast of Tracy, and the Great Valley Thrust Fault System south of Tracy. Other faults that could potentially affect the proposed Project include the Midway Fault, the Midland Fault, the Black Butte Fault, Corral Hollow-Carnegie Fault, the Greenville Fault, and the Foothills Fault System.

Seismicity

The amount of energy available to a fault is determined by considering the slip-rate of the fault, its area (fault length multiplied by down-dip width), maximum magnitude, and the rigidity of the displaced rocks. These factors are combined to calculate the moment (energy) release on a fault. The total seismic energy release for a fault source is sometimes partitioned between two different recurrence models, the characteristic and truncated Gutenberg-Richter (G-R) magnitude-frequency distributions. These models incorporate our knowledge of the range of magnitudes and relative frequency of different magnitudes for a particular fault. The partition of moment and the weights for multiple models are given in the following summary.

Earthquakes are generally expressed in terms of intensity and magnitude. Intensity is based on the observed effects of ground shaking on people, buildings, and natural features. By comparison, magnitude is based on the amplitude of the earthquake waves recorded on instruments, which have a common calibration. The Richter scale, a logarithmic scale ranging from 0.1 to 9.0, with 9.0 being the strongest, measures the magnitude of an earthquake relative to ground shaking. Table 3.6-3 provides a description and a comparison of intensity and magnitude.

TABLE 3.6-3: MODIFIED MERCALLI INTENSITY SCALE FOR EARTHQUAKES

RICHTER MAGNITUDE	*MODIFIED MERCALLI*	*EFFECTS OF INTENSITY*
0.1 – 0.9	I	Earthquake shaking not felt
1.0 – 2.9	II	Shaking felt by those at rest.
3.0 – 3.9	III	Felt by most people indoors, some can estimate duration of shaking.
4.0 – 4.5	IV	Felt by most people indoors. Hanging objects rattle, wooden walls and frames creak.
4.6 – 4.9	V	Felt by everyone indoors, many can estimate duration of shaking. Standing autos rock. Crockery clashes, dishes rattle and glasses clink. Doors open, close and swing.
5.0 – 5.5	VI	Felt by all who estimate duration of shaking. Sleepers awaken, liquids spill, objects are displaced, and weak materials crack.
5.6 – 6.4	VII	People frightened and walls unsteady. Pictures and books thrown, dishes and glass are broken. Weak chimneys break. Plaster, loose bricks and parapets fall.
6.5 – 6.9	VIII	Difficult to stand. Waves on ponds, cohesionless soils slump. Stucco and masonry walls fall. Chimneys, stacks, towers, and elevated tanks twist and fall.
7.0 – 7.4	IX	General fright as people are thrown down, hard to drive. Trees broken, damage to foundations and frames. Reservoirs damaged, underground pipes broken.
7.5 – 7.9	X	General panic. Ground cracks, masonry and frame buildings destroyed. Bridges destroyed, railroads bent slightly. Dams, dikes and embankments damaged.
8.0 – 8.4	XI	Large landslides, water thrown, general destruction of buildings. Pipelines destroyed, railroads bent.
8.5 +	XII	Total nearby damage, rock masses displaced. Lines of sight/level distorted. Objects thrown into air.

SOURCE: UNITED STATES GEOLOGICAL SURVEY

According to the California Geological Survey's Probabilistic Seismic Hazard Assessment Program, San Joaquin County is within an area that is predicted to have a 10 percent probability that a seismic event would produce horizontal ground shaking of 10 to 20 percent within a 50-year period. This level of ground shaking correlates to a Modified Mercalli intensity of V to VII, light to strong.

Alquist-Priolo Special Study Zone

The California legislature passed the Alquist-Priolo Special Studies Zone Act in 1972 to address seismic hazards associated with faults and to establish criteria for developments for areas with identified seismic hazard zones. The CGS evaluates faults with available geologic and seismologic data and determines if a fault should be zoned as active, potentially active, or inactive. If CGS determines a fault to be active, then it is typically incorporated into a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Hazard Act. Alquist-Priolo Special Study Zones are usually one-quarter mile or less in width and require site-specific evaluation of fault location and require a structure setback if the fault is found traversing a project site. The Project site is not within an Alquist-Priolo Special Study Zone. The nearest Alquist-Priolo fault zone, the Greenville fault zone, is located approximately 35 miles southwest of the Project site.

SEISMIC HAZARDS

Seismic Ground Shaking

The potential for seismic ground shaking in California is expected. As a result of the foreseeable seismicity in California, the State requires special design considerations for all structural improvements in accordance with the seismic design provisions in the California Building Code. These seismic design provisions require enhanced structural integrity based on several risk parameters. Seismic ground shaking in the Project site is expected during the life of the proposed Project. All structures will be built in accordance with the California Building Code's seismic design standards.

Fault Rupture

A fault rupture occurs when the surface of the earth breaks because of an earthquake, although this does not happen with all earthquakes. These ruptures generally occur in a weak area of an existing fault. Ruptures can be sudden (i.e. earthquake) or slow (i.e. fault creep). The Alquist-Priolo Fault Zoning Act requires active earthquake fault zones to be mapped and it provides special development considerations within these zones. The Project site does not have surface expression of active faults and fault rupture is not anticipated.

Liquefaction

Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. Liquefaction can cause foundation failure of buildings and other facilities due to the reduction of foundation bearing strength. The potential for liquefaction depends on the duration and intensity of earthquake shaking, particle size distribution of the soil, density of the soil, and elevation of the groundwater. Areas at risk of liquefaction are typified by a high groundwater table and underlying loose to medium-dense, granular sediments, particularly younger alluvium, and artificial fill. Clayey type soils are generally not subject to liquefaction.

According to the Envision Stockton 2040 General Plan Update EIR, the Stockton Planning Area is identified as having a low liquefication potential due to much of the shallow sediments beneath the Planning Area being dominated by clays and clay-rich deposits. Additionally, the CGS has not mapped any seismically-induced liquefication hazard zones in the Stockton Planning Area. Therefore, due to the composition of clayey soils on-site and distance from active fault zones, the probability of soil liquefaction taking place at the Project site is a low hazard.

Lateral Spreading

Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Oftentimes, lateral spreading is directly associated with areas of liquefaction. Since the potential for liquefaction is low, the potential for lateral spreading is present. According to the Envision Stockton 2040 General Plan Update EIR, the Stockton Planning

Area does not appear to be located atop unstable geologic materials that are prone to lateral spreading. Therefore, the potential for lateral spreading at the Project site is also low.

Landslides

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e., cut and fill). The potential for landslides is considered remote in the San Joaquin Valley floors due to the lack of significant slopes. Additionally, the Envision Stockton 2040 General Plan Update EIR identifies the landslide potential in the Stockton Planning Area as very low due to the gentle topography and lack of steep slopes. For this reason, the probability of landslides occurring on the Project site is low. The Project site is relatively flat and ranges in elevation from approximately 14 to 40 feet above mean sea level.

NON-SEISMIC HAZARDS

Expansive Soils

Expansive soils can undergo significant volume change with changes in moisture content. They shrink and harden when dried and expand and soften when wet. If structures are underlain by expansive soils, it is important that foundation systems be capable of tolerating or resisting any potentially damaging soil movements. In addition, it is important to limit moisture changes in the surficial soils by using positive drainage away from buildings as well as limiting landscaping watering. According to the NRCS Web Soil Survey, the soils in the Project site have a high shrink-swell potential due to their clayey composition. The NRCS Web Soil Survey indicated that near surface soils within the Project site have medium plasticity, and the expansion potential of the soils would respond to fluctuations in moisture content.

Erosion

Erosion naturally occurs on the surface of the earth as surface materials (i.e., rock, soil, debris, etc.) is loosened, dissolved, or worn away, and transported from one place to another by gravity. Two common types of soil erosion include wind erosion and water erosion. The steepness of a slope is an important factor that affects soil erosion. Erosion potential in soils is influenced primarily by loose soil texture and steep slopes. Loose soils can be eroded by water or wind forces, whereas soils with high clay content are generally susceptible only to water erosion. The potential for erosion generally increases because of human activity, primarily through the development of facilities and impervious surfaces and the removal of vegetative cover. Based on the soils on-site, it is anticipated that the Project site would be susceptible to only water erosion.

The NRCS Web Soil Survey identified the erosion potential for the soils in the Project site, including the hydrologic soil group, erosion factors (K-factor, or Kf) for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the surface horizon. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet

and rill erosion by water. Within the Project site, the erosion factor Kf varies from 0.2 to 0.28, which is considered a low to moderate potential for erosion. Furthermore, because the Project site is essentially flat, the erosion potential is slight.

Collapsible Soils

Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Soils prone to collapse are commonly associated with manmade fill, wind-laid sands and silts, and alluvial fan and mudflow sediments deposited during flash floods. During an earthquake, even slight settlement of fill materials can lead to a differentially settled structure and significant repair costs. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking, or separation in structures, sagging floors, and nonfunctional windows and doors. Collapsible soils have not been identified in the Stockton General Plan as an issue in the Stockton area. However, in areas subject to potential liquefaction, the potential for liquefaction induced settlement is present.

Subsidence

Land subsidence is the gradual settling or sinking of an area with little or no horizontal motion due to changes taking place underground. It is a natural process, although it can also occur (and is greatly accelerated) because of human activities. Common causes of land subsidence from human activity include: pumping water, oil, and gas from underground reservoirs; dissolution of limestone aquifers (sinkholes); collapse of underground mines; drainage of organic soils; and initial wetting of dry soils. Subsidence has been identified in the Stockton General Plan as an issue in the Stockton area given the location near the Delta; however, clayey soils, such as Jacktone clay and Stockton clay, are not prone to subsidence. Therefore, the probability of subsidence occurring on the Project site is low.

PALEONTOLOGICAL RESOURCES

Paleontological resources consist of the fossilized remains of plants and animals, including vertebrates (animals with backbones) and invertebrates (e.g., starfish, clams, ammonites, and coral). Fossils of microscopic plants and animals, or microfossils, are also considered in this analysis. The age and abundance of fossils depend on the location, topographic setting, and particular geologic formation in which they are found. The geologic formations containing most fossils in the county are considered geologically young; the oldest fossil-bearing formation dates to the Paleocene epoch (65 million years old). Most of the fossil-bearing geologic units in the county were formed in ancient marine environments such as inland embayment's, coastal areas, and extensive inland seas.

Paleontological resources in the San Joaquin Region are most prevalent in geologic formations located along the western margin of the San Joaquin Valley, miles away from the Project site. These formations include the marine sandstone, mudstone, siltstone, and shale of the San Pablo

Formation, various undivided conglomerate, sandstone, and siltstone units, and the Moreno Formation. The Moreno Formation, which is present along the western margin of the Great Valley as an elongated and continuous, northwest-trending unit, consists of shale, sandstone, and siltstone that were once deposited in a deep-marine environment. According to the Envision Stockton 2040 General Plan Update EIR, a search of the database of the UC Museum of Paleontology at Berkeley identified over 800 documented fossil localities within San Joaquin County; however, only a handful were identified within the Stockton Planning Area. There will remain a potential for undiscovered paleontological resources to be found during any ground disturbance activities in the Stockton Planning Area.

3.6.2 REGULATORY SETTING

FEDERAL

Uniform Building Code

The purpose of the Uniform Building Code (UBC) is to provide minimum standards to preserve the public peace, health, and safety by regulating the design, construction, quality of materials, certain equipment, location, grading, use, occupancy, and maintenance of all buildings and structures. UBC standards address foundation design, shear wall strength, and other structurally related conditions.

STATE

The State of California has established a variety of regulations and requirements related to seismic safety and structural integrity, including the California Building Code, the Alquist-Priolo Earthquake Fault Zoning Act and the Seismic Hazards Mapping Act.

California Building Standards Code

The CBSC is included in Title 24 of the California Code of Regulations (CCR) and includes the California Building Code. Under state law, all building standards must be centralized in Title 24 or they are not enforceable.

The CBSC is a compilation of three types of building criteria from three different origins:

- Building standards that have been adopted by state agencies without change from building standards contained in national model codes;
- Building standards that have been adopted and adapted from the national model code standards to meet California conditions; and
- Building standards, authorized by the California legislature, that constitute extensive additions not covered by the model codes that have been adopted to address concerns specific to California.

Through the CBSC, the state provides a minimum standard for building design and construction. The CBSC contains specific requirements for seismic safety, excavation, foundations, retaining

walls, and site demolition. It also regulates grading activities, including drainage and erosion control.

California Building Code

The California Building Code, Title 24, Part 2, Chapter 16 addresses structural design, Chapter 17 addresses structural tests and special inspections, and Chapter 18 addresses soils and foundations. Section 1610 provides structural design standards for foundation walls and retaining walls to ensure resistance to lateral soil loads. Section 1613 provides structural design standards for earthquake loads. Section 1704.7 requires special inspections for existing site soil conditions, fill placement and load-bearing requirements during the construction as specified in Table 1704.7 of this section. Sections 1704.8 through 1704.16 provide inspection and testing requirements for various foundation types, and construction material types. Section 1803.1.1.1 requires each city and county enact an ordinance which requires a preliminary soil report and that the report be based upon adequate test borings or excavations, of every subdivision, where a tentative and final map is required pursuant to Section 66426 of the Government Code. Section 1803.5.3 defines expansive soils and specifies that in areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist. Section 1803.5.4 specifies that a subsurface soil investigation must be performed to determine whether the existing ground-water table is above or within five (5) feet (1524 mm) below the elevation of the lowest floor level where such floor is located below the finished ground level adjacent to the foundation. Section 1803.5.8 provides specific standards where shallow foundations will bear on compacted fill material more than 12 inches (305 mm) in depth. Section 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with Section 1613. Section 1804 provides standards and requirements for excavation, grading, and fill. Section 1808, 1809, and 1810 provides standards and requirements for the construction of varying foundations.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 sets forth the policies and criteria of the State Mining and Geology Board, which governs the exercise of governments' responsibilities to prohibit the location of developments and structures for human occupancy across the trace of active faults. The policies and criteria are limited to potential hazards resulting from surface faulting or fault creep within Earthquake Fault Zones, as delineated on maps officially issued by the State Geologist. Working definitions include:

- Fault – a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side;
- Fault Zone – a zone of related faults, which commonly are braided and sub parallel, but may be branching and divergent. A fault zone has a significant width (with respect to the scale at which the fault is being considered, portrayed, or investigated), ranging from a few feet to several miles;
- Sufficiently Active Fault – a fault that has evidence of Holocene surface displacement along one or more of its segments or branches (last 11,000 years); and

- Well-Defined Fault – a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The geologist should be able to locate the fault in the field with sufficient precision and confidence to indicate that the required site-specific investigations would meet with some success.

"Sufficiently Active" and "Well Defined" are the two (2) criteria used by the State to determine if a fault should be zoned under the Alquist-Priolo Act.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides. Under the Act, seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act (which addresses only surface fault-rupture hazards) and are outlined below:

The State Geologist is required to delineate the various "seismic hazard zones."

- Cities and Counties, or other local permitting authority, must regulate certain development "projects" within the zones. They must withhold the development permits for a site within a zone until the geologic and soil conditions of the site are investigated and appropriate mitigation measures, if any, are incorporated into development plans.
- The State Mining and Geology Board provides additional regulations, policies, and criteria, to guide cities and counties in their implementation of the law. The Board also provides guidelines for preparation of the Seismic Hazard Zone Maps and for evaluating and mitigating seismic hazards.
- Sellers (and their agents) of real property within a mapped hazard zone must disclose that the property lies within such a zone at the time of sale.

Caltrans Seismic Design Criteria

The California Department of Transportation (Caltrans) has Seismic Design Criteria (SDC), which is an encyclopedia of new and currently practiced seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis, and design practices for ordinary standard bridges. The SDC has been developed with input from the Caltrans Offices of Structure Design, Earthquake Engineering and Design Support, and Materials and Foundations. Memo 20-1 outlines the bridge category and classification, seismic performance criteria, seismic design philosophy and approach, seismic demands and capacities on structural components and seismic design practices that collectively make up Caltrans' seismic design methodology.

National Pollutant Discharge Elimination System (NPDES)

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface

waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The Regional Water Quality Control Board (RWQCB) issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the California Water Code.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five (5) years or less and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the RWQCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of waste. The California State Water Resources Control Board (SWRCB) issues general permits for stormwater runoff from construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

In accordance with the NPDES General Construction Permit requirements, a Storm Water Pollution Prevention Plan (SWPPP) is required for projects that disturb at least one acre of soil. The SWPPP must be submitted to the RWQCB.

Water Quality Control Plan for the Central Valley Region

The Water Quality Control Plan for the Central Valley Region (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under several programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan,

along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of several national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

LOCAL

Envision Stockton 2040 General Plan

The Envision Stockton 2040 General Plan contains the following policy that is relevant to geotechnical aspects of the proposed Project:

POLICY: SAFETY ELEMENT

- SAF-2.2. Prepare sufficiently for major events to enable quick and effective response.

City of Stockton Municipal Code

Title 15 of the Stockton Municipal Code, Building and Construction, provides minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, installation, quality of materials, use and occupancy, location and maintenance of all buildings and structures within this jurisdiction, and certain equipment. Section 15.08.010, Adoption of California Building Code, of this title adopts the 2022 edition of the California Building Code.

Chapter 15.48 of the Municipal Code, Grading and Erosion Control, establishes requirements for clearing and grubbing, grading, filling, and excavation of land to minimize damage to surrounding property, public right-of-way, and degradation of water quality; controlling the discharge of sediments and pollutant turnoff from construction related activities to municipal separate storm drains; and reducing pollutants in stormwater discharges to the maximum extent practicable. The ordinance requires any development project resulting in the excavation of 50 cubic yards of soil or more to obtain a grading and erosion control permit. Grading and erosion control permits, and amendments thereto, are subject to the requirements of CEQA if they have not been addressed in a previous environmental document. Individual project applicants are required to furnish a copy of the permit application to the City for review and approval. The City reviews all grading and erosion control permits and geotechnical studies and reports in accordance with the Ordinance to ensure geologic and soil stability have been properly addressed.

3.6.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on geology and soils if it will:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42;
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction;
    - Landslides;
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable because of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property; and/or
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

IMPACTS AND MITIGATION MEASURES

Impact 3.6-1: The proposed Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, strong seismic ground shaking, seismic related ground failure, or landslides (Less than Significant)

As previously mentioned, the Project site consists of the Development Area (236.3 acres), Non-development Area (56.03 acres), and Right-of-Way Annexation Area (13.7 acres). The Development Area is predominantly comprised of agricultural and undeveloped uses. The Non-development area consists of agricultural land, one (1) existing residential home in the northwestern portion, a commercial use (single building), and a church. The Project proposes to construct a primarily residential development comprised of up to 1,411 residential units, parks/open space, a school site, and circulation and infrastructure improvements. The following describes the potential for the loss, injury, or death due to ground rupture, strong ground shaking, liquefication, or landslides on the Project site.

GROUND RUPTURE

The CGS evaluates faults and determines if a fault should be zoned as active, potentially active, or inactive. All active faults are incorporated into a Special Studies Zone, also referred to as an Alquist-Priolo Special Study Zone. As shown on Figure 3.6-2, the Project site is not within an Alquist-Priolo Special Study Zone and no faults are located within the Stockton Planning Area.

As previously discussed, the U.S. Geological Survey identifies potential seismic sources within 30 miles of the Project site. The nearest earthquake fault zoned as active by the State of California Geological Survey is the Vernalis Fault Zone, located approximately 20 miles to the southwest of the site. Therefore, because no faults are located on the Project site, the potential for ground rupture (cracking or breaking of the ground during an earthquake) would be less than significant.

GROUND SHAKING

According to the California Geological Survey's Probabilistic Seismic Hazard Assessment Program, Stockton is within an area that is predicted to have a 10 percent probability that a seismic event would produce horizontal ground shaking of 10 to 20 percent within a 50-year period. This level of ground shaking correlates to a Modified Mercalli intensity of V to VII, light to strong. As a result of these factors the California Geological Survey has defined the entire county as a seismic hazard zone. The Uniform Building Code places all of California in the zone of greatest earthquake severity because recent studies indicate high potential for severe ground shaking.

To reduce the impact of seismic ground shaking on the development, the Project would be required to be constructed using standard engineering and seismic safety design techniques of the California Building Code. Seismic design provisions of current building codes generally prescribe minimum lateral forces, applied statically to the structure, combined with the gravity forces of dead-and-live loads. The code-prescribed lateral forces are generally considered to be substantially smaller than the comparable forces that would be associated with a major earthquake. Therefore, structures would be able to: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage but with some nonstructural damage, and (3) resist major earthquakes without collapse but with some structural as well as nonstructural damage. Design in accordance with these standards and policies is required by the City's Municipal Code. Compliance with these code requirements would ensure impacts related to ground shaking are less than significant.

LIQUEFACTION

To date, the Seismic Hazards Zonation Program of the CGS has not identified any seismically-induced liquefaction zones in the City of Stockton or at the Project site. Furthermore, the Envision Stockton 2040 General Plan Update EIR identifies the Stockton Planning Area is at low risk for liquefaction. Therefore, the probability of soil liquefaction taking place at the Project site is a low hazard due the composition of clayey soils on-site and distance from active fault zones, resulting in a less-than-significant impact.

LANDSLIDES

The Project site is relatively flat; therefore, the potential for a landslide in the Project site is non-existent. Some limited potential for slope instability risk could arise during grading and construction activities, where slopes could be over-steepened. However, this risk is mitigated by adhering to relevant California Building Code requirements. Additionally, according to the CGS Information Warehouse: Regulatory Maps, the site is not located within a Landslide and

Liquefaction Zone. As a result, the probability of landslides causing substantial adverse effects on people or structures is less than significant.

CONCLUSION

The City, as with virtually all sites within the State of California, will always be subject to potential ground shaking caused by seismic activity anywhere in California, including the Project site. Seismic activity could come from a known active fault such as the Vernalis Fault, or any number of other faults in the region. To minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. As discussed under Section 3.6.2 Regulatory Setting, the California Building Code, Title 24, Part 2, Chapter 16 addresses structural design and Chapter 18 addresses soils and foundations. Collectively, these state requirements, which have been adopted by the City of Stockton, include design standards and requirements that are intended to minimize impacts to structures in seismically active areas of California. Section 1613 specifically provides structural design standards for earthquake loads. Section 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with Section 1613. Section 15.08.010, Adoption of California Building Code, of the Stockton Municipal Code adopts the 2022 edition of the California Building Code. Additionally, the City of Stockton has adopted Design and Construction Standards and incorporated numerous policies relative to seismicity to ensure the health and safety of all people. Designing the Project and future buildings in accordance with these standards and policies would reduce any potential impact to a less than significant level. Because all development in the Project site must be designed in conformance with these State and local standards and policies, this impact would be considered ***less than significant***.

Impact 3.6-2: Implementation and construction of the proposed Project may result in substantial soil erosion or the loss of topsoil (Less than Significant)

The potential for erosion generally increases because of human activity, primarily through the development of facilities and impervious surfaces and the removal of vegetative cover; thus, there is the potential for erosion associated with construction activities or through the operational phase of a project.

The Project site contains high clay content surface soils; therefore, the Project site would potentially be subject to water erosion. As previously mentioned, a Custom Soil Survey was completed for the Project site using the NRCS Web Soil Survey program, which identified the erosion factor K for on-site soils. Within the Project site, the erosion factor Kf varies from 0.20 to 0.28, which is considered low to moderate potential for erosion. Furthermore, because the Project site is essentially flat, the erosion potential is slight. Regardless of the potential for erosion, there is always the potential for human caused erosion associated with construction activities or through the operational phase of a project. Grading, excavation, removal of vegetation cover, and loading activities associated with construction activities could temporarily increase runoff, erosion, and sedimentation. Construction activities also could result in soil compaction and wind erosion effects

that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. Additionally, there is the potential for erosion associated with stormwater runoff throughout the operational phase of the project. The potential for erosion is associated with the design of the improvements, structures, and landscaping.

The proposed Project would be subject to the provisions of the City's Grading and Erosion Control Ordinance (Chapter 15.48 of the Stockton Municipal Code). The purpose of this Ordinance includes the regulation of grading activity on all property within the City of Stockton that results in the excavation of 50 cubic yards of soil. The Ordinance establish requirements for clearing and grubbing, grading, filling, and excavation of land to minimize damage to surrounding property, public right-of-way, and degradation of water quality; controlling the discharge of sediments and pollutant turnoff from construction related activities to municipal separate storm drains; and reducing pollutants in stormwater discharges to the maximum extent practicable. Compliance with all applicable erosion control measures outlined in the City's Grading and Erosion Control Ordinance would assist in minimizing any impacts related to topsoil erosion.

Additionally, in accordance with the NPDES Stormwater Program, projects in California must prepare a SWPPP containing Best Management Practices (BMPs) to reduce erosion and sediments to meet water quality standards. Such BMPs may include temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover. The BMPs and overall SWPPP is reviewed by the Regional Water Quality Control Board as part of the permitting process. Existing regulations requires an approved SWPPP for the Project designed to control erosion and the loss of topsoil to the extent practicable using BMPs that the RWQCB has deemed effective in controlling erosion, sedimentation, runoff during construction activities. The RWQCB has stated that these erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. The specific controls are subject to review and approval by the RWQCB and are existing regulatory requirements.

Overall, compliance with the City's Grading and Erosion Control Ordinance would ensure that the proposed Project would have a ***less-than-significant*** impact relative to this topic.

Impact 3.6-3: The proposed Project has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of Project implementation, and potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse (Less than Significant)

LANDSLIDE AND LIQUEFACTION

As discussed in Impact 3.6-1, the Project site is relatively flat and, to date, the Seismic Hazards Zonation Program of the CGS has not identified any seismically-induced liquefaction or landslide zones in the City of Stockton, including the Project site. Furthermore, the Envision Stockton 2040 General Plan Update EIR identifies the Stockton Planning Area, including the Project site, is at low

risk for liquefaction and landslides. Therefore, the probability of a landslide or liquefication on the Project sites is low, resulting in a less-than-significant impact relative to this topic.

LATERAL SPREADING

Lateral spreading typically occurs on the surface of a slope and is oftentimes directly associated with areas of liquefaction. As stated, the Project site is relatively flat and there are no slopes on-site or within the surrounding area. Further, the Project site is not located within an area identified as having the potential for liquefaction. According to the Envision Stockton 2040 General Plan Update EIR, the Stockton Planning Area does not appear to be located atop unstable geologic materials that are prone to lateral spreading. Therefore, the potential for lateral spreading at the Project site is also low, resulting in a less-than-significant impact relative to this topic.

COLLAPSIBLE SOILS

Collapsible soils or soil collapse occurs when any unsaturated soils go through a radical rearrangement of particles and greatly decreases in volume upon wetting, additional loading, or both. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. As stated, the Project site is relatively flat and is in the valley floor away from the bases of mountain ranges. Further, collapsible soils have not been identified as an issue in the Stockton area. According to the Envision Stockton 2040 General Plan Update EIR, the Stockton Planning Area does not appear to be located atop unstable geologic materials that are prone to collapsible soils. Therefore, the potential for soil collapse at the Project site is also low, resulting in a less-than-significant impact relative to this topic.

SUBSIDENCE

Land subsidence is the gradual settling or sinking of an area with little or no horizontal motion due to changes taking place underground. It is a natural process, although it can also occur (and is greatly accelerated) because of human activities. Subsidence has not been identified as an issue in the Stockton area. According to the Envision Stockton 2040 General Plan Update EIR, the Stockton Planning Area does not appear to be located atop unstable geologic materials that are prone to subsidence. Therefore, the potential for subsidence at the Project site is also low, resulting in a less-than-significant impact relative to this topic.

CONCLUSION

Based on the analysis above, the Project site does not have a significant risk of becoming unstable as a result landslide, liquefication, subsidence, or soil collapse; however, the potential does still exist. In accordance with the City of Stockton Subdivision Ordinance (Title 16, Division 6, Subdivision Regulations), a geologic soils report must be submitted to the City along with the Project final map, unless the Director determines that, due to available information about the soil qualities of the soil of the subdivision or lot, no preliminary analysis is necessary. Consistent with the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2, and the Stockton Municipal Code, if a preliminary geotechnical evaluation determines that expansive or other

special soil conditions are present which, if not corrected, would lead to structural defects, an investigation covering each lot in the subdivision would be required that would include corrective actions to prevent structural damage. As such, the Project would be required to prepare a geotechnical evaluation of soils at a design-level, consistent with the requirements of the CBC. The geotechnical evaluation would be prepared in accordance with the standards and requirements outlined in the CBC, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The geotechnical evaluation would include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures. Implementation of the design recommendations would ensure that all on-site fill soils are properly compacted and comply with the applicable safety requirements established by the CBC to reduce risks associated with unstable soils and excavations and fills, and that any issues associated with unstable soils are addressed at the design level. Therefore, compliance with the existing regulatory environment would ensure the proposed Project would have a ***less-than-significant*** impact relative to this topic.

Impact 3.6-4: The proposed Project has the potential for expansive soils to create substantial risks to life or property (Less than Significant)

Expansive soils are those that undergo volume changes as moisture content fluctuates, swelling substantially when wet or shrinking when dry. Soil expansion can damage structures by cracking foundations, causing settlement, and distorting structural elements. Expansion is a typical characteristic of certain varieties of clay-type soils. Expansive soils shrink and swell in volume during changes in moisture content, because of seasonal rain events, and can cause damage to foundations, concrete slabs, roadway improvements, and pavement sections.

According to the NRCS Web Soil Survey, the soils in the Project site have a high shrink-swell potential due to their clayey composition. The NRCS Web Soil Survey indicated that near surface soils within the Project site have medium plasticity, and the expansion potential of the soils would respond to fluctuations in moisture content. Therefore, measures to reduce potentially significant impacts related to expansive site soils would be necessary.

As discussed in Impact 3.6-3, the City of Stockton Subdivision Ordinance (Title 16, Division 6, Subdivision Regulations) would require a geologic soils report be submitted to the City along with the Project final map, unless the Director determines that, due to available information about the soil qualities of the soil of the subdivision or lot, no preliminary analysis is necessary. Consistent with the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2, and the Stockton Municipal Code, if a preliminary geotechnical evaluation determines that expansive or other special soil conditions are present which, if not corrected, would lead to structural defects, an investigation covering each lot in the subdivision would be required that would include corrective actions to prevent structural damage. The City of Stockton also requires a final geotechnical evaluation to be performed at a design-level to ensure that the foundations, structures, roadway sections, sidewalks, and other improvements can accommodate the specific soils, including expansive soils, at those locations. As such, the Project would be required to prepare a geotechnical evaluation of soils at a design-level, in accordance with the standards and requirements outlined in the California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and

Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation would include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures. The grading and improvement plans, as well as the storm drainage and building plans, are required to be designed in accordance with the recommendations provided in the final geotechnical evaluation. Therefore, compliance with the existing regulatory environment would ensure the proposed Project would have a ***less-than-significant*** impact relative to this topic.

Impact 3.6-5: The proposed Project has the potential to directly or indirectly destroy a unique geological feature or paleontological resource (Less than Significant with Mitigation)

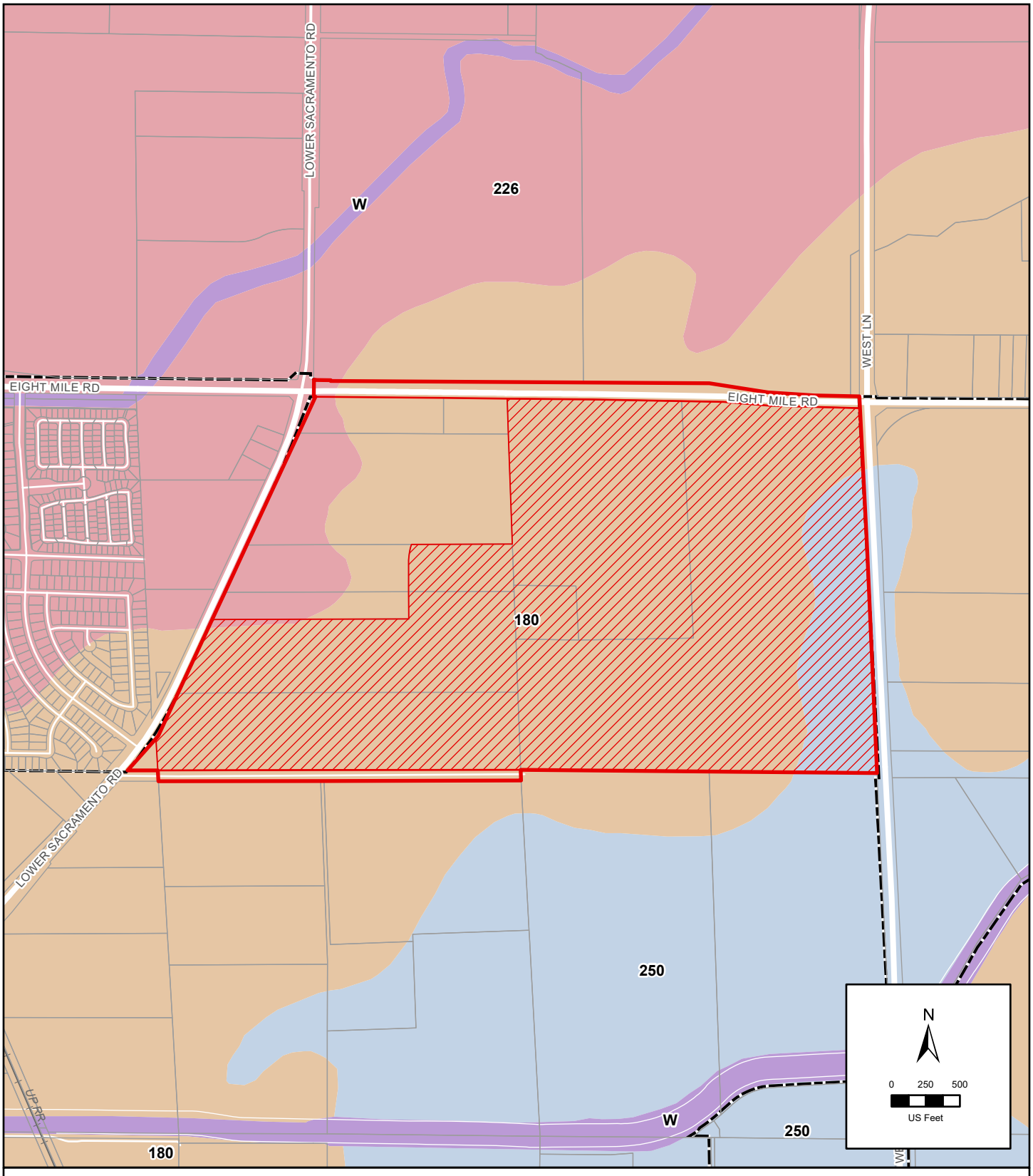
The Project site is in an area known to have paleontological resources. As previously mentioned, the Envision Stockton 2040 General Plan Update EIR included a search of the database of the UC Museum of Paleontology at Berkeley, which identified over 800 documented fossil localities within San Joaquin County. While only a handful were identified within the Stockton Planning Area, it is possible that undiscovered paleontological resources could be encountered during ground-disturbing activities from development of the Project site.

Damage to or destruction of a paleontological resource would be considered a potentially significant impact under local, State, or federal criteria. Implementation of Mitigation Measure 3.6-1 would ensure steps would be taken to reduce impacts to paleontological resources if they are discovered during construction, including stopping work in the event potential resources are found, evaluation of the resource by a qualified paleontologist and appropriate handling of any potential resource. This mitigation measure would reduce this impact to a ***less-than-significant*** level.

MITIGATION MEASURE(S)

Mitigation Measure 3.6-1: *If any paleontological resources are found during grading and construction activities of the Project, all work shall be halted immediately within a 200-foot radius of the discovery until a qualified paleontologist has evaluated the find.*

Work shall not continue at the discovery site until the paleontologist evaluates the find and makes a determination regarding the significance of the resource and identifies recommendations for conservation of the resource, including preserving in place or relocating on the Project site, if feasible, or collecting the resource to the extent feasible and documenting the find with the University of California Museum of Paleontology.



LEGEND

- Development Area
- Project Site
- Stockton City Limits

Soil Types

- 180 - Jacktone clay, 0 to 2 percent slopes
- 226 - Rioblancho clay loam, drained, 0 to 2 percent slopes
- 250 - Stockton clay, 0 to 2 percent slopes
- W - Water

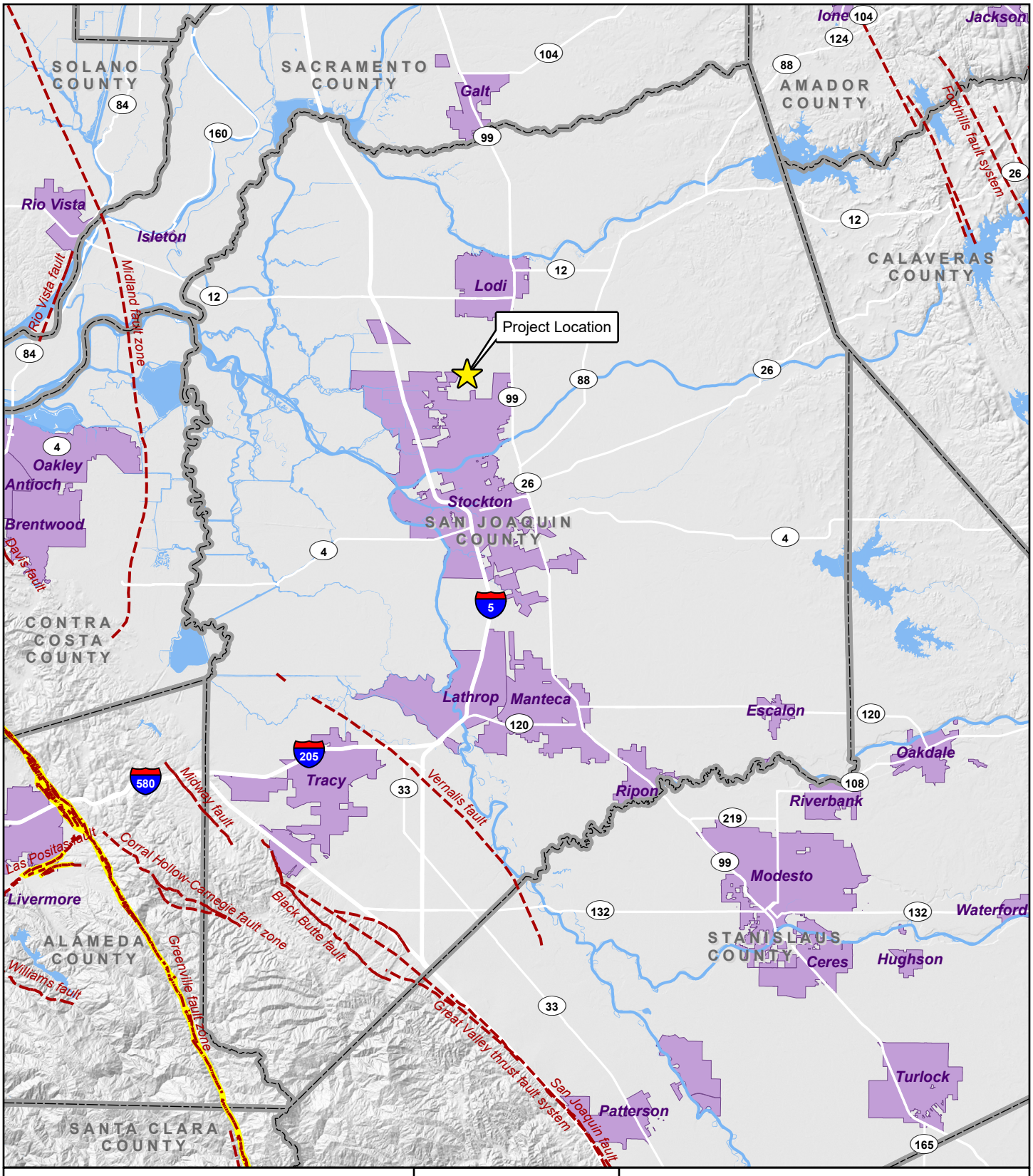
STOCKTON LEBARON RANCH

Figure 3.6-1. Soils Map

Sources: NRCS Soil Survey; San Joaquin County GIS. Map date: July 13, 2023.

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SOLANO COUNTY
SACRAMENTO COUNTY
AMADOR COUNTY
CALAVERAS COUNTY
SAN JOAQUIN COUNTY
CONTRA COSTA COUNTY
ALAMEDA COUNTY
SANTA CLARA COUNTY
STANISLAUS COUNTY
Project Location
Rio Vista
Isleton
Galt
Lodi
Stockton
Oakley
Antioch
Brentwood
Tracy
Lathrop
Manteca
Escalon
Ripon
Oakdale
Riverbank
Modesto
Waterford
Ceres
Hughson
Turlock
Patterson
Livermore
Ione
Jackson
Rio Vista fault
Midland fault zone
Foothills fault system
Davis fault
Midway fault
Vernalis fault
Las Positas fault
Corral Hollow-Carnegie fault zone
Black Butte fault
Greenville fault zone
Williams fault
Great Valley thrust fault system
San Joaquin fault
LEGEND
Incorporated Area
County Boundary
Quaternary Fault
Alquist Priolo Fault Zone
Sources: San Joaquin County GIS. Map date: July 13, 2023.
N
0 2½ 5
Miles
STOCKTON LEBARON RANCH
Figure 3.6-2. Earthquake Fault Map
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This section discusses regional greenhouse gas (GHG) emissions, climate change, and energy conservation impacts that could result from Project implementation. The analysis contained in this section is intended to be at a Project-level, and covers impacts associated with the conversion of the entire site to urban uses. This section provides a background discussion of greenhouse gases and climate change linkages and effects of global climate change. This section is organized with an existing setting, regulatory setting, approach/methodology, and impact analysis. The analysis and discussion of the GHG, climate change, and energy conservation impacts in this section focuses on the proposed Project's consistency with local, regional, and statewide climate change planning efforts and discusses the context of these planning efforts as they relate to the proposed Project. Disclosure and discussion of the Project's estimated energy usage and greenhouse gas emissions are provided.

There were no comments received during the NOP scoping process related to this environmental topic.

3.7.1 ENVIRONMENTAL SETTING

GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

Various gases in the Earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring GHGs include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. Although the direct GHGs CO_2, CH_4, and N_2O occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2019, concentrations of these three GHGs have increased globally by 47, 156, and 23 percent, respectively (IPCC, 2023).

GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial and electricity generation sectors (California Energy Commission, 2023).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced 369 million gross metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2022 (California Air Resources Board, 2023).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2022, accounting for 38% of total GHG emissions in the State. This category was followed by the industrial sector (23%), the electricity generation sector (including both in-state and out of-state sources) (16%), the agriculture and forestry sector (9%), the residential energy consumption sector (8%), and the commercial energy consumption sector (6%) (California Air Resources Board, 2023).

EFFECTS OF GLOBAL CLIMATE CHANGE

The effects of increasing global temperature are far-reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change. In general, increases in the ambient global temperature as a result of increased GHGs are anticipated to result in rising sea levels, which could threaten coastal areas through accelerated coastal erosion, threats to levees and inland water systems and disruption to coastal wetlands and habitat.

If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the State. Although large snowstorms in recent years have reduced risks of drought in California in the short-term, in the longer term, the snowpack portion of the supply could potentially decline dramatically. For example, National Resource Defense Council projected that snowpack is likely to decline by 25 to 40% by the year 2050, and by 50 to 75% by the end of the 21st century (National Resources Defense Council, 2014). This phenomenon could lead to significant challenges securing an adequate water supply for a growing state population. Further, the increased ocean temperature could result in increased moisture flux into the State; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately seven inches during the last century and it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels. If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands. As the existing climate throughout California changes over time, mass migration of

species, or failure of species to migrate in time to adapt to the perturbations in climate, could also result. According to the Indicators of Climate Change in California report (OEHHA, 2022), the impacts of global warming in California are anticipated to include, but are not limited to, the following:

Public Health

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25% to 35% under the lower warming range and to 75% to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the State from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snow pack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snow pack, increasing the risk of summer water shortages.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major State fresh water supply. Global warming is also projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25% of the water supply they need; decrease the potential for hydropower production within the State (although the effects on hydropower are uncertain); and seriously harm winter tourism. Under the lower warming range, the snow dependent winter recreational season at lower elevations could be reduced by as much as one month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing, snowboarding, and other snow dependent recreational activities.

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snow pack by as much as 70% to 90%. Under the lower warming scenario, snow pack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. How much snow pack

will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snow pack would pose challenges to water managers, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

Agriculture

Increased GHG emissions are expected to cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. Although higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts, and milk.

Crop growth and development will be affected, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

Global warming is expected to alter the distribution and character of natural vegetation thereby resulting in a possible increased risk of large wildfires. According to California's Fourth Climate Change Assessment (Fourth Assessment), if temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the State. For example, if precipitation increases as temperatures rise, wildfires in southern California are expected to increase by approximately 30% toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90%.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the State. For example, alpine and sub-alpine ecosystems are expected to decline by as much as 60%

to 80% by the end of the century as a result of increasing temperatures. The productivity of the State's forests is also expected to decrease as a result of global warming.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the State's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

ENERGY CONSUMPTION

Energy in California is consumed from a wide variety of sources. Fossil fuels (including gasoline and diesel fuel, natural gas, and energy used to generate electricity) are the most widely used form of energy in the State. However, renewable sources of energy (such as solar and wind) are growing in proportion to California's overall energy mix. A large driver of renewable sources of energy in California is the State's current Renewable Portfolio Standard (RPS), which requires the State to derive at least 60 percent of electricity generated by 2030, and to achieve zero-carbon emissions by 2045 (as passed in September 2018, under Senate Bill 100). The 2021 SB 100 Joint Agency Report was published in 2021, which found that the long-term goals contained in SB 100 are technically achievable through multiple pathways, although achieving 100 clean electricity would increase the total annual electricity system cost by 6% relative to the cost under the state's Renewables Portfolio Standard requirement of having at least 60 percent clean electricity by the end of 2030. These estimates will change over time as markets change, new technologies are commercialized, and additional factors such as grid reliability are included in future analyses.

Overall, in 2019, California's per capita energy usage was ranked second-lowest in the nation (U.S. EIA, 2020b). California's per capita rate of energy usage has remained relatively constant since the 1970's. Many State regulations since the 1970s, including new building energy efficiency standards, vehicle fleet efficiency measures, as well as growing public awareness, have helped to keep per capita energy usage in the State in check.

The consumption of non-renewable energy (i.e., fossil fuels) associated with the operation of passenger, public transit, and commercial vehicles results in GHG emissions that contribute to global climate change. Alternative fuels such as natural gas, ethanol, and electricity (unless derived from solar, wind, nuclear, or other energy sources that do not produce carbon emissions) also result in GHG emissions and contribute to global climate change.

Electricity Consumption

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and a very small amount of nuclear generation resources. In 2020, nearly one-half of the electricity supply came from facilities outside of the State. Much of the power delivered to California from states in the Pacific Northwest was generated by wind. States in the Southwest delivered power generated at coal-fired power plants, at natural gas-fired power plants, and from

nuclear generating stations (U.S. EIA, 2022). In 2020, approximately 41 percent of California's utility-scale net electricity generation was fueled by natural gas. In addition, about 48 percent of the State's utility-scale net electricity generation came from renewable sources, such as solar, wind, geothermal, hydropower, and biomass. Nuclear energy powered an additional 11 percent. The amount of electricity generated from coal was effectively zero (U.S. EIA, 2022). The percentage of renewable resources as a proportion of California's overall energy portfolio is increasing over time, as directed the State's Renewable Portfolio Standard (RPS).

According to the California Energy Commission (CEC), total statewide electricity consumption increased from 166,979 gigawatt-hours (GWh) in 1980 to 228,038 GWh in 1990, which is an estimated annual growth rate of 3.66 percent. The statewide electricity consumption in 1997 was 246,225 GWh, reflecting an annual growth rate of 1.14 percent between 1990 and 1997 (U.S. EIA, 2023b). Statewide consumption was 274,985 GWh in 2010, an annual growth rate of 0.9 percent between 1997 and 2010. In 2021, electricity consumption in San Joaquin County was 5,608 GWh (California Energy Commission, 2023).

PG&E is a publicly traded utility company that, under contract with the California Public Utilities Commission (CPUC), generates, purchases, and distributes energy. PG&E's service area covers 70,000 square miles, roughly extending north to south from Eureka to Bakersfield and east to west from the Sierra Nevada to the Pacific Ocean. PG&E's electricity distribution system consists of 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines.

PG&E's electricity is generated from a combination of traditional sources, such as coal-fired plants, nuclear power plants, and hydroelectric dams, as well as newer sources of energy, such as wind turbines and photovoltaic plants, or "solar farms." "The grid," or bulk electric grid, is a network of high-voltage transmission lines that link power plants to the PG&E system. The distribution system, comprising lower-voltage secondary lines, is at the street and neighborhood level. It consists of overhead or underground distribution lines, transformers, and individual service "drops" that connect to individual customers.

In addition to its base plan, PG&E has three plan options, known as Solar Choice options and Green Saver, which give customers the option of purchasing energy from solar resources. The first Solar Choice option provides up to 50 percent of a customer's energy from solar resources, while the other option provides up to 100 percent of a customer's energy from solar resources, and the Green Saver option provides up to 90 percent of a customer's energy from solar resources.

Table 3.7-1 outlines PG&E's power mix in 2021, compared to the power mix for the state. The table identifies the renewable and non-renewable energy sources for PG&E. It should be noted that some GHG free sources are not considered renewable (e.g., nuclear is GHG free but not renewable).

TABLE 3.7-1. PG&E AND THE STATE OF CALIFORNIA POWER MIX IN 2021

ENERGY RESOURCES	*PG&E OPTION: BASE*	*PG&E OPTION: 50% SOLAR CHOICE*	*PG&E OPTION: 100% SOLAR*	*PG&E OPTION: GREEN SAVER*	*CALIFORNIA POWER MIX 2021*
Eligible Renewable	47.7%	70.9%	93.9%	89.9%	33.6%
Biomass and waste	4.2%	2.1%	0.0%	0.0%	2.3%
Geothermal	5.2%	2.6%	0.0%	0.0%	4.8%
Small hydroelectric	1.8%	0.9%	0.0%	0.0%	1.0%
Solar	25.7%	59.8%	93.9%	89.9%	14.2%
Wind	10.9%	5.5%	0.0%	0.0%	11.4%
Coal	0.0%	0.0%	0.0%	0.0%	3.0%
Large Hydroelectric	4.0%	2.0%	0.0%	0.0%	9.2%
Natural Gas	8.9%	7.4%	0.0%	0.0%	37.9%
Nuclear	39.3%	19.7%	0.0%	0.0%	9.3%
Other	0.0%	0.0%	0.0%	0.0%	0.2%
Unspecified	0.0%	0.0%	6.1%	10.1%	6.8%

SOURCE: PG&E. 2021. 2021 POWER CONTENT LABEL. AVAILABLE: HTTPS://WWW.ENERGY.CA.GOV/FILEBROWSER/DOWNLOAD/4653. ACCESSED: NOVEMBER 10, 2023.

[A.] ELECTRICITY FROM TRANSACTIONS THAT ARE NOT TRACEABLE TO SPECIFIC GENERATION SOURCES ARE CLASSIFIED AS UNSPECIFIED SOURCES OF POWER.

In 2021, the latest year for which data is available, statewide consumption was 277,205 GWh (California Energy Commission, 2022). In 2020, electricity consumption in San Joaquin County was 5,737 GWh (California Energy Commission, 2021).

Oil

The primary energy source for the United States is oil, which is refined to produce fuels like gasoline, diesel, and jet fuel. Oil is a finite, nonrenewable energy source. World consumption of petroleum products has grown steadily in the last several decades. As of 2019, world consumption of oil had reached approximately 98 million barrels per day. The United States, with approximately five percent of the world's population, accounts for approximately 19 percent of world oil consumption, or approximately 18.6 million barrels per day (U.S. EIA, 2020c). The transportation sector relies heavily on oil. In California, petroleum-based fuels currently provide approximately 95 percent of the State's transportation energy needs.

Natural Gas/Propane

The State produces approximately 12 percent of its natural gas, while obtaining 22 percent from Canada and 65 percent from the Rockies and the Southwest (California Energy Commission, 2012). PG&E is the largest publicly-traded utility in California and provides natural gas for residential, industrial, and agency consumers within the San Joaquin County area. PG&E's natural gas (i.e., methane) delivery system includes 42,000 miles of natural gas distribution pipelines and 6,700 miles of transmission pipelines. PG&E's gas transmission system serves approximately 15 million energy

customers in California. The system is operated under an inspection and monitoring program in real time on a 24-hour basis, with leak inspections, surveys, and patrols continuously taking place along the pipelines. Gas delivered by PG&E originates in gas fields in California, the Southwest, the Rocky Mountains, and Canada. Transmission pipelines send natural gas from the fields and storage facilities. The smaller distribution pipelines deliver gas to individual businesses or residences.

In As of March 2022, California produced 11.4 billion cubic feet of natural gas per month (U.S. EIA, 2022). PG&E is the largest publicly-owned utility in California and provides natural gas for residential, industrial, and agency consumers within the San Joaquin County area. In 2021, natural gas consumption in San Joaquin County was approximately 186 million therms (California Energy Commission, 2023). Residential natural gas consumption accounted for approximately 90.18 million therms.

3.7.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: National Ambient Air Quality Standards (NAAQS) for criteria air pollutants, hazardous air pollutant standards, State attainment plans, NAAQS motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The EPA is responsible for administering the FCAA. The FCAA requires the EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

In 2007, in the court case of *Massachusetts et al. vs. the USEPA et al*. (549 U.S. 497), the U.S. Supreme Court found that GHGs are air pollutants covered by the federal Clean Air Act (42 USC Sections 7401-7671q). The Supreme Court held that the Administrator of the United States Environmental Protection Agency must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the Administrator is required to follow the language of Section 202(a) of the Clean Air Act. On December 7, 2009, the Administrator signed two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.

- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite for implementing GHG emission standards for vehicles. In collaboration with the National Highway Traffic Safety Administration (NHTSA) and CARB, the USEPA developed emission standards for light-duty vehicles (2012-2025 model years), and heavy-duty vehicles (2014-2027 model years).

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and for revising existing standards.

Since 1990, the fuel economy standard for new passenger cars has been 27.5 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is determined on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the EPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

Federal Climate Change Policy

According to the U.S. EPA, "the United States government has established a comprehensive policy to address climate change" that includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, "the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science." The U.S. EPA administers multiple programs that encourage voluntary GHG reductions, including "ENERGY STAR," "Climate Leaders," and Methane Voluntary Programs.

The following are actions taken at the federal level relating to GHG emissions.

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the U.S. EPA and the Department

of Transportation's National Highway Safety Administration announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program applies to passenger cars, light duty trucks, and medium duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this CO_2 level solely through fuel economy improvements. The U.S. EPA and the National Highway Safety Administration issued final rules on a second phase joint rulemaking, establishing national standards for light duty vehicles for model years 2017 through 2025 in August 2012.[1] The standards for model years 2017 through 2025 apply to passenger cars, light duty trucks, and medium duty passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of CO2 in model year 2025, which is equivalent to 54.5 miles per gallon (mpg) if achieved exclusively through fuel economy improvements.

The U.S. EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses on September 15, 2011, which became effective November 14, 2011. For combination tractors, the agencies adopted engine and vehicle standards that began in the 2014 model year and achieved up to a 20 percent reduction in CO2 emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies adopted separate gasoline and diesel truck standards, which phased in starting in the 2014 model year.

Mandatory Reporting of Greenhouse Gases. The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the U.S. EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the United States and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to the U.S. EPA.

Cap and Trade. Cap and trade refers to a policy tool where emissions are limited to a certain amount and can be traded, or provides flexibility on how the emitter can comply. There is no federal GHG cap-and-trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap and trade.

The Western Climate Initiative partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15 percent below 2005 levels by 2020. The partners are California,

[1] United States Environmental Protection Agency (EPA). 2012. EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks. Website: http://www.epa.gov/otaq/climate/documents/420f12051.pdf. Accessed January 21, 2021.

British Columbia, Manitoba, Ontario, and Quebec. Currently, only California and Quebec are participating in the cap-and-trade program.

STATE

The California Legislature has enacted a series of statutes in recent years addressing the need to reduce GHG emissions across the State. These statutes can be categorized into four broad categories: (i) statutes setting numerical statewide targets for GHG reductions, and authorizing CARB to enact regulations to achieve such targets; (ii) statutes setting separate targets for increasing the use of renewable energy for the generation of electricity throughout the State; (iii) statutes addressing the carbon intensity of vehicle fuels, which prompted the adoption of regulations by CARB; and (iv) statutes intended to facilitate land use planning consistent with statewide climate objectives. The discussion below will address each of these key sets of statutes, as well as Executive Orders and CARB "Scoping Plans" intended to achieve GHG reductions under the first set of statutes and recent building code requirements intended to reduce energy consumption.

Statutes Setting Statewide GHG Reduction Targets

ASSEMBLY BILL 32 (GLOBAL WARMING SOLUTIONS ACT)

In 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006 (Health & Safety Code Section 38500 et seq.), also known as Assembly Bill (AB) 32 (Stats. 2006, ch. 488). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 required that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction was accomplished through an enforceable statewide cap on GHG emissions that was phased in starting in 2012. To effectively implement the cap, AB 32 directed the California Air Resources Board (CARB) to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

SENATE BILL 32

SB 32 (Stats. 2016, ch. 249) added Section 38566 to the Health and Safety Code. It provides that "[i]n adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by [Division 25.5 of the Health and Safety Code], [CARB] shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030." In other words, SB 32 requires California, by 2030, to reduce its statewide GHG emissions so that they are 40 percent below those that occurred in 1990.

EXECUTIVE ORDERS S-3-05, B-30-15, AND B-55-18

The 2020 statewide GHG reduction target in AB 32 was consistent with the second of three statewide emissions reduction targets set forth in former Governor Arnold Schwarzenegger's 2005 Executive Order known as S-3-05, which is expressly mentioned in AB 32. (See Health & Safety Code Section 38501, subd. (i).) That Executive Branch document included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions

to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several State agencies to cooperate in the development of a climate action plan. The Secretary of Cal-EPA leads the Climate Action Team, whose goal is to implement global warming emission reduction programs identified in the Climate Action Plan and to report on the progress made toward meeting the emission reduction targets established in the executive order.

In 2015, Governor Brown issued Executive Order, B-30-15, which created a "new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 is established in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050." SB 32 codified this target.

In 2018, the Governor issued Executive Order B-55-18, which established a statewide goal to "achieve carbon neutrality as soon as possible, and no later than 2045, and maintain and achieve negative emissions thereafter." The order directs the CARB to work with other State agencies to identify and recommend measures to achieve those goals. As discussed below, the 2022 Scoping Plan lays out a path towards achieving carbon neutrality by 2045.

SB 350

Senate Bill 350 (SB 350) (Stats. 2015, ch. 547) added to the Public Utilities Code language that puts into statute the 2050 GHG reduction target identified in Executive Order S-3-05, albeit in the limited context of new state policies (i) increasing the overall share of electricity that must be produced through renewable energy sources and (ii) directing certain State agencies to begin planning for the widespread electrification of the California vehicle fleet. Section 740.12(a)(1)(D) of the Public Utilities Code states that "[t]he Legislature finds and declares [that] … [r]educing emissions of [GHGs] to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification." Furthermore, Section 740.12(b) states that the California Public Utilities Commission (CPUC), in consultation with CARB and the California Energy Commission (CEC), must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, … and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

AB 1279

In September 2022, the Legislature enacted AB 1279 (Stats. 2022, ch. 337). The bill declares the policy of the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter. Additionally, the bill requires that by 2045, statewide anthropogenic GHG emissions be reduced to at least 85% below 1990 levels.

Statutes Setting Target for the Use of Renewable Energy for the Generation of Electricity

CALIFORNIA RENEWABLES PORTFOLIO STANDARD

Senate Bill X1-2 (Stats. 2011, 1st Ex. Sess., ch. 1) set aggressive statutory targets for renewable electricity, culminating in the requirement that 33 percent of the State's electricity come from renewables by 2020. This legislation applies to all electricity retailers in the State, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities were required to meet renewable energy goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020. (See Pub. Utility Code, Section 399.11 et seq. [subsequently amended].) SB 350, discussed below, increases the Renewable Portfolio Standard to require 50 percent of electricity generated to be from renewables by 2030. (Pub. Utility Code, Section 399.11, subd (a); see also Section 399.30, subd. (c)(2).) In 2018, Senate Bill 100 (Stats. 2018, ch. 312) revised the above-described deadlines and targets so that the State will have to achieve a 50% renewable resources target by December 31, 2026 (instead of by 2030) and achieve a 60% target by December 31, 2030. The legislation also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers and 100% of electricity procured to serve all State agencies by December 31, 2045.

Statutes and CARB Regulations Addressing the Carbon Intensity of Petroleum-based Transportation Fuels

ASSEMBLY BILL 1493, PAVLEY CLEAN CARS STANDARDS

In 2002, the Legislature enacted Assembly Bill 1493 ("Pavley Bill") (Stats. 2002, ch. 200), which directed CARB to develop and adopt regulations that achieve the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks beginning with model year 2009. (See Health and Safety Code Section 43018.5.) In September 2004, pursuant to this directive, CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. These regulations created what are commonly known as the "Pavley standards." In September 2009, CARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations created what are commonly known as the "Pavley II standards." (See California Code of Regulations, Title 13, Sections 1900, 1961, and 1961.1 et seq.)

In 2012, CARB adopted an Advanced Clean Cars (ACC) program aimed at reducing both smog-causing pollutants and GHG emissions for vehicles model years 2017-2025. This historic program, developed in coordination with the USEPA and NHTSA, combined the control of smog-causing (criteria) pollutants and GHG emissions into a single coordinated set of requirements for model years 2015 through 2025. The regulations focus on substantially increasing the number of plug-in hybrid cars and zero-emission vehicles in the vehicle fleet and on making fuels such as electricity and hydrogen readily available for these vehicle technologies. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and

medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years. (See California Code of Regulations, Title 13, Sections 1900, 1961, 1961.1, 1961.2, 1961.3, 1965, 1968.2, 1968.5, 1976, 1978, 2037, 2038, 2062, 2112, 2139, 2140, 2145, 2147, 2235, and 2317 et seq.)

It is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 34 percent below 2016 levels by 2025, all while improving fuel efficiency and reducing motorists' costs.

Statute Intended to Facilitate Land Use Planning Consistent with Statewide Climate Objectives

CALIFORNIA SENATE BILL 375 (SUSTAINABLE COMMUNITIES STRATEGY)

This 2008 legislation built on AB 32 by setting forth a mechanism for coordinating land use and transportation on a regional level for the purpose of reducing GHGs. The focus is to reduce miles traveled by passenger vehicles and light trucks. CARB is required to set GHG reduction targets for each metropolitan region for 2020 and 2035.[2] Each of California's metropolitan planning organizations then prepares a sustainable communities strategy that demonstrates how the region will meet its GHG reduction target through integrated land use, housing, and transportation planning. Once adopted by the metropolitan planning organizations, the sustainable communities strategy is to be incorporated into that region's federally enforceable regional transportation plan. If a metropolitan planning organization is unable to meet the targets through the sustainable communities strategy, then an alternative planning strategy must be developed that demonstrates how targets could be achieved, even if meeting the targets is deemed to be infeasible.

Climate Change Scoping Plans

2022 SCOPING PLAN UPDATE

In accordance with AB 32, the CARB developed the first Scoping Plan in 2008 to outline the State's strategy to achieve 1990 level emissions by year 2020. In May 2014, the CARB released and adopted the *First Update to the Climate Change Scoping Plan* to identify the next steps in reaching AB 32 goals and evaluate the progress that has been made between 2000 and 2012. A newer version of the Scoping Plan was then adopted by the CARB in December 2017 (entitled *California's 2017 Climate Change Scoping Plan*). Lastly, the most recent version of the Scoping Plan was adopted by the CARB in November 2022 (entitled *Final 2022 Scoping Plan for Achieving Carbon Neutrality*) (2022 Scoping Plan), which was designed consistent with the long-term GHG reduction targets embedded in AB 1279. Since adoption of the 2008 Scoping Plan and the subsequent updates in 2014, 2017, and 2022, State agencies have adopted programs identified in the plan, and the Legislature has passed additional legislation to achieve the GHG reduction targets. Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard, California Appliance Energy Efficiency regulations,

[2] The San Joaquin COG region was assigned reduction targets of 12% by 2020 and 16% by 2035.

California Building Standards (e.g., CALGreen and the 2022 Building and Energy Efficiency Standards), zero carbon electricity by 2045, and changes in the corporate average fuel economy standards (e.g., Pavley I and California Advanced Clean Cars)).

SB 605 AND SB 1383

SB 605 (2014) required CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants in the state, and SB 1383 (2016) required CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of short-lived climate pollutants (40% below 2013 levels by 2030 for methane and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, CARB adopted its Short-Lived Climate Pollutant Reduction Strategy (Reduction Strategy) in March 2017. The Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, methane, and fluorinated gases.

ASSEMBLY BILL 1757

AB 1757 (September 2022) requires the California Natural Resources Agency (CNRA) to determine a range of targets for natural carbon sequestration, and for nature-based climate solutions that reduce GHG emissions for future years 2030, 2038, and 2045. These targets are to be determined by no later than January 1, 2024, and are established to support the state's goals to achieve carbon neutrality and foster climate adaptation and resilience.

Building Code Requirements Intended to Reduce GHG Emissions

CALIFORNIA ENERGY CODE

The California Energy Code (CCR Title 24, Part 6), which is incorporated into the Building Energy Efficiency Standards, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Although these standards were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity and thus less consumption of fossil fuels, which emit GHGs. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.

The most recent Title 24 standards are the 2022 Title 24 standards. Buildings permitted on or after January 1, 2023, must comply with the 2022 Standards. The California Energy Commission updates the standards every three years. The CEC estimates that the 2022 Title 24 standards will reduce 10 million metric tons of GHG over 30 years. When compared to the 2019 Title 24 standards, the 2022 update focuses on: encouraging electric heat pump technology and use; establishing electric-ready requirements when natural gas is installed; expanding solar photovoltaic (PV) system and battery storage standards; and strengthening ventilation standards to improve indoor air quality.

CALIFORNIA GREEN BUILDING STANDARDS CODE

The purpose of the California Green Building Standards Code (CalGreen) (CCR Title 24, Part 11) is to improve public health and safety and to promote the general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: 1) planning and design; 2) energy efficiency; 3) water efficiency and conservation; 4) material conservation and resource efficiency; and 5) environmental quality. CalGreen, which became effective on January 1, 2011, instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial, low-rise residential uses, and State-owned buildings, as well as schools and hospitals. The mandatory standards require the following:

- 20 percent mandatory reduction in indoor water use relative to baseline levels;
- 50 percent construction/demolition waste must be diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particle boards.

The voluntary standards require the following:

- Tier I: 15 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof.
- Tier II: 30 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content, 30 percent permeable paving, 30 percent cement reduction, and cool/solar reflective roof.

The latest version of CalGreen is the 2022 CalGreen Code, which became effective on January 1, 2023. Between 2010 and 2022, continuous updates and additions have been made to CALGreen, including water conservation and recycling, electric vehicle infrastructure and charging, and changes intended to eliminate conflicts with the California Energy Code, which is Part 6 of Title 24.

TITLE 20

CCR Title 20 requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. The CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low-voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing each type of

appliance covered under the regulations, and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

SENATE BILL 1

SB 1 (Murray) (August 2006) established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry. The goals included establishing solar energy systems as a viable mainstream option for homes and businesses within 10 years of adoption and placing solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed "Go Solar California," was previously titled "Million Solar Roofs."

SOLID WASTE

AB 939, AB 341, and AB 1826. In 1989, AB 939, known as the Integrated Waste Management Act (PRC Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by 2000.

AB 341 (Chapter 476, Statutes of 2011 [Chesbro]) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal (CalRecycle, 2012).

AB 1826 (Chapter 727, Statutes of 2014, effective 2016) requires businesses to recycle their organic waste (i.e., food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) depending on the amount of waste they generate per week. This law also requires local jurisdictions across the state to implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. The minimum threshold of organic waste generation by businesses subject to the law decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

REGIONAL

PG&E adopted the 2020 Integrated Resource Plan (IRP) on September 1, 2020, to provide guidance for serving the electricity and natural gas needs of residents and businesses within its service area

while fulfilling regulatory requirements. The IRP contains the following objectives that are relevant to the Project:

- Clean Energy: In 2021, PG&E delivered nearly 50 percent of its electricity from RPS-eligible renewable resources, such as solar, wind, geothermal, biomass, and small hydropower. In addition, PG&E's GHG-free energy production, which encompasses renewable resources, large hydropower, and nuclear, satisfied all of PG&E's bundled retail sales in 2021.
- Reliability: PG&E's IRP analysis includes PG&E's contribution to system and local reliability, in compliance with the CPUC's resource adequacy requirements, especially as California transitions toward higher shares of GHG-free generation resources.
- Affordability: PG&E's IRP analysis selects resources to meet the state's clean energy and reliability goals and provides a system average rate forecast in compliance with the CPUC's requirements for investor-owned utilities.

SAN JOAQUIN AIR POLLUTION CONTROL DISTRICT

Climate Change Action Plan

On August 21, 2008, the Valley Air District Governing Board approved a proposal called the Climate Change Action Plan (CCAP). The CCAP began with a public process bringing together stakeholders, land use agencies, environmental groups, and business groups to conduct public workshops to develop comprehensive policies for CEQA Guidelines, a carbon exchange bank, and voluntary GHG emissions mitigation agreements for the Governing Board's consideration. The CCAP contains the following goals and actions:

- Develop GHG significance thresholds to address CEQA projects with GHG emission increases.
- Develop the San Joaquin Valley Carbon Exchange for banking and trading GHG reductions.
- Authorize use of the SJVAPCD [Valley Air District's] existing inventory reporting system to allow use for GHG reporting required by AB 32 regulations.
- Develop and administer GHG reduction agreements to mitigate proposed emission increases from new projects.
- Support climate protection measures that reduce greenhouse gas emissions as well as toxic and criteria pollutants. Oppose measures that result in a significant increase in toxic or criteria pollutant emissions in already impacted areas.

Rule 2301

While the CCAP indicated that the GHG emission reduction program would be called the San Joaquin Valley Carbon Exchange, the Valley Air District incorporated a method to register voluntary GHG emission reductions into its existing Rule 2301-Emission Reduction Credit Banking through amendments of the rule. Amendments to the rule were adopted on January 19, 2012. The purposes of the amendments to the rule include the following:

- Provide an administrative mechanism for sources to bank voluntary GHG emission reductions for later use.

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

LOCAL

Envision Stockton 2040 General Plan

The following policies and actions of the Stockton General Plan related to GHGs, climate change, and energy are applicable to the proposed Project:

POLICIES: LAND USE ELEMENT

- LU-1.1. Encourage retail businesses and housing development in mixed-use developments along regional transportation routes and in areas that serve local residents.
- LU-2.5. Promote Downtown Stockton as a primary transit node that provides multi-modal connections throughout the city and region.
- LU-3.2. Retain narrower roadways and reallocate right-of-way space to preserve street trees and mature landscaping and enhance the pedestrian and bicycle network within and adjacent to residential neighborhoods.
- LU-6.2. Prioritize development and redevelopment of vacant, underutilized, and blighted infill areas.
- LU-6.4: Ensure that land use decisions balance travel origins and destinations in as close proximity as possible, and reduce vehicle miles traveled (VMT).
- LU-TR-1.1. Ensure that roadways safely and efficiently accommodate all modes and users, including private, commercial, and transit vehicles, as well as bicycles and pedestrians and vehicles for disabled travelers.

ACTIONS: LAND USE ELEMENT

- LU-1.1A. Require renovated and new mixed-use projects to be planned and designed to contribute to the corridor's identity through appropriate public spaces, gateways, streetscapes, pedestrian walkways, setbacks, edge treatments, and other design features.
- LU-1.1B. Evaluate the City's parking policies, and amend the Development Code to provide more flexibility as appropriate to facilitate mixed-use redevelopment.
- LU-1.1D. Encourage the redevelopment of struggling underutilized commercial strips into multi-family housing opportunities.
- LU-2.5A. Improve transit, bicycle, and pedestrian connectivity between the Downtown and local colleges and universities.
- LU-2.5B. Study the possible one-way to two-way conversions of streets in the Downtown (e.g., El Dorado/Center, Park/Oak, and Main/Market) in order to improve pedestrian and bicycle safety, slow traffic speeds, and support local businesses.

- LU-2.5C. Continue to develop an active transportation plan for Downtown Stockton, and implement complete streets projects to improve bicycle and pedestrian safety that are identified in the plan.
- LU-3.2A. Implement the "road diet" recommendations from the City's Bicycle Master Plan that reduce roadway widths to provide space for bike lanes and other amenities that improve safety and ease of the streetscape for all modes.
- LU-6.2A. Develop and implement an infill incentive program that encourages infill development through expedited permitting, changes in fee structures, prioritizing infrastructure improvements in infill areas, property owner and/or landlord incentives to maintain property and reduce blight, and/or other strategies. As part of this program, define and prioritize categories of infill types based on land use and residential density or nonresidential intensity.
- LU-6.2C. Ensure prioritization of development and redevelopment of vacant, underutilized, and blighted infill areas be considered through strategies such as zoning changes and strategies to avoid gentrification.
- LU-6.2D. Comply with State requirements that limit the idling of motor vehicles.
- LU-6.4B. Maintain a reasonable proximity and balance (i.e., magnitude) between job-generating uses, housing opportunities, and resident services and amenities, including transit and active transportation.
- LU-6.4C. Reduce Vehicle Miles Traveled (VMT) per household by planning new housing in closest proximity to employment centers, improving and funding public transportation and ridesharing, and facilitating more direct routes for pedestrians and bicyclists.

POLICIES: TRANSPORTATION ELEMENT

- TR-1.2. Enhance the use and convenience of rail service for both passenger and freight movement.
- TR-2.1. Develop safe and interconnected bicycle and pedestrian facilities, including along "complete" streets that target multiple travel modes.
- TR.-2.3. Utilize natural features and routes with lower traffic volumes and speeds to encourage residents to walk and wheel more frequently.
- TR-3.1. Avoid widening existing roadways in an effort to preclude inducement of additional vehicle traffic.
- TR-3.2. Require new development and transportation projects to reduce travel demand and greenhouse gas emissions, support electric vehicle charging, and accommodate multi-passenger autonomous vehicle travel as much as feasible.
- TR-4.2. Replace LOS with: (1) vehicle-miles traveled (VMT) per capita; and (2) impacts to non-automobile travel modes, as the metrics to analyze impacts related to land use proposals under the California Environmental Quality Act, in accordance with SB 743.

ACTIONS: TRANSPORTATION ELEMENT

- TR-1.1A. Direct truck traffic to designated truck routes that facilitate efficient goods movement and minimize risk to areas with concentrations of sensitive receptors, such as schools, for example by disallowing any new truck routes to pass directly on streets where schools are located, and vulnerable road users, like pedestrians and bicyclists.
- TR-1.1B. Maintain and periodically update a schedule for synchronizing traffic signals along arterial streets and freeway interchanges to facilitate the safe and efficient movement of people and goods and to provide signal priority for transit vehicles at intersections.
- TR-1.1C. Require roadways in new development areas to be designed with multiple points of access and to address barriers, including waterways and railroads, in order to maximize connectivity for all modes of transportation.
- TR-1.1D. Update existing Precise Road Plans to reflect the 2040 General Plan, including changes in land use and level of service requirements, and a shift in priority from vehicular travel to travel by all modes through complete streets.
- TR-1.1E. Work with local school districts to implement pedestrian crossing enhancements like stop signs within neighborhoods around schools, encourage activities like a walking school bus, and create educational programs that teach students bicycle safety.
- TR-1.2A. Actively support and pursue access to high-speed rail.
- TR-1.2B. Support the San Joaquin Regional Transportation District's Regional Bus Service, Altamont Commuter Express (ACE), and AMTRAK's San Joaquin intercity rail service, and pursue and support other regional transit programs and projects, such as:
    - ACE plans to bypass existing bottlenecks (e.g., the Union Pacific railyards in South Stockton);
    - Connecting to the BART system;
    - Extending ACE service south to Merced; and
    - Proposing rail between Stockton and Sacramento along the California Traction and other rail corridors.
- TR-2.1A. Require safe and secure bicycle parking facilities to be provided at major activity centers such as public facilities, employment sites, and shopping and office centers, along with showers and lockers for major employment sites.
- TR-2.1B. Maintain and implement the City of Stockton Bicycle Master Plan.
- TR-2.1C. Maintain and implement the City of Stockton Safe Route to School Plan.
- TR-2.2A. Require major new development to incorporate and fund design features to promote safe and comfortable access to transit, such as a circulation network that facilitates efficient and connected bus travel, clear pedestrian and bicycle routes connecting origins and destinations to transit stops, sheltered bus stops, park-and-ride facilities, and highly visible transit information and maps.
- TR-2.2B. Obtain input from community residents, non-profit organizations, and local and regional transit operators on major new development projects, and support transit operators by ensuring major projects are designed to support transit and provide fair share funding of the cost of adequate transit service and access.

- TR-2.2C. Request that public transit service providers expand routes and increase frequency and operational hours consistent with current short- and long-range transit planning, with the assistance of new development funding.
- TR-2.2D. Support efforts to electrify buses.
- TR-2.3A. Develop and maintain bikeways on separate rights-of-way (e.g., Calaveras River, East Bay Municipal Utility District easement, French Camp Slough, and Shima Tract Levee).
- TR-2.3B. Require dedication of adequate right-of-way for bicycle use in new arterial and collector streets, and where feasible, in street improvement projects.
- TR-3.1A. Limit street widths to the minimum necessary to adequately carry the volume of anticipated traffic, while allowing for safe bicycle and pedestrian facilities, emergency access, and large vehicle access.
- TR-3.1B. Where feasible and appropriate, reduce the width of existing streets using bulb-outs, medians, pedestrian islands, shade tree landscaping, appropriate signage, and similar methods, while not jeopardizing emergency response.
- TR-3.1C. Preserve right-of-way for transit and bicycle uses when designing new roadways and improving existing roadways, and ensuring adequate and clear signage.
- TR-3.2A. Amend the parking requirements in the Development Code to encourage shared parking, require preferential parking for rideshare vehicles, and allow reduced parking requirements to support transit, bicycling, and walking.
- TR-3.2B. Require commercial, retail, office, industrial, and multifamily residential development to provide charging stations and prioritized parking for electric and alternative fuel vehicles.
- TR-3.2C. Respond to the implications and opportunities associated with connected vehicles and autonomous vehicles by monitoring technological advances and adjusting roadway infrastructure and parking standards to accommodate autonomous vehicle technology and parking needs.
- TR-3.2D. Continue to coordinate with the San Joaquin Council of Governments to increase opportunities for additional park and ride facilities, consistent with the San Joaquin County Regional Park and Ride Lot Master Plan.
- TR-4.2A. To evaluate the effects of new development and determine mitigation measures and impact fees, require projects to evaluate per capita VMT and impacts to transit, bicycle, and pedestrian modes.
- TR-4.2B. Amend the City's Transportation Impact Analysis Guidelines to include alternative travel metrics and screening criteria.

POLICIES: SAFETY ELEMENT

- SAF-4.1. Reduce air impacts from mobile and stationary sources of air pollution.
- SAF-4.2. Encourage major employers to participate in a transportation demand management program (TDM) that reduces vehicle trips through approaches such as carpooling, vanpooling, shuttles, car-sharing, bikesharing, end-of-trip facilities like showers and bicycle parking, subscription bus service, transit subsidies, preferential parking, and telecommuting.

- SAF-4.3. Coordinate with the San Joaquin Valley Air Pollution Control District and non-profit organizations to promote public awareness on air quality issues and consistency in air quality impacts analyses.

ACTIONS: SAFETY ELEMENT

- SAF-4.1A. Require the construction and operation of new development to implement best practices that reduce air pollutant emissions, including:
    - Use of low-emission and well-maintained construction equipment, with idling time limits.
    - Development and implementation of a dust control plan during construction.
    - Installation of electrical service connections at loading docks, where appropriate.
    - Installation of Energy Star-certified appliances.
    - Entering into Voluntary Emissions Reduction Agreements with the San Joaquin Valley Air Pollution Control District.
- SAF-4.1B. Use the results of the Health Risk Assessments required by the California Air Toxics "Hot Spots" Act to establish appropriate land use buffer zones around any new sources of toxic air pollutants that pose substantial health risks.
- SAF-4.1C. Require the use of electric-powered construction and landscaping equipment as conditions of project approval when appropriate.
- SAF-4.1D. Limit heavy-duty off-road equipment idling time to meet the California Air Resources Board's idling regulations for on-road trucks.
- SAF-4.2D. Provide information and conduct marketing and outreach to major existing and new employers about the transportation demand management (TDM) program facilitated by the San Joaquin Council of Governments.
- SAF-4.3A. Distribute educational materials from the San Joaquin Valley Air Pollution Control District on the City's website and at its Permit Center.
- SAF-4.3B. Coordinate review of development project applications with the San Joaquin Valley Air Pollution Control District to ensure that air quality impacts are consistently identified and mitigated during CEQA review.

POLICIES: COMMUNITY HEALTH ELEMENT

- CH-5.1. Accommodate a changing climate through adaptation, mitigation, and resiliency planning and projects.
- CH-5.2. Expand opportunities for recycling, re-use of materials, and waste reduction.

ACTIONS: COMMUNITY HEALTH ELEMENT

- CH-5.1A. Upon the next revision of the City's Local Hazard Mitigation Plan, conduct a comprehensive climate change vulnerability assessment to inform the development of adaptation and resilience policies and strategies, and incorporate them into the Safety Element, in accordance with SB 379.

- CH-5.1B. Maintain and implement the City of Stockton Climate Action Plan (CAP) and update the CAP to include the following:
    - Updated communitywide GHG emissions inventory;
    - 2030 GHG emissions reduction target, consistent with SB 32;
    - Estimated 2030 GHG emissions reduction benefits of State programs;
    - Summary of the City's progress toward the 2020 local GHG emissions reduction target;
    - New and/or revised GHG reduction strategies that, when quantified, achieve the 2030 reduction target and continue emission reductions beyond 2030; and
    - New or updated implementation plan for the CAP.
- CH-5.1C. Accommodate a changing climate through adaptation and resiliency planning and projects.
- CH-5.2A. Use recycled materials and products for City projects and operations where economically feasible, and work with recycling contractors to encourage businesses to use recycled products in their manufacturing processes and encourage consumers to purchase recycled products.
- CH-5.2B. Continue to require recycling in private and public operations, including construction/demolition debris.
- CH-5.2C. Expand educational and outreach efforts to promote recycling by occupants of multi-family housing, businesses, and schools.

City of Stockton Climate Action Plan

The City of Stockton Climate Action Plan (2014) sets forth a strategy to reduce community-generated GHG emissions, consistent with statewide GHG reduction efforts. As a condition for approval of the 2035 General Plan, the City of Stockton entered into a Settlement Agreement with the Sierra Club and the California Attorney General's Office in October 2008. The Settlement Agreement was enacted to ensure future growth outlined in the City of Stockton 2035 General Plan addresses GHG emissions in a meaningful and constructive manner. The City of Stockton Climate Action Plan (CAP) outlines a framework to feasibly reduce community GHG emissions in a manner that is supportive of AB 32 and is consistent with the Settlement Agreement and 2035 General Plan policy. The CAP is considered functionally equivalent to a GHG Reduction Plan, given that both refer to a document that quantifies and reduces GHG emissions within a particular jurisdiction.

The City of Stockton Climate Action Plan was approved by the Stockton City Council on December 2, 2014. The Climate Action Plan summarizes the City's GHG emissions inventory and provides 26 GHG emissions reduction measures. The CAP relies on numerous voluntary measures for both existing and new development, but also includes mandatory measures where required by other state or local existing mandates and other City initiatives. The CAP also provides implementation strategies for the emissions reduction measures provided within the CAP.

3.7.3 IMPACTS AND MITIGATION MEASURES

GREENHOUSE GAS EMISSIONS THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, climate change-related impacts are considered significant if implementation of the proposed Project would do any of the following:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence to climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15355).

For individual proposed projects, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional GHG reduction plan (such as a Climate Action Plan). The City of Stockton does have a formal GHG emissions reduction plan, in the form of the City of Stockton Climate Action Plan (2014).

In addition, the Project is also assessed based on its consistency with CARB's adopted Scoping Plans, including the Project's compliance with relevant Scoping Plan measures, as well as the latest RTP/SCS for the region within which the Project is located within (i.e., the San Joaquin Council of Governments (SJCOG) 2022 RTP/SCS). It should be noted that the Scoping Plan is consistent with the AB 1279 GHG reduction targets of achieving carbon neutrality by 2045, and reducing anthropogenic emissions to 85 percent below 1990 levels by 2045. Therefore, consistency with the CARB's most recent Scoping Plan would also demonstrate consistency with the carbon neutrality requirements encapsulated by AB 1279. Furthermore, the Project is evaluated for its consistency with the City of Stockton Climate Action Plan (CAP), which was adopted in 2014.

Therefore, this analysis provides a qualitative assessment of the Project's compliance with the applicable plans, policies, and regulations for the purposes of reducing greenhouse gas emissions to determine whether the project would have a significant impact on the environment relative to GHGs. Separately, disclosure of the Project's estimated construction and operation-related GHG emissions are provided for the purposes of disclosure.[3]

[3] Project GHG emissions were provided using the latest version of CalEEMod (v2022.1), which represents the Air District's recommended modeling tool for estimating emissions for projects under CEQA.

IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: Project implementation would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (Less than Significant)

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. Implementation of the Project would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to Project development would be primarily associated with increases of CO_2 and other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O), from mobile sources and utility usage.

The Project's short-term construction-related and long-term operational GHG emissions were estimated using the California Emission Estimator Model (CalEEMod)™ (v.2022.1). CalEEMod is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify GHG emissions from land use projects. The model quantifies direct GHG emissions from construction and operation (including vehicle use), as well as indirect GHG emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Emissions are expressed in annual metric tons of CO_2 equivalent units of measure (i.e., MT CO_2e), based on the global warming potential of the individual pollutants.

SHORT-TERM CONSTRUCTION GHG EMISSIONS

Estimated maximum GHG emissions associated with construction of the proposed Project are summarized in Table 3.7-2. These emissions include all worker vehicle, vendor vehicle, hauler vehicle, and off-road construction vehicle GHG emissions. For the purposes of this analysis, based on input from the Project applicant, the proposed Project is assumed to commence construction in 2025 and finish in 2028. See Appendix B for further detail.

TABLE 3.7-2: TOTAL CONSTRUCTION GHG EMISSIONS (MT CO_2E/YEAR)

YEAR	BIO- CO_2	NON-BIO- CO_2	TOTAL CO_2	CH_4	N_2O	CO_2E
2025	0	1,074	1,074	0.03	0.06	1,093
2026	0	1,353	1,353	0.03	0.10	1,385
2027	0	1,111	1,111	0.03	0.08	1,137
2028	0	28.0	28.0	<0.01	<0.01	28.2
Total	**0**	**3,566**	**3,566**	**0.09**	**0.24**	**3,643**

SOURCES: CALEEMOD (V.2022.1)

As presented in the table, short-term construction emissions of GHGs are estimated to be a total of approximately 3,643 MT CO_2e.

OPERATIONAL GHG EMISSIONS

The operational GHG emissions estimate for the proposed Project includes on-site area, energy, mobile, waste, and water emissions. Estimated GHG emissions associated with operation of the proposed Project are summarized in Table 3.7-3, below. It should be noted that CalEEMod does not account for Governor Newsom's Zero-Emission by 2035 Executive Order (N-79-20), which requires that all new cars and passenger trucks sold in California be zero-emission vehicles by 2035; CalEEMod also does not account for the new CARB rules related to truck electrification (e.g. Advanced Clean Trucks Regulation). This is anticipated to substantially reduce the operational emissions associated with vehicles (i.e., mobile emissions) over time. The operational emissions results provided in Table 3.7-3 are likely an overestimate for mobile emissions, given the state's ongoing effort to increase electric vehicles and trucks. As shown in the following tables (Table 3.7-3 and Table 3.7-4), the annual GHG emissions associated with the proposed Project would be approximately 16,118 MT CO_2e under the unmitigated scenario, and 16,103 MT CO_2e under the mitigated scenario (i.e. with implementation of the mitigation measures provided in *Section 3.3: Air Quality* of the Draft EIR).

TABLE 3.7-3: OPERATIONAL GHG EMISSIONS AT BUILDOUT (METRIC TONS/YEAR) - UNMITIGATED

	BIO- CO_2	NON-BIO- CO_2	TOTAL CO_2	CH_4	N_2O	CO_2E
Area	0	17.5	17.5	<0.01	<0.01	17.5
Energy	0	3,075	3,075	0.35	0.02	3,091
Mobile	0	12,728	12,728	0.58	0.64	12,950
Waste	0	0	0	0	0	0
Water	0	56.7	56.7	0.01	<0.01	57.3
Refrig.	**0**	**0**	**0**	**0**	**3.06**	**3.06**
Total	**0**	**15,877**	**15,877**	**0.94**	**0.66**	**16,118**

SOURCES: CALEEMOD (V.2022.1)

TABLE 3.7-4: OPERATIONAL GHG EMISSIONS AT BUILDOUT (METRIC TONS/YEAR) - MITIGATED

	BIO- CO_2	*NON-BIO- CO_2*	*TOTAL CO_2*	*CH_4*	*N_2O*	*CO_2E*
Area	0	0	0	0	0	0
Energy	0	3,076	3,076	0.35	0.02	3,092
Mobile	0	12,728	12,728	0.58	0.64	12,950
Waste	0	0	0	0	0	0
Water	0	56.7	56.7	0.01	<0.01	57.3
Refrig.	0	0	0	0	3.06	3.06
Total	**0**	**15,862**	**15,862**	**0.94**	**0.66**	**16,103**

SOURCES: CALEEMOD (V.2022.1)

CONSISTENCY WITH 2022 SCOPING PLAN

The CARB's 2022 Scoping Plan (the latest version of the Scoping Plan) provides policies that are considered needed to meet the State's mid-term and long-term GHG emissions reduction targets. Specifically, the CARB's *Final* 2022 Scoping Plan identifies that it "…lays out the sector-by-sector roadmap for California, the world's fifth largest economy, to achieve carbon neutrality by 2045 or earlier…". The Scoping Plan addresses recent legislation and direction from Governor Newsom, by extending and expanding upon the earlier Scoping Plans with a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045, and adding carbon neutrality as a science-based guide and touchstone for California's climate work. The Scoping Plan is therefore consistent with the AB 1279 GHG reduction targets of achieving carbon neutrality by 2045, and reducing anthropogenic emissions to 85 percent below 1990 levels by 2045. The Project's consistency with the applicable 2022 Scoping Plan policies is discussed in Table 3.7-5, below.

TABLE 3.7-5: PROJECT CONSISTENCY WITH THE 2022 SCOPING PLAN

POLICY	*PROJECT CONSISTENCY*
Transportation Electrification	
Convert local government fleets to ZEVs and provide EV charging at public sites	**No Conflict.** This goal is not applicable to an individual residential development project.
Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as building standards that exceed state building codes, permit streamlining, infrastructure siting, consumer education, preferential parking policies, and ZEV readiness plans)	
VMT Reduction	
Reduce or eliminate minimum parking standards	**No Conflict.** Although this goal is not applicable to an individual residential development project, the Project is implementing neighborhood design improvements such as pedestrian network improvements and traffic calming measures. Furthermore, the proposed Project would enable walkable development.
Implement Complete Streets policies and investments, consistent with general plan circulation element requirements	
Increase access to public transit by increasing density of development near transit, improving transit service by increasing service frequency, creating bus priority lanes, reducing or eliminating fares, microtransit, etc.	
Increase public access to clean mobility options by planning for and investing in electric shuttles, bike share, car share, and walking	
Implement parking pricing or transportation demand management pricing strategies	

POLICY	*PROJECT CONSISTENCY*
Amend zoning or development codes to enable mixed-use, walkable, transit-oriented, and compact infill development (such as increasing the allowable density of a neighborhood)	
Preserve natural and working lands by implementing land use policies that guide development toward infill areas and do not convert "greenfield" land to urban uses (e.g., green belts, strategic conservation easements)	
Building Decarbonization	
Adopt all-electric new construction reach codes for residential and commercial uses	**No Conflict.** Although this goal is not applicable to an individual residential development project, the Project would be consistent with the applicable Title 24 Building Envelope Energy Efficiency Standards, which ensure highly energy efficient development. Additionally, the proposed Project would utilize electricity from PG&E, which has been increasing its overall supply of renewable energy as part of its overall energy portfolio, consistent with the State's Renewable Portfolio Standard. More detail is provided under Impact 3.7-2, below.
Adopt policies and incentive programs to implement energy efficiency retrofits for existing buildings, such as weatherization, lighting upgrades, and replacing energy-intensive appliances and equipment with more efficient systems (such as Energy Star-rated equipment and equipment controllers)	
Adopt policies and incentive programs to electrify all appliances and equipment in existing buildings such as appliance rebates, existing building reach codes, or time of sale electrification ordinances	
Facilitate deployment of renewable energy production and distribution and energy storage on privately owned land uses (e.g., permit streamlining, information sharing)	
Deploy renewable energy production and energy storage directly in new public projects and on existing public facilities (e.g., solar photovoltaic systems on rooftops of municipal buildings and on canopies in public parking lots, battery storage systems in municipal buildings)	

SOURCE: 2022 SCOPING PLAN, TABLE 1, APPENDIX D

The proposed Project's operational emissions would be reduced as regulations are implemented by the CARB and other State agencies to comply with the statewide GHG reduction targets. Many of these regulations are already identified in the 2022 Scoping Plan. These statewide actions are anticipated to reduce operational GHG emissions even further below those identified in Table 3.7-2, Table 3.7-3, and Table 3.7-4. For example, the proposed Project's transportation emissions would be expected to decline as vehicle efficiency standards are implemented beyond the Advanced Clean Cars II program and the Low Carbon Fuel Standard is strengthened. Furthermore, CalEEMod does not account for Governor Newsom's Zero-Emission by 2035 Executive Order (N-79-20) or CARB's subsequent regulations, which requires that all new cars and passenger trucks sold in California be zero-emission vehicles by 2035. This is anticipated to substantially reduce the operational emissions associated with passenger vehicles (i.e. mobile emissions) further, over time.

Overall, the proposed Project would not conflict with the 2022 Scoping Plan. The proposed Project would be developed according to the latest State and federal regulatory requirements, including those associated with operational building energy efficiency. Therefore, the Project would be considered consistent with the 2022 Scoping Plan. Based on this, recognizing the CARB as an authoritative substantial evidence source in evaluating post-2020 GHG impacts, since the proposed Project would be consistent with the CARB's 2022 Scoping Plan, buildout of the proposed Project

would not interfere with the main programs the CARB has identified to support its conclusions that the State is on a trajectory to meet the 2045 GHG target. Overall, the proposed Project would not impede the 2022 Scoping Plan and would help the State to progress towards this target.

CONSISTENCY WITH SJCOG'S 2022 RTP/SCS

The SJCOG's 2022 RTP/SCS includes eight policies with corresponding implementation strategies for conserving energy, maximizing mobility and accessibility, increasing safety and security, preserving the transportation system, supporting economic development, promoting interagency cooperation and public participation, maximizing cost effectiveness, and improving quality of life for residents. These strategies include similar measures to the 2022 Scoping Plan, such as supporting energy and water efficiency. The Project's consistency with the applicable 2022 RTP/SCS strategies is discussed in Table 3.7-6, below.

TABLE 3.7-6: PROJECT CONSISTENCY WITH THE SJCOG'S 2022 RTP/SCS

POLICY	*PROJECT CONSISTENCY*
Enhance the Environment for Existing and Future Generations and Conserve Energy	No Conflict. The Project would utilize electricity provided by Pacific Gas & Electric (PG&E) which is required to meet the future year renewable portfolio performance standards. In addition, future development associated with Project implementation would be required to meet the applicable requirements of the 2022 (or more current) Title 24 Building Energy Efficiency Standards.
Maximize Mobility and Accessibility	No Conflict. The Project would support EV-ready charging spaces, consistent with the requirements of the latest version of the Title 24 Building Energy Efficiency Standards. In addition, although this Project is not a transportation improvement project, the Project is located in a city where regional transit improvements are planned. Moreover, the proposed Project would include many project features that improve mobility and accessibility, including providing pedestrian network improvements.
Increase Safety and Security	No Conflict. The Project would be developed using the latest State and local requirements relating to safety and security. Development of the Project site would include other uses to support and complement the proposed residential development include public utility infrastructure, public and private roadways, curb/gutters/sidewalks, other pedestrian facilities, private parking, street lighting, and street signage, which would enhance the safety and security of the site and it surroundings, by connecting to existing development.
Preserve the Efficiency of the Existing Transportation System	Not applicable. This is not a transportation improvement project and is therefore not applicable. The Project would not interfere with the efficiency of any existing transportation system.
Support Economic Vitality	No Conflict. The proposed Project would create local jobs, including construction jobs during the construction phase as well as home-based businesses during the Project's operational phase, as well as provide new consumers for local businesses, thereby supporting economic vitality.
Promote Interagency Coordination and Public Participation for Transportation Decision-Making and Planning Efforts	Not applicable. This is not a transportation planning or improvement project and is therefore not applicable.
Maximize the Cost Effectiveness	No Conflict. The proposed Project would be developed based on market demand.

POLICY	*PROJECT CONSISTENCY*
Improve the Quality of Life for Residents	No Conflict. The proposed Project would provide additional residences, thereby improving the quality of life for the local community.

SOURCE: SJCOG 2022 RTP/SCS

As shown in Table 3.7-6, above, the Project would not conflict with any of the GHG emissions reduction strategies contained in the SJCOG's 2022 RTP/SCS. Therefore, the Project would be considered to be consistent with SJCOG's 2022 RTP/SCS.

EXECUTIVE ORDER S-3-05

The Executive Order S-3-05 2050 target has not been codified by legislation. However, studies have shown that, in order to meet the 2050 target, aggressive pursuit of technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required. Because of the technological shifts required and the unknown parameters of the regulatory framework in 2050, quantitatively analyzing the project's impacts further relative to the 2050 goal is speculative for purposes of CEQA.[4]

The CARB recognizes that AB 32 establishes an emissions reduction trajectory that will allow California to achieve the more stringent 2050 target: "These [greenhouse gas emission reduction] measures also put the State on a path to meet the long-term 2050 goal of reducing California's GHG emissions to 80 percent below 1990 levels. This trajectory is consistent with the reductions that are needed globally to stabilize the climate." In addition, the CARB's First Update to the Scoping Plan "lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050," and many of the emission reduction strategies recommended by the CARB would serve to reduce the proposed project's post-2020 emissions level to the extent applicable by law:

- Energy Sector: Continued improvements in California's appliance and building energy efficiency programs and initiatives, such as the State's zero net energy building goals, would serve to reduce the proposed project's emissions level. Additionally, further additions to California's renewable resource portfolio would favorably influence the project's emissions level.
- Transportation Sector: Anticipated deployment of improved vehicle efficiency, zero-emission technologies, lower carbon fuels, and improvement of existing transportation systems all will serve to reduce the project's emissions level.
- Water Sector: The project's emissions level will be reduced as a result of further utilization of water conservation technologies.
- Waste Management Sector: Plans to further improve recycling, reuse and reduction of solid waste will beneficially reduce the project's emissions level.

[4] California Air Resources Board (CARB). 2014. First Update to the Climate Change Scoping Plan. Website: http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm. Accessed September 11, 2023.

In his January 2015 inaugural address, Governor Brown expressed a commitment to achieve "three ambitious goals" that he wanted to see accomplished by 2030 to reduce the State's GHG emissions:

- Increasing the State's Renewable Portfolio Standard from 33 percent in 2020 to 50 percent in 2030;
- Cutting the petroleum use in cars and trucks in half; and
- Doubling the efficiency of existing buildings and making heating fuels cleaner.

These expressions of executive branch policy may be manifested in adopted legislative or regulatory action through the State agencies and departments responsible for achieving the State's environmental policy objectives, particularly those relating to global climate change.[5]

Further, studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the Statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the studies could allow the State to meet the 2050 target.[6]

Given the proportional contribution of mobile source-related GHG emissions to the State's inventory, recent studies also show that relatively new trends—such as the increasing importance of web-based shopping, the emergence of different driving patterns, and the increasing effect of web-based applications on transportation choices—are beginning to substantially influence transportation choices and the energy used by transportation modes. These factors have changed the direction of transportation trends in recent years and will require the creation of new models to effectively analyze future transportation patterns and the corresponding effect on GHG emissions. For the reasons described above, the proposed project's post-2020 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets.

CONSISTENCY WITH THE CITY OF STOCKTON CLIMATE ACTION PLAN

The proposed Project would be consistent with the relevant GHG reduction measures associated with the City of Stockton Climate Action Plan (CAP), published in 2014. Table 3.3-7, below, provides an analysis of the consistency of the proposed Project with the GHG reduction measures contained within the CAP. As shown, the proposed Project would be consistent with all applicable GHG reduction measures that would be applicable to the proposed Project.

[5] Brown, Edmund G. Jr. 2015. Press Release: California Establishes Most Ambitious Greenhouse Gas Goal in North America. April 29.
Website: https://www.gov.ca.gov/news.php?id=18938. Accessed February 2, 2021.
[6] Energy and Environmental Economics, 2015. Pathways to Deep Carbonization in the United States.
Website: http://deepdecarbonization.org/wp-content/uploads/2015/11/US_Deep_Decarbonization_Technical_Report_Exec_Summary.pdf. Accessed June 8, 2022.

TABLE 3.7-7: PROJECT CONSISTENCY WITH THE CITY OF STOCKTON CLIMATE ACTION PLAN

GHG REDUCTION MEASURE	*PROJECT CONSISTENCY*
Energy-1: Green Building Ordinance	No Conflict. The Project would exceed the 2008 Title 24 of the California Code of Regulations Standards, since the most recent version of the Title 24 Standards is much more stringent. Simply meeting the current Title 24 Standards would result in significant energy and GHG savings for the City because the state has regularly updated the Title 24 requirements since 2005 and plans to continue to update the Title 24 standards periodically in the future. Therefore, the proposed Project would not conflict with this GHG reduction measure.
Energy-2: Outdoor Lighting Upgrades for Existing Development	Not applicable. The proposed Project is a new development; therefore, GHG reduction measures associated with existing development would not apply.
Energy-3: Energy Efficiency Incentives and Programs to Promote Retrofits for Existing Residential Buildings	Not applicable. The proposed Project is a new development; therefore, GHG reduction measures associated with existing development would not apply.
Energy-4: Energy Efficiency Programs to Promote Retrofits for Existing Non-Residential Buildings	Not applicable. The proposed Project is a new development; therefore, GHG reduction measures associated with existing development would not apply. Moreover, the proposed Project does not include non-residential development.
Energy-5: Solar-Powered Parking	No Conflict. The Project would be consistent with the current Title 24 Standards associated with solar PV. Therefore, the proposed Project would not conflict with this GHG reduction measure.
Energy-6: Residential and Non-residential Rooftop Solar	No Conflict. The Project would be consistent with the current Title 24 Standards associated with solar PV. Therefore, the proposed Project would not conflict with this GHG reduction measure.
Trans-1: Land Use/Transportation System Design Integration	No Conflict. The Project would increase density in the City of Stockton, thereby facilitating additional land use and existing transportation integration. That is, the development of the Project would increase use of existing roadways that have been designed to accommodate additional traffic, such as that as would be generated by the proposed Project. Overall, the Project land uses have been previously planned for and integrate appropriately with the existing transportation system Therefore, the proposed Project would not conflict with this GHG reduction measure.
Trans-2: Parking Policies	Not applicable. This GHG reduction measure would apply to the downtown area, which the Project is not in. Therefore, this GHG reduction measure would not apply to the proposed Project.
Trans-3: Transit System Support	No Conflict. The Project would not hinder the development of the City's transit system. Furthermore, the increased residential density of the area that would occur with development of the proposed Project would incentivize further development of local transit options, beyond which would be anticipated to occur without development of the proposed Project. Therefore, the proposed Project would not conflict with this GHG reduction measure.
Trans-4: Efficient Goods Movement	Not applicable. This GHG reduction measure would apply to the City's rail lines. Therefore, this GHG reduction measure would not apply to the proposed Project.
Trans-5: Reduce Barriers for Non-Motorized Travel	No Conflict. The Project would connect the City's existing transportation system, via pedestrian walkways (including sidewalks) and connect with the

GHG REDUCTION MEASURE	*PROJECT CONSISTENCY*
	existing system. Therefore, the proposed Project would not conflict with this GHG reduction measure.
Trans-6: Transit System Improvements	No Conflict. This GHG reduction measure would apply to the City's transit system. Nevertheless, the proposed Project would be accessible via the City's existing transit system. Therefore, the proposed Project would not conflict with this GHG reduction measure.
Trans-7: Safe Routes to School	No Conflict. The Project would connect the City's existing transportation system, via pedestrian walkways (including sidewalks). Therefore, the proposed Project would not conflict with this GHG reduction measure.
Trans-8: Transportation Demand Management and Additional Safe Routes to School	No Conflict. The Project would connect the City's existing Safe Routes to School. Therefore, the proposed Project would not conflict with this GHG reduction measure.
Waste-1: Increased Waste Diversion	No Conflict. The Project would be consistent with the State's 75% waste diversion goal as required by AB 341, as the local waste haulers are required by State law to implement this measure. Therefore, the proposed Project would not conflict with this GHG reduction measure.
Water-1: Comply with Senate Bill X7-7	No Conflict. The Project would be consistent with the State's statewide goal of a 20% reduction in urban per capita use, as required by Senate Bill X7-7. Therefore, the proposed Project would not conflict with this GHG reduction measure.
Water-2: Promotion of Water-Efficiency for Existing Development	Not applicable. This GHG reduction measure would apply only to existing development. The proposed Project does not contain any existing development; rather, it includes new development. Therefore, this GHG reduction measure would not apply to the proposed Project.
Wastewater-1: Energy Efficiency Improvements at the Regional Wastewater Treatment Plant	No Conflict. The Project would not conflict with the City's goal of reducing energy usage as the Regional Wastewater Treatment Plant. Therefore, the proposed Project would not conflict with this GHG reduction measure.
Urban Forestry-1: Urban Tree Planting Programs	No Conflict. The Project would include landscaping trees that would not conflict with this GHG reduction measure.
High GWP GHG-1: Residential Responsible Appliance Disposal Programs	No Conflict. The Project is a new development that would install new energy-efficient refrigerators and freezers. Therefore, the proposed Project would not conflict with the goal of replacing existing inefficient sources of high global warming potential (GWP) appliances. Therefore, the proposed Project would not conflict with this GHG reduction measure.
Off-Road-1: Electric-Powered Construction Equipment	No Conflict. The Project would not conflict with the City's goal of increasing the percentage of construction equipment that is electric powered. Therefore, the proposed Project would not conflict with this GHG reduction measure.
Off-Road-2: Reduced Idling Times for Construction Equipment	No Conflict. The Project would be consistent with the CARB's Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling currently limits diesel-fueled commercial motor vehicle idling time to 5 minutes. Therefore, the proposed Project would not conflict with this GHG reduction measure.
Off-Road-3: Electric Landscaping Equipment	No Conflict. The Project would not conflict with the City's goal of 15% of the City's landscaping equipment to be electric or battery powered. Therefore, the proposed Project would not conflict with this GHG reduction measure.

SOURCE: CITY OF STOCKTON CLIMATE ACTION PLAN, 2014

CONCLUSION

The proposed Project would be consistent with relevant plans, policies, and regulations associated with GHGs, notably the most recent version of the CARB's Scoping Plan, the SJCOG's 2022 RTP/SCS, and the City of Stockton Climate Action Plan. This would ensure that the proposed Project would be consistent with, and would not impair, the State's carbon neutrality standard by year 2045 as established under AB 1279. The State is making progress toward reducing GHG emissions in key sectors such as transportation, industry, and electricity. Since the Project would be consistent with State GHG Plans, it would not impede the State's goals of reducing GHG emissions 40 percent below 1990 levels by 2030, and of achieving carbon neutrality by 2045. The proposed Project would make a reasonable fair share contribution to the State's GHG reduction goals, by implementing a wide array of Project features that would substantially reduce GHG emissions and therefore, the proposed Project's GHG emissions would be considered to have a ***less than significant*** impact.

THRESHOLDS OF SIGNIFICANCE (ENERGY CONSERVATION)

Consistent with Appendices F and G of the CEQA Guidelines, energy-related impacts are considered significant *if* implementation of the proposed Project would do the following:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation;
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency;

In order to determine whether or not the proposed Project would result in a significant impact on energy use, this EIR includes an analysis of proposed Project energy use, as provided under *Impacts and Mitigation Measures* below.

IMPACTS AND MITIGATION MEASURES

Impact 3.7-2: Project implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources, and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency (Less than Significant)

According to the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, the proposed Project would be considered "wasteful, inefficient, and unnecessary" if it were to violate State and federal energy standards and/or result in significant adverse impacts related to Project energy requirements, energy inefficiencies, energy intensiveness of materials, effects on local and regional energy supplies or on requirements for additional capacity, compliance with existing energy standards, effects on energy resources, or transportation energy use requirements. In addition, the Project could have a significant energy impact if it would conflict or create an inconsistency with an applicable plan, policy, or regulation for renewable energy or energy efficiency.

The proposed Project includes various characteristics that reduce the inefficient, wasteful, or unnecessary use of energy. Overall, a wide variety of additional Project features would also be implemented that would substantially reduce energy emissions. For example, the Project would comply with State requirements such as the energy efficiency requirements of the latest version of the California Title 24 Energy Efficiency Standards. The Project is also anticipated to produce on-site solar photovoltaic (PV) for on-site use, also consistent with the latest version of the California Title 24 Energy Efficiency Standards.

Moreover, it should be noted that, over time, electrification of the vehicles will increase due to state requirements, and state and national trends. Electric charging infrastructure would be installed on the property to facilitate the conversion of the truck fleet to zero-emission electric trucks as they become available in the market and used for truck deliveries to and from the facility.

The amount of energy used by the proposed Project during operation would include the amount of energy used by Project buildings and outdoor lighting, and the fuel used by vehicle trips generated during Project construction and operation, fuel used by off-road construction vehicles during construction activities, and fuel used by Project maintenance activities during Project operation. The following discussion provides a detailed calculation of energy usage expected for the proposed Project, as provided by applicable modelling software (i.e. CalEEMod v2022.1) and the CARB EMFAC2021). Additional assumptions and calculations are provided within Appendix B of this EIR.

ELECTRICITY AND NATURAL GAS

Electricity and natural gas used by the proposed Project would be used primarily to generate energy for Project buildings, as well as for outdoor parking lot lighting. As shown in further detail in the CalEEMod modeling outputs provided in Appendix B, “Energy” is one of the categories that was modeled for GHG emissions. As also shown in the CalEEMod modeling outputs as provided in Appendix B, the proposed Project is anticipated to consume approximately 11,238,093 kWh of electricity per year and approximately 9,693,520 kBTU per of natural gas per year. Moreover, this is likely a conservative estimate, given that the CalEEMod model does not account for the latest version of Title 24. Furthermore, this also does not account for the vast majority of the Project’s energy efficiency commitments, which would likely drive down the energy usage much further than identified herein.

The proposed Project’s buildings would be designed and constructed in accordance with the City’s latest adopted energy efficiency standards, which are based on the State’s Title 24 Energy Efficiency Standards for Residential Buildings and Green Building Code Standards. These standards include minimum energy efficiency requirements related to building envelope, mechanical systems (e.g., heating, ventilation, and air conditioning [HVAC] and water heating systems), and indoor and outdoor lighting, are widely regarded as the some of the most advanced and stringent building energy efficiency standards in the country. In addition, the on-site solar PV system would meet the State legal requirements. As such, the design of the proposed project would facilitate the future commitment to renewable energy resources. Therefore, building energy consumption would not be considered wasteful, inefficient, or unnecessary.

ON-ROAD VEHICLES (OPERATION)

The proposed Project would generate vehicle trips (i.e., passenger vehicles for employees and heavy-duty trucks for hauling) during its operational phase. Compliance with applicable State laws and regulations would limit idling and a part of a comprehensive regulatory framework that is implemented by the CARB. A description of Project operational on-road mobile energy usage is provided below.

According to the Traffic Study prepared for the proposed Project (WK Shijo Consulting, 2023), and as described in more detail in Section 3.13 of this EIR, the proposed Project would increase total vehicle trips by approximately 12,784 new daily trips. In order to calculate operational on-road vehicle energy usage, De Novo Planning Group used fleet mix data from the CalEEMod (v.2022.1) output for the proposed Project, and Year 2025 gasoline and diesel MPG (miles per gallon) factors for individual vehicle classes as provided by EMFAC2021, to derive weighted average gasoline and diesel MPG factors for the vehicle fleet as a whole. Based on these calculations, as provided in Appendix B, upon full buildout, the proposed Project would generate operational vehicle trips that would use a total of approximately 2,334 gallons of gasoline and 5,395 gallons of diesel per day, or 851,728 gallons of gasoline and 1,969,247 gallons of diesel per year.

ON-ROAD VEHICLES (CONSTRUCTION)

The proposed Project would also generate on-road vehicle trips during Project construction (from construction workers and vendors travelling to and from the Project site). De Novo Planning Group estimated the vehicle fuel consumed during these trips based on the assumed construction schedule, vehicle trip lengths and number of workers per construction phase as provided by CalEEMod, and Year 2023 gasoline and diesel MPG factors provided by EMFAC2021 (year 2023 factors were used to represent a conservative analysis, as the energy efficiency of construction activities is anticipated to improve over time). For the sake of simplicity and to be conservative, it was assumed that all construction worker light duty passenger cars and truck trips use gasoline as a fuel source, and all medium and heavy-duty vendor trucks use diesel fuel. Table 3.7-8, below, describes gasoline and diesel fuel consumed during each construction phase (in aggregate). As shown, the vast majority of on-road mobile vehicle fuel used during the construction of the proposed Project would occur during the building construction phase. See Appendix B of this EIR for a detailed accounting of construction on-road vehicle fuel usage estimates.

TABLE 3.7-8: ON-ROAD MOBILE FUEL USAGE BY PROJECT CONSTRUCTION ACTIVITIES – BY PHASE

CONSTRUCTION PHASE	*TOTAL GALLONS OF GASOLINE FUEL[B]*	*TOTAL GALLONS OF DIESEL FUEL[B]*
Site Preparation	495	0
Grading	550	0
Building Construction	7,944	4,805
Paving	687	0
Architectural Coatings	5,314	0
Total	**14,990**	**4,805**

NOTE: [A] PROVIDED BY CALEEMOD OUTPUT. [B]SEE APPENDIX B OF THIS EIR FOR FURTHER DETAIL

SOURCE: CALEEMOD (V.2022.1); EMFAC2021.

OFF-ROAD EQUIPMENT (CONSTRUCTION)

Off-road construction equipment would use diesel fuel during the construction phase of the proposed Project. A non-exhaustive list of off-road constructive equipment expected to be used during the construction phase of the proposed Project includes: forklifts, generator sets, tractors, excavators, and dozers. Based on the total amount of CO_2 emissions expected to be generated by the proposed Project (as provided by the CalEEMod output), and standard conversion factors (as provided by the U.S. Energy Information Administration), the proposed Project would use a total of approximately 103,905 gallons of diesel fuel for off-road construction equipment. Detailed calculations are provided in Appendix B of this EIR.

State laws and regulations would limit idling from both on-road and off-road diesel-powered equipment and are part of a comprehensive regulatory framework that is implemented by the CARB. Additionally, as a practical matter, it is reasonable to assume that the overall construction schedule and process would be designed to be as efficient as feasible in order to avoid excess monetary costs. For example, equipment and fuel are not typically used wastefully due to the added expense associated with renting the equipment, maintaining it, and fueling it. Therefore, the opportunities for further future efficiency gains during construction are limited. For the foregoing reasons, it is anticipated that the construction phase of the project would not result in wasteful, inefficient, and unnecessary consumption of energy.

CONCLUSION

The proposed Project would use energy resources for the operation of Project buildings (natural gas and electricity), outdoor lighting (electricity), on-road vehicle trips (e.g. gasoline and diesel fuel) generated by the proposed Project, and off-road and on-road construction activities associated with the proposed Project (e.g. diesel fuel). Each of these activities would require the use of energy resources. The proposed Project would be responsible for conserving energy, including through the mitigation measures provided throughout this EIR, as well as through the implementation of statewide and local measures.

The proposed Project would comply with all applicable federal, State, and local regulations regulating energy usage. Moreover, the Project intends to supply 100 percent of its electricity demand from renewable sources associated with a combination of onsite generation and direct source renewable purchased energy. Specifically, the Project applicant has entered into direct source renewable purchase contracts sufficient to supply these needs. Other statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g. the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time. Moreover, the proposed Project would comply with the City's Sustainability Action Plan and General Plan goals, objectives and policies related to energy conservation that are relevant to this analysis.

The proposed Project would comply with all existing energy standards and would not be expected to result in significant adverse impacts on energy resources. For these reasons, the proposed Project

would not cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the energy-related thresholds as described by the *CEQA Guidelines*. This is a ***less than significant*** impact.

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The purpose of this section is to disclose and analyze the potential impacts associated with hazards and hazardous materials related to the Project site and general vicinity, and to analyze the potential for exposure of people to hazards and hazardous materials as the Project is built and operated in the future. This section is based in part on the:

- *Envision Stockton 2040 General Plan* (City of Stockton, 2018);
- *Envision Stockton 2040 General Plan Update Draft Environmental Impact Report* (City of Stockton, 2018);
- City of Stockton Municipal Code;
- Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Search (United States Environmental Protection Agency [EPA], 2023);
- Envirostor database search (California Department of Toxic Substances Control [DTSC], 2023);
- GeoTracker Information System and Geographic Environmental Information Management System database search (State Water Resources Control Board [SWRCB], 2023);
- National Priorities List (NPL) of Superfund Sites and Proposed NPL Sites (United States EPA], 2023);
- Toxics Release Inventory (TRI) Program database search (United States Environmental Protection Agency [EPA], 2023);
- *California Airport Land Use Planning Handbook* (California Department of Transportation, Division of Aeronautics, 2011);
- *Airport Land Use Compatibility Plan for Stockton Metropolitan Airport* (Coffman Associates, Inc., 2018);
- *Airport Land Use Compatibility Plan Update: San Joaquin County* (Coffman Associates, Inc., 2018);
- Web Soil Survey (United States Department of Agriculture Natural Resources Conservation Service, 2023); and
- *Custom Soils Report for San Joaquin County, California* (NRCS, 1992).

One comment was received during the public review period for the Notice of Preparation regarding this topic from the following: San Joaquin County Environmental Health Department (August 11, 2023). The portion of this comment that relates to this topic is addressed within this section. Full comments received are included in Appendix A.

3.8.1 ENVIRONMENTAL SETTING

PHYSICAL SETTING

Project Location

The proposed Project site is comprised of 306.03 acres located in the northern portion of the City of Stockton Metropolitan Area, within the unincorporated area of San Joaquin County. The Project site consists of several planning area boundaries: the Development Area (six parcels totaling 236.30 acres), Non-development Area (six parcels totaling 56.03 acres), and Right-of-Way Annexation Area

(13.7 acres of remaining County right-of-way). The Project site is bounded on the north by Eight Mile Road, to the east by West Lane, and to the west by Lower Sacramento Road. The future Marlette Road, between Lower Sacramento Road and West Lane, will form the property's southern boundary. Figures 2.0-1 and 2.0-2 in Chapter 2.0, Project Description, illustrate the regional location and Project vicinity.

Existing Site Uses

The Development Area is predominantly comprised of agricultural and undeveloped uses; sheds and associated agricultural equipment exist in the center portion of the site. Additionally, two (2) dirt/gravel roadways bisect the Development Area, including one (1) roadway extending north to south from Eight Mile Road to the southern boundary at Marlette Road, and another extending east to west from West Lane connecting to the dirt/gravel roadway in the center of the Development Area. Irrigation canals run along the northern, eastern, and southern borders of the Development Area, separating existing agricultural uses from the respective roadways. The Non-development area consists of agricultural land, one existing residential home in the northwestern portion, a commercial use (single building), and a church. Figure 2.0-4 in Chapter 2.0, Project Description, provides an aerial view of the site.

Existing Surrounding Uses

The Project site is primarily bounded by lands within the County to the north and south. Lands within the City of Stockton are located to the east and west. The Project site is surrounded by undeveloped and developed land uses. Uses within the surrounding area include the following:

- North – Immediately north of the site is Eight Mile Road. North of Eight Mile Road are existing agricultural lands.
- East – Immediately east of the site is West Lane. East of West Lane are existing agricultural lands. The existing agricultural lands were recently incorporated into the City of Stockton and will be developed with residential and commercial uses as part of the approved Tra Vigne development project.
- South – Immediately south of the site is Marlette Road. South of Marlette Road are agricultural lands, Bear Creek, and McNair High School.
- West – Immediately west of the site is Lower Sacramento Road. West of Lower Sacramento Road is a City of Stockton residential neighborhood called "Destinations."

Site Soils

A Custom Soil Survey was completed for the Project site using the National Resources Conservation Services (NRCS) Web Soil Survey program. The NRCS Soils Map provided in Figure 3.6-1 in Section 3.6, Geology and Soils, identifies the type and range of soils found in the Project site, which is summarized below in Table 3.8-1.

TABLE 3.8-1: NRCS SOIL SERIES INFORMATION

UNIT SYMBOL	*NAME*	*SOURCE MATERIAL*	*DRAINAGE*	*PERCENT OF PROJECT SITE*	*PERCENT OF DEVELOPMENT AREA*
226	Rioblancho clay loam, drained, 0 to 2 percent slopes	Alluvium derived from mixed rock sources	Somewhat poorly drained	7.3%	0.3%
250	Stockton Clay, 0 to 2 percent slopes	Alluvium derived from mixed rock sources	Somewhat poorly drained	7.5%	9.9%
180	Jacktone clay, 0 to 2 percent slopes	Alluvium derived from mixed rock sources	Somewhat poorly drained	85.2%	89.8%

SOURCE: NATURAL RESOURCES CONSERVATION SERVICE, CUSTOM WEB SOIL SURVEY, 2023.

HAZARDS ASSESSMENT

For the purposes of this EIR, "hazardous material" is defined as provided in California Health & Safety Code, Section 25501:

- Any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment.

"Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

"Hazardous waste" is a subset of hazardous materials. For the purposes of this EIR, the definition of hazardous waste is essentially the same as that in the California Health & Safety Code, Section 25517, and in the California Code of Regulations (CCR), Title 22, Section 66261.2:

- Hazardous wastes are wastes that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may either cause, or significantly contribute to, an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

CCR Title 22 categorizes hazardous waste into hazard classes according to specific characteristics of ignitibility, corrosivity, reactivity, or toxicity. Hazardous waste with any of these characteristics is also known as a Resource Conservation and Recovery Act (RCRA) waste.

Hazardous materials can be categorized as hazardous non-radioactive chemical materials, radioactive materials, toxic materials, and biohazardous materials. The previous definitions are adequate for non-radioactive hazardous chemicals. Radioactive and biohazardous materials are further defined as follows:

- Radioactive materials contain atoms with unstable nuclei that spontaneously emit ionizing radiation to increase their stability.

- Radioactive wastes are radioactive materials that are discarded (including wastes in storage) or abandoned.
- Toxic wastes are harmful or fatal when ingested or absorbed (e.g., containing mercury, lead). When toxic waste is land disposed, contaminated liquid may leach from the waste and pollute groundwater.
- Biohazardous materials include materials containing certain infectious agents (microorganisms, bacteria, molds, parasites, and viruses) that cause or significantly contribute to increased human mortality or organisms capable of being communicated by invading and multiplying in body tissues.
- Medical wastes include both biohazardous wastes (byproducts of biohazardous materials) and sharps (devices capable of cutting or piercing, such as hypodermic needles, razor blades, and broken glass) resulting from the diagnosis, treatment, or immunization of human beings, or research pertaining to these activities.

There are countless categories of hazardous materials and hazardous wastes that could be found on any given property based on past uses. Some common examples include agrichemicals (chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides, such as such as Mecoprop (MCPP), Dinoseb, chlordane, dichloro-diphenyltrichloroethane (DDT), and dichloro-diphenyl-dichloroethylene (DDE)), petroleum-based products (oil, gasoline, diesel fuel), a variety of chemicals including paints, cleaners, and solvents, and asbestos-containing or lead-containing materials (e.g., paint, sealants, pipe solder).

Site Reconnaissance

The Project site contains connecting square agricultural fields that were tilled and planted at the time of the site reconnaissance. The various fields were in different stages of hay production, up to six (6) feet tall. Larger ditches were observed on the north and south side of the Project site, with smaller ditches in the fields, appearing to have been re-routed depending upon the crop grown on the property over the many seasons of agricultural use. Native live oaks, valley oaks and native plants were growing along the edges of the fields and ditches, as well as imported plants such as Russian thistle, common thistle, Star thistle, and vetch. Soil throughout the fields in the Project site was observed to be medium brown, silty loam in nature with light stone component mostly consisting of small pebbles of granitic components (quartzite, mica, and feldspar). Other noted stone types included meta-volcanic and unidentified crypto-crystalline silicates. Soil that was darker and with more loam components was found within a clearing in the center portion of the Project site, consistent with a former barn, shed, or similar structure. Minor staining consistent in appearance with industrial oil from agricultural/industrial equipment was also found in this area.

Historic Site Conditions

The Development Area has been historically used for agricultural purposes (Peak & Associates, Inc., 2023. Aerial photographs of the Project site and general vicinity indicate that from 1993 to present, the Development Area appears to be active agricultural fields. Within the Non-development Area, the existing residential home in the northwestern portion and the commercial use in the

southwestern portion have been in existence since at least 1993, and the church in the western portion was built by approximately 2004.

Hazardous Material Sites

De Novo Planning Group performed a search of local, State, and federal agency databases for the proposed Project site and known contaminated sites in the vicinity. Results of the environmental records search are described below.

The U.S. Environmental Protection Agency (EPA) Toxic Release Inventory (TRI) tracks the management of certain toxic chemicals that may pose a threat to human health and the environment. The TRI database does not identify the Project site as containing data on disposal or other releases of toxic chemicals (USEPA, 2023). The nearest TRI site is the Stockton Steel site, located at 3003 E. Hammer Lane, approximately two (2) miles southeast of the Project site.

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with the California Environmental Quality Act (CEQA) requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency (CalEPA) to develop at least annually an updated Cortese List. The DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List.

The Project site is not on the Cortese List.

EnviroStor Data Management System: The California DTSC maintains the EnviroStor Data Management System, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. This site cleanup information includes: Federal Superfund Sites (NPL), State Response Sites, Voluntary Cleanup Sites, School Cleanup Sites, Corrective Action Sites, Tiered Permit Sites, and Evaluation/Investigation Sites. The hazardous waste facilities include: Permitted–Operating, Post-Closure Permitted, and Historical Non-Operating.

There are no site locations listed in the EnviroStor database within the Project site. The EnviroStor database lists five (5) “school investigation” sites within 1.5 miles of the Project site, indicating an investigation was conducted and overseen by the DTSC for a proposed school site. Three (3) of these sites received a “No Further Action” status, indicating that a preliminary assessment found no actual or potential hazardous materials release or naturally occurring hazardous material that would pose a threat to human health or the environment. The remaining two (2) sites are inactive and a site evaluation has not been conducted. In addition, one (1) “school cleanup” site is listed: the Podesta Ranch Elementary School site, which received a “certified” status in 2008, indicating that no further remedial action is necessary. Table 3.8-2 shows cleanup sites located within 1.5 miles of the Project site listed in the EnviroStor database.

TABLE 3.8-2: ENVIROSTOR CLEANUP SITES WITHIN 1.5 MILES OF PROJECT SITE

SITE NAME	*PROJECT TYPE*	*STATUS*	*ADDRESS*
Podesta Ranch Elementary School	School Cleanup	Certified as of 2008	Lower Sacramento Road
4th High School Site	School Investigation	No Further Action as of 2001	West Lane/Morada Lane
Academy High School Site	School Investigation	Inactive - Needs Evaluation as of 2010	Corner Of 8 Mile Road and Marlette Road
North Stockton Middle School Site	School Investigation	No Further Action as of 2007	60 Marlette Road
Site "E" Elementary School	School Investigation	Inactive - Needs Evaluation as of 2004	Davis Road/Whistler Way
Site F, Bright Property	School Investigation	No Further Action as of 2008	350 E. Wakefield Road

SOURCE: CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL (DTSC), ENVIROSTOR, SEPTEMBER 2023.

GeoTracker: GeoTracker is the California State Water Resource Control Board's (SWRCB's) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense, Site Cleanup Program).

There are no site locations listed in the GeoTracker database within the Project site. The GeoTracker database lists six (6) Leaking Underground Storage Tank (LUST) Cleanup Sites within 1.5 miles of the Project site. These sites all have a status of "Completed – Case Closed" indicating that a closure letter or other formal closure decision document has been issued for the site. In addition, one (1) permitted UST, the Chevron Station# 372736/2223 located at 9484 West Lane, is located within 1.5 miles of the Project site. See Table 3.8-3 for a list of hazardous material release sites identified by the GeoTracker database within 1.5 miles of the Project site.

TABLE 3.8-3: GEOTRACKER HAZARDOUS MATERIAL RELEASE SITES WITHIN 1.5 MILES OF PROJECT SITE

SITE NAME	*TYPE*	*CLEANUP STATUS*	*ADDRESS*
Alpine Packing Company	LUST Cleanup Site	Completed – Case Closed as of 1996	9900 Lower Sacramento Road
Elkhorn Country Club	LUST Cleanup Site	Completed – Case Closed as of 2001	1050 Elkhorn Drive
Pacific Bell	LUST Cleanup Site	Completed – Case Closed as of 1996	2300 Eight Mile Road
Private Property	LUST Cleanup Site	Completed – Case Closed as of 2016	11560 N. Lower Sacramento Road
Stockton/Lodi KOA Campground	LUST Cleanup Site	Completed – Case Closed as of 1996	2851 Eight Mile Road
West Lane Market	LUST Cleanup Site	Completed – Case Closed as of 2002	9484 West Lane

NOTE: LUST = LEAKING UNDERGROUND STORAGE TANK; UST = UNDERGROUND STORAGE TANK.

SOURCE: CALIFORNIA STATE WATER RESOURCES CONTROL BOARD (SWRCB), GEOTRACKER, SEPTEMBER 2023.

Solid Waste Information System (SWIS): The Solid Waste Information System (SWIS) is a database of solid waste facilities that is maintained by California's Department of Resources Recycling and Recovery (CalRecycle). The SWIS database identifies active, planned, and closed sites. The proposed Project site does not have any active or planned solid waste facilities listed in the database. The nearest planned facility, the Valley Landscaping Composting Facility, is located approximately 2.8 miles north of the Project site.

OTHER DATABASES

There is a broad list of federal and State databases that provide information for sites with varying potential for risk from the possible existence of hazardous materials. There are numerous redundancies among these various database listings. Below is a summary of each.

National Priorities List: The National Priorities List (NPL) of Superfund Sites and Proposed NPL Sites is EPA's database of more than 1,200 sites designated or proposed for priority cleanup under the Superfund program. NPL sites may encompass relatively large areas. The proposed Project site is not listed in this database.

RCRIS System: The Resource Conservation and Recovery Information System (RCRIS) is an EPA database that includes selective information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA. Identification on this list does not indicate that there has been an impact on the environment. The proposed Project site is not listed in this database.

CERCLIS Data: Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) is an EPA database that contains information on potentially hazardous waste sites that have been reported to the EPA by states, municipalities, private companies, and individuals, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites that are either proposed for or on the NPL, as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The proposed Project site is not listed in this database.

CORRACTS: Corrective Action Report (CORRACTS) is an EPA database that identifies hazardous waste handlers with RCRA corrective action activity. The proposed Project site is not listed in this database.

Transportation of Hazardous Materials

The transportation of hazardous materials within the City of Stockton Planning Area is subject to various federal, State, and local regulations. Transportation of hazardous materials by truck and rail is regulated by the U.S. Department of Transportation (DOT). DOT regulations establish criteria for safe handling procedures. It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery, or the loading of such materials (California Vehicle Code Section 31602(b), 32104(a)). The California Highway Patrol (CHP) designates through routes to be used for the transportation of hazardous materials. Transportation of hazardous materials is restricted to these routes except in cases where additional travel is required from that route to deliver or receive hazardous materials to and from users.

Hazardous materials are routinely transported on Union Pacific Railroad (UPRR) lines located approximately one mile east of the Project site's eastern boundary. The risk of accidents, and more specifically accidents involving hazardous materials, is relatively low. The U.S. DOT Federal Railroad Administration found the UPRR company train accident rate to be 4.18 train accidents per one million train miles traveled, resulting in a less than 0.001 percent chance of an accident. Risk of a

railroad accident containing hazardous materials is considered much lower, as only an average of eight (8) accidents involving hazardous material spills occur annually in California.

The UPRR Company implements a security plan in compliance with the Department of Transportation Final Rule 49 CFR Part 172 Hazardous Materials (HM 232): Security Requirements for Offerors and Transporters of Hazardous Materials. The plan includes requirements to enhance the security of transported hazardous materials and ensures proper cleanup procedures in the instance of an accidental release.

HAZARDS FROM AIR TRAFFIC

The State Division of Aeronautics has compiled extensive data regarding aircraft accidents around airports in California. This data is much more detailed and specific than data currently available from the FAA and the National Transportation Safety Board (NTSB). According to the California Airport Land Use Planning Handbook (2011), prepared by the State Division of Aeronautics, 21 percent of general aviation accidents occur during takeoff and initial climb and 44.2 percent of general aviation accidents occur during approach and landing. The State Division of Aeronautics has plotted accidents during these phases at airports across the country and has determined certain theoretical areas of high accident probability.

Approach and Landing Accidents

As nearly half of all general aviation accidents occur in the approach and landing phases of flight, considerable work has been done to determine the approximate probability of such accidents. Nearly 77 percent of accidents during this phase of flight occur during touchdown onto the runway or during the roll-out. These accidents typically consist of hard or long landings, ground loops (where the aircraft spins out on the ground), departures from the runway surface, etc. These types of accidents are rarely fatal and often do not involve other aircraft or structures. Commonly these accidents occur due to loss of control on the part of the pilot and, to some extent, weather conditions (California Division of Aeronautics, 2011).

The remaining 23 percent of accidents during the approach and landing phase of flight occur as the aircraft is maneuvered towards the runway for landing, in a portion of the airspace around the airport commonly called the traffic pattern. Common causes of approach accidents include the pilot's misjudging of the rate of descent, poor visibility, unexpected downdrafts, or tall objects beneath the final approach course. Improper use of rudder on an aircraft during the last turn toward the runway can sometimes result in a stall (a cross-control stall) and resultant spin, causing the aircraft to strike the ground directly below the aircraft. The types of events that lead to approach accidents tend to place the accident site close to the extended runway centerline. The probability of accidents increases as the flight path nears the approach end of the runway (California Division of Aeronautics, 2011).

According to aircraft accident plotting provided by the State Division of Aeronautics, most accidents that occur during the approach and landing phase of flight occur on the airport surface itself. The remainder of accidents that occur during this phase of flight are generally clustered along the

extended centerline of the runway, where the aircraft is flying closest to the ground and with the lowest airspeed (California Division of Aeronautics, 2011).

Takeoff and Departure Accidents

According to data collected by the State Division of Aeronautics, nearly 65 percent of all accidents during the takeoff and departure phase of flight occur during the initial climb phase, immediately after takeoff. This data is correlated by two physical constraints of general aviation aircraft:

- The takeoff and initial climb phase are times when the aircraft engine(s) is under maximum stress and is thus more susceptible to mechanical problems than at other phases of flight; and
- Average general aviation runways are not typically long enough to allow an aircraft that experiences a loss of power shortly after takeoff to land again and stop before the end of the runway.

While most of the approach and landing accidents occur on or near to the centerline of the runway, accidents that occur during initial climb are more dispersed in their location as pilots are not attempting to get to any one specific point (such as a runway). Additionally, aircraft vary widely in payload, engine power, glide ratio, and several other factors that affect glide distance, handling characteristics after engine loss, and general response to engine failure. This further disperses the accident pattern. However, while the pattern is more dispersed than that seen for approach and landing accidents, the departure pattern is still generally localized in the direction of departure and within proximity of the centerline. This is partially since pilots are trained to fly straight ahead and avoid turns when experiencing a loss of power or engine failure. Turning flight causes the aircraft to sink faster and flying straight allows for more time to attempt to fix the problem (California Division of Aeronautics, 2011).

Local and Regional Airport Facilities

The closest major airport to the Project site is the Stockton Metropolitan Airport, located approximately 10.5 miles southeast of the Project site. Other airports within the vicinity of the Project site include the Lodi Airpark, located approximately 1.9 miles to the north, and the Kingdon Executive Airport, located approximately 3.4 miles to the northwest. According to the San Joaquin County Airport Land Use Compatibility Plan Update (2018), the Project site is not located within the Airport Influence Area for the Stockton Metropolitan Airport, the Lodi Airpark, or the Kingdon Executive Airport.

FIRE HAZARDS

Wildfires are a major hazard in the State of California. Wildfires burn natural vegetation on developed and undeveloped lands and include timber, brush, woodland, and grass fires. While low intensity wildfires have a role in the County's ecosystem, wildfires put human health and safety, structures (e.g., homes, schools, businesses, etc.), air quality, recreation areas, water quality, wildlife habitat and ecosystem health, and forest resources at risk.

The California Department of Forestry and Fire Protection (CAL FIRE) identifies fire hazard severity zones (FHSZ) for areas that have been assigned a hazard score based on likelihood of fire as well as fire behavior. As discussed in the Envision 2040 Stockton General Plan EIR, the entire Stockton Planning Area, including the Project site, is located within a Local Responsibility Area (LRA) and does not contain high or very high FHSZs. The Project site is not located within or near a State Responsibility Area (SRA) or a very high fire hazard severity zone.

Although the central portions of the Stockton Planning Area are highly urbanized, the northern and eastern portions of the Planning Area are more susceptible to wildland fires due to potential fuel loads (grassland and other vegetation). The Project site is in the northern Stockton SOI, which is predominantly under agricultural or urban use. This area has a low fire hazard risk.

3.8.2 REGULATORY SETTING

FEDERAL

The primary federal agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the EPA, Department of Labor Occupational Safety and Health Administration (OSHA), and the DOT. Several laws governing the transport, storage, and use of hazardous materials are governed by these agencies as well as oversight for contaminated sites cleanup. Federal laws and regulations that are applicable to hazards and hazardous materials are presented below.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act, as amended, is the basic statute regulating hazardous materials transportation in the United States. The purpose of the law is to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in interstate commerce. This law gives the U.S. Department of Transportation and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials.

Natural Gas Pipeline Safety Act

The Natural Gas Pipeline Safety Act authorizes the U.S. Department of Transportation Office of Pipeline Safety to regulate pipeline transportation of natural (flammable, toxic, or corrosive) gas and other gases as well as the transportation and storage of liquefied natural gas. The Office of Pipeline Safety regulates the design, construction, inspection, testing, operation, and maintenance of pipeline facilities. While the federal government is primarily responsible for developing, issuing, and enforcing pipeline safety regulations, the pipeline safety statutes provide for State assumption of the intrastate regulatory, inspection, and enforcement responsibilities under an annual certification. To qualify for certification, a state must adopt the minimum federal regulations and may adopt additional or more stringent regulations if they are not incompatible.

Resource Conservation and Recovery Act

The 1976 RCRA and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes. The legislation mandated that hazardous wastes be tracked from the point of generation to their ultimate fate in the environment. This includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities.

The 1984 RCRA amendments provided the framework for a regulatory program designed to prevent releases from USTs. The program established tank and leak detection standards, including spill and overflow protection devices for new tanks. The tanks must also meet performance standards to ensure that the stored material will not corrode the tanks. The RCRA was further amended in 1988 to set additional standards for USTs.

In July 2015, the EPA revised the federal UST regulation, which strengthened the 1988 federal UST regulations by increasing emphasis on properly operating and maintain UST equipment. The revision added new operation and maintenance requirements and addressed UST systems deferred in the 1988 UST regulation. The purpose of the revision was to help prevent and detect UST releases, which are a leading source of groundwater contamination. To ensure compliance performance measures reflect the 2015 UST regulation, the EPA and the Association of State and Territorial Solid Waste Management Officials coordinated to update existing compliance performance measures and add new measures. The measures required states to switch from tracking compliance against significant operational compliance measures to the more stringent technical compliance rate (TCR) measures. As of June 2020, only 45.6 percent of USTs were in compliance with all TCR categories[1].

Comprehensive Environmental Response, Compensation, and Liability Act

CERCLA introduced active federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. CERCLA was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous substances releases. CERCLA deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for and respond to failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

STATE

The primary State agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the California Office of Emergency Services (OES), CalEPA, DTSC, California Department of Transportation (Caltrans), CHP, State Water Quality Control Board, and the California Air Resources Board. Several laws governing the generation, transport, and disposal of hazardous

[1] EPA. *Semiannual Report of UST Performance Measures Mid Fiscal Year 2020*. June 2020. Access: https://www.epa.gov/sites/production/files/2020-06/documents/ca-20-12.pdf

materials are administered by these agencies. State laws and regulations that are applicable to hazards and hazardous materials are presented below.

California Health and Safety Code

CalEPA has established rules governing the use of hazardous materials and the management of hazardous wastes. Many of these regulations are embodied in the California Health and Safety Code. The code includes regulations that govern safe drinking water, substances control, land reuse and revitalization, remediation, restoration, and methamphetamine contaminated cleanups.

California Code of Regulations Title 22 and Title 26

CCR Title 22 provides state regulations for hazardous materials, and CCR Title 26 provides regulation of hazardous materials management. In 1996, CalEPA established the "Unified Hazardous Waste and Hazardous Materials Management Regulatory Program" (Unified Program) which consolidated the six administrative components of hazardous waste and materials into one program.

California Vehicle Code

The following provisions are included in the California Vehicle Code (CVC) and pertain to the transportation of hazardous related materials:

- The Highway Patrol designates the routes in California which are to be used for the transportation of explosives. (Section 31616)
- The CVC applies when the explosives are transported as a delivery service for hire or in quantities in excess of 1,000 pounds. The transportation of explosives in quantities of 1,000 pounds or less, or other than on a public highway, is subject to the California Health and Safety Code. (Section 31601(a))
- It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery of, or the loading of, such materials. (Section 31602(b) and Section 32104(a))
- When transporting explosives through or into a city for which a route has not been designated by the Highway Patrol, drivers must follow routes as may be prescribed or established by local authorities. (Section 31614(a))
- Inhalation hazards and poison gases are subject to additional safeguards. These materials are highly toxic, spread rapidly, and require rapid and widespread evacuation if there is loss of containment or a fire. The Highway Patrol designates through routes to be used for the transportation of inhalation hazards. It may also designate separate through routes for the transportation of inhalation hazards composed of any chemical rocket propellant. (Section 32100 and Section 32102(b))

LOCAL

Certified Unified Program Agency (CUPA)

The California Environmental Protection Agency designates specific local agencies as Certified Unified Program Agencies (CUPA), typically at the county level. The San Joaquin County Department

of Environmental Health is the CUPA designated for San Joaquin County. The San Joaquin County Department of Environmental Health is responsible for the implementation of statewide programs within its jurisdiction, including: Underground storage of hazardous substances (USTs), Hazardous Materials Business Plan (HMP) requirements, California Accidental Release Prevention (Cal-ARP) program, etc. Implementation of these programs involves permitting, inspecting, providing education/guidance, investigations, and enforcement.

San Joaquin County Office of Emergency Services

The San Joaquin County Office of Emergency Services administers the State's Hazardous Material Release Response Plan and Inventories and the Cal-ARP programs. Additionally, the Office of Emergency Services has a Hazardous Material Area Plan designed to protect human health and the environment through hazardous materials emergency planning, response and agency coordination and community right-to-know programs. The Hazardous Material Area Plan, among other provisions, provides guidance for businesses required to file a hazardous materials business plan. Under Chapter 6.95 of the California Health and Safety Code and the Federal Resource Conservation and Recovery Act, any business storing quantities of hazardous materials greater than 55 gallons of liquid, 500 pounds of solid or 200 cubic feet of some compressed gases must file a hazardous materials business plan annually that establishes incident prevention measures, hazardous material handing protocols and emergency response and evacuation procedures. The City of Stockton Police Department and the Stockton Fire Department work with San Joaquin County to implement the Hazardous Material Area Plan.

The Office of Emergency Services also administers the Emergency Planning and Community Right-to-Know program for Tracy. The Office of Emergency Services has also prepared the Multi-Hazard Plan as the basic emergency plan for San Joaquin County.

Envision Stockton 2040 General Plan

The Envision Stockton 2040 General Plan includes several policies and actions that are relevant to hazards and hazardous materials. General Plan policies and actions applicable to the Project are identified below:

POLICIES: SAFETY ELEMENT

- SAF-2.1. Ensure that community members are adequately prepared for natural disasters and emergencies through education and training.
- SAF-2.2. Prepare sufficiently for major events to enable quick and effective response.
- SAF-2.5. Protect the community from health hazards and annoyance associated with excessive noise levels.
- SAF-2.6. Minimize the risk to city residents and property associated with the transport, distribution, use, and storage of hazardous materials.

ACTIONS: SAFETY ELEMENT

- SAF-2.2A. Require new development to provide adequate access for emergency vehicles and evacuation routes, including by designing roadway systems to provide multiple escape routes in the event of a levee failure. SAF-2.6A. Restrict transport of hazardous materials within the city to routes that have been designated for such transport.
- SAF-2.2B. Formulate, review, periodically update, and make available to the public emergency management plans for safe evacuation of people from areas subject to inundation from levee and dam failure.
- SAF-2.2D. Continue to work with San Joaquin County, the County Office of Emergency Services, other cities in the region, and disaster agencies to coordinate disaster and emergency preparedness planning.
- SAF-2.6A. Restrict transport of hazardous materials within the city to routes that have been designated for such transport.
- SAF-2.6B. When appropriate, require new development to prepare a hazardous materials inventory and/or Phase I or Phase II hazardous materials studies, including any required clean-up measures.
- SAF-2.6C. Educate the public regarding the types of household hazardous wastes and the proper methods of disposal.

City of Stockton Municipal Code

Chapter 2.82 of the Stockton Municipal Code, Emergency Organization and Functions, describes the preparation and the preparation and implementation of plans for the protection of persons and property within Stockton in the event of an emergency; the direction of the emergency organization; and the coordination of the emergency functions of the City with all other public agencies, corporations, organizations, and affected private persons. Stockton Municipal Code Section 2.82.060, Director and Deputy Director of Emergency Services, establishes that one of the duties of the Director of Emergency Services is to request that the City proclaim the existence of a threat or local emergency. Once a local emergency is proclaimed, the Director has seven (7) days to act. In addition, the Director has the authority to request the Governor to proclaim a "state of emergency" when local resources are inadequate to cope with the emergency. The Director is charged with controlling and directing the efforts of the emergency organization of the City and directing cooperation between the coordination of services and staff.

Chapter 10.08 of the Stockton Municipal Code, Routes for Commercial Vehicles and Vehicles Transporting Flammable Liquids, designates routes within the City for commercial vehicles and vehicles transporting flammable liquids.

Section 16.36.080 of the Stockton Municipal Code, Hazardous Materials, sets forth the standards for regulating the use, handling, storage, and transportation of hazardous materials. Per Section 16.36.080(A), a use permit is required for any new commercial, industrial, institutional, or accessory use, or major addition (over 10 percent) to an existing use within 1,000 feet of a residential zoning district that involves the manufacture, storage, handling, or processing of hazardous materials in sufficient quantities that would require permits as hazardous materials. In addition, this section of

the Stockton Municipal Code provides standards for reporting, notification, new development, and both underground and above-ground storage of hazardous materials.

City of Stockton Emergency Operations Plan

The City adopted its most recent version of its Emergency Operations Plan (EOP) in June 2012. The EOP addresses the City's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies. The EOP establishes the emergency management organization required to mitigate any significant emergencies and identifies roles and responsibilities required to protect the health and safety of Stockton residents and property. In addition, the EOP establishes operations concepts associated with a field response to emergencies.

Airport Land Use Compatibility Plans

The Airport Land Use Compatibility Plan (ALUCP) for the Stockton Metropolitan Airport, last updated in May 2016 and amended in February 2018, provides guidance related to the placement of land uses near the Stockton Metropolitan Airport. The ALUCP for San Joaquin County, last updated in July 2009 and amended in January 2018, addresses the remaining five public-use airports within San Joaquin County, as well as the Byron Airport located in neighboring Contra Costa County. These documents provide guidance intended to minimize the public's exposure to excessive noise and safety hazards, as well as ensure that the approaches to airports are kept clear of structures and other conflicts that could pose an aviation safety hazard. Specifically, the ALUCPs seek to protect the public from adverse effects of aircraft noise, ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and ensure that no structures or activities adversely affect navigable airspace.

3.8.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact from hazards and hazardous materials if it will:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;

- For a Project located within an airport land use plan or, where such a plan has not been adopted, within two (2) miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; and/or
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

In addition, consistent with Appendix G of the CEQA Guidelines, the proposed Project, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, will have a significant impact from wildfire if it will:

- Substantially impair an adopted emergency response plan or emergency evacuation plan;
- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;
- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; and/or
- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, because of runoff, post-fire slope instability, or drainage changes.

The Project site is not located within or near a state responsibility area or a very high fire hazard severity zone; therefore, the wildfire thresholds associated with the Project's proximity to state responsibility areas or lands classified as very high fire hazard severity zones are not applicable to the Project and there is ***no impact*** associated with these wildfire thresholds. As such, these CEQA topics are not addressed further.

IMPACTS AND MITIGATION MEASURES

Impact 3.8-1: Project implementation has the potential to create a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (Less than Significant with Mitigation)

CONSTRUCTION PHASE IMPACTS

Construction activities associated with the proposed Project would likely involve the routine transport, use, or disposal of hazardous materials, such as petroleum-based products (oil, gasoline, diesel fuel) and a variety of chemicals including paints, cleaners, and solvents. The use of these materials may pose a reasonable risk of release into the environment if not properly handled, stored, and transported.

Construction workers and the general public could be exposed to hazards and hazardous materials because of improper handling or use during construction activities (particularly by untrained personnel); transportation accidents; or fires, or other emergencies. Construction workers could also be exposed to hazards associated with accidental releases of hazardous materials, which could result in significant impacts to the health and welfare of people and/or wildlife. Additionally, an accidental release into the environment could result in the contamination of water, soil, habitat, and other resources. Existing regulatory requirements of the Regional Water Quality Control Board require the preparation a project-specific Stormwater Pollution Prevention Plan (SWPPP). The SWPPP requires project applicants to include project-specific best management practices (BMPs) that the RWQCB has deemed effective in controlling erosion, sedimentation, and runoff during construction activities. The Project would be required to prepare and implement a Project-specific SWPPP.

The proposed Project would also be required to comply with regulations related to the transportation of hazardous materials codified in 49 CFR 173 and 49 CFR 177 and CCR Title 26, Division 6. These regulations, which are under the jurisdiction of Caltrans and the CHP, provide specific packaging requirements, define unacceptable hazardous materials shipments, and prescribe safe-transit practices by carriers of hazardous materials. Compliance with these regulations would reduce the risk of exposure to humans and the environment related to the transportation of hazardous materials.

Hazardous materials regulations, which are codified in CCR Titles 8 and 22, and their enabling legislation set forth in Chapter 6.5 (Section 25100 et seq.) of the California Health and Safety Code, were established at the State level to ensure compliance with federal regulations to reduce the risk to human health and the environment from the routine use of hazardous substances. Construction specifications would include the following requirements in compliance with applicable regulations and codes, including, but not limited to CCR Titles 8 and 22, Uniform Fire Code, and Division 20 of the California Health and Safety Code: all reserve fuel supplies and hazardous materials must be stored within the confines of a designated construction area; equipment refueling and maintenance must take place only within the staging area; and construction vehicles shall be inspected daily for leaks. Off-site activities (e.g., utility construction) would also be required to comply with these regulations. These regulations and codes must be implemented, as appropriate, and are monitored by the State and/or local jurisdictions, including the San Joaquin County Department of Environmental Health and the City of Stockton Fire Department.

Contractors would be required to comply with CalEPA's Unified Program; regulated activities would be managed by San Joaquin County Department of Environmental Health, the designated Certified Unified Program Agency for San Joaquin County, in accordance with the regulations included in the Unified Program (e.g., hazardous materials release response plans and inventories, California hazardous material management plans and inventories). Additionally, if hazardous materials are discovered during Project construction activities, a Soils Management Plan (SMP) would be submitted and approved by the San Joaquin County Department of Environmental Health, as required by Mitigation Measure 3.8-1. The SMP would establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. Such

compliance would reduce the potential for accidental release of hazardous materials during construction of the proposed Project. As a result, it would lessen the risk of exposure of construction workers and the public to accidental release of hazardous materials, as well as the demand for incident emergency response.

The Project site consists of the Development Area (236.3 acres), Non-development Area (56.03 acres), and Right-of-Way Annexation Area (13.7 acres). The Development Area is predominantly comprised of agricultural and undeveloped uses. The Project proposes to construct a primarily residential development comprised of up to 1,411 residential units, parks/open space, and a school site within the Development Area, as well as circulation and infrastructure improvements. Future development within the Development Area would involve the conversion of active agricultural land into residential, public facility, and/or open space uses. Site grading, excavation for utilities, trenching, backfilling, and the construction of proposed structures could result in the exposure of construction workers and the general public to hazardous materials, such as pesticides and herbicides. Like most agricultural and farming operations in the Central Valley, agricultural practices in the area have used agricultural chemicals including pesticides and herbicides as a standard practice. Although no contaminated soils have been identified on the Project site or the vicinity above applicable levels, residual concentrations of pesticides may be present in soil because of historic agricultural application and storage. Continuous spraying of crops over many years can potentially result in a residual buildup of pesticides, in farm soils. Of highest concern relative to agrichemicals are chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides (OCPs), such as such as Mecoprop (MCPP), Dinoseb, chlordane, dichloro-diphenyltrichloroethane (DDT), and dichloro-diphenyl-dichloroethylene (DDE).

Mitigation Measure 3.8-2 requires evenly distributed soil samples to be conducted within the Development Area for analysis of pesticides and heavy metals prior to initiation of any ground disturbance activities. If elevated levels of pesticides or heavy metals are detected during the laboratory analysis of the soils, the Project applicant would be required to prepare and implement a soil cleanup and remediation plan prior to the commencement of grading activities. Implementation of Mitigation Measure 3.8-2 would ensure that redevelopment of the active agricultural land would not result in accidental release of or exposure to hazardous materials.

OPERATIONAL PHASE IMPACTS

The operational phase would occur after construction is completed and business operations commence on a day-to-day basis. As previously noted, the Project proposes to construct a primarily residential development comprised of up to 1,411 residential units, parks/open space, and a school site within the Development Area, as well as circulation and infrastructure improvements. The Project does not propose uses that would involve the use or storage of hazardous substances other than limited quantities of hazardous materials such as solvents, fertilizers, pesticides, and other materials used for regular household maintenance of buildings and landscaping. The quantities of these materials would not typically be at an amount that would pose a significant hazard to the public or the environment. While the risk of exposure to hazardous materials cannot be eliminated, measures can be implemented to reduce risk to acceptable levels. Adherence to existing regulations would ensure compliance with safety standards related to the use and storage of hazardous

materials, and the safety procedures mandated by applicable federal, State, and local laws and regulations would ensure that risks resulting from the routine transportation, use, storage, or disposal of hazardous materials during the operational phase of the proposed Project would be less than significant.

CONCLUSION

Overall, consistency with federal, State, and local laws and regulations related to hazardous materials discussed above and implementation of Mitigation Measures 3.8-1 through 3.8-2 would reduce potential impacts that could occur due to the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment associated with construction activities within the Project site to a ***less than significant*** level.

MITIGATION MEASURE(S)

Mitigation Measure 3.8-1*: In the event that hazardous materials are encountered during construction, a Soils Management Plan (SMP) shall be submitted and approved by the San Joaquin County Department of Environmental Health. The SMP shall establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. The approved SMP shall be posted and maintained onsite during construction activities and all construction personnel shall acknowledge that they have reviewed and understand the plan.*

Mitigation Measure 3.8-2*: Prior to initiation of any ground disturbance activities, evenly distributed soil samples shall be conducted throughout the Development Area for analysis of pesticides and heavy metals. The samples shall be submitted for laboratory analysis of pesticides and heavy metals per DTSC and EPA protocols. The results of the soil sampling shall be submitted to the City of Stockton. If elevated levels of pesticides or heavy metals are detected during the laboratory analysis of the soils, a soil cleanup and remediation plan shall be prepared and implemented prior to the commencement of grading activities.*

Impact 3.8-2: Project implementation has the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (Less than Significant)

The nearest existing school to the Project site, Ronald McNair High School, is located approximately 0.43 miles south of the Project site. In addition, the Project includes a proposed 12-acre K-8 school site. Should the LUSD decide to pursue building a school at the proposed school site, the nearest proposed school would be centrally located on-site. Should the LUSD not decide to pursue building a school at the proposed school site, no impact would occur.

The Project proposes to construct a primarily residential development comprised of up to 1,411 residential units, parks/open space, and a school site within the Development Area, as well as circulation and infrastructure improvements. As noted in Chapter 2.0 of this Draft EIR, the proposed Project establishes a site for a 12.0-acre K-8 school to be developed by Lodi Unified School District

(LUSD). The development of a K-8 school at this site is the discretionary decision of the LUSD, and while the proposed Project has planned for a school at this location, it will be determined by LUSD at a later date through their decision-making process. If the LUSD decides to not pursue building a school at this site, then the site would be developed with 79 single family residential units. Figure 2.0-8-A in Chapter 2.0 provides the proposed site plan with a school site, which would result in the development of 1,332 residential units. If the school is not developed, residential units would be built in its place for a total of 1,411 units. Figure 2.0-8-B illustrates a site plan without the school site.

As discussed in Impact 3.8-1, Project construction activities would involve the routine transport, use, or disposal of hazardous materials, such as petroleum-based products and a variety of chemicals including paints, cleaners, and solvents with the potential of accidental release. The level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials utilized during construction. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, State, and federal law.

As discussed in Impact 3.8-1, the Project does not propose uses that would involve the use or storage of hazardous substances other than limited quantities of hazardous materials such as solvents, fertilizers, pesticides, and other materials used for regular household maintenance of buildings and landscaping. The quantities of these materials would not typically be at an amount that would pose a significant hazard to the public or the environment. Should the LUSD decide to pursue building a school at the proposed school site, compliance with applicable laws and regulations governing hazardous materials would ensure all potentially hazardous materials are used and handled in an appropriate manner and would ensure that risks associated with the proposed Project's limited use of hazardous materials within one-quarter mile of an existing or proposed school would be ***less than significant***.

Impact 3.8-3: Project implementation has the potential to result in impacts from being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (No Impact)

The hazards assessment in this section is based primarily on reviews of historical land uses and environmental hazards database research. There is a broad list of federal and State databases that provide information for sites with varying potential for risk from the possible existence of hazardous materials. Database research concluded that the proposed Project site is not located on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Implementation of the proposed Project would have ***no impact*** with regards to this environmental issue.

Impact 3.8-4: Project implementation has the potential to result in a safety hazard for people residing or working on the Project site as a result of public airport or public use airport (Less than Significant)

The nearest airports to the Project site include the Lodi Airpark, located approximately 1.9 miles to the north, and the Kingdon Executive Airport, located approximately 3.4 miles to the northwest. The

closest major airport to the Project site is the Stockton Metropolitan Airport, located approximately 10.5 miles southeast of the Project site. According to the San Joaquin County Airport Land Use Compatibility Plan Update (2018), the Project site is not located within the Airport Influence Area for the Stockton Metropolitan Airport, the Lodi Airpark, or the Kingdon Executive Airport. Therefore, implementation of the proposed Project would have a ***less than significant*** impact with regards to this environmental issue.

Impact 3.8-5: Project implementation has the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (Less than Significant)

(*Note: The following discussion is associated with potential impacts of the Project on emergency response plans and/or evacuation plans. Proposed emergency vehicle access to and from the site is addressed in Section 3.13, Transportation and Circulation.*)

The Stockton Emergency Operations Plan (EOP), adopted in June 2012, addresses the City's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies. The EOP establishes the emergency management organization required to mitigate any significant emergencies and identifies roles and responsibilities required to protect the health and safety of Stockton residents and property. Additionally, The San Joaquin County Office of Emergency Services (OES) also maintains an Emergency Operations Plan (EOP) that serves as the official Emergency Plan for San Joaquin County. It includes planned operational functions and overall responsibilities of County Departments during an emergency. The Emergency Plan also contains a threat summary for San Joaquin County, which addresses the potential for natural, technological, and human-caused disasters (County Code, Title 4-3007).

The County OES also prepared a Hazardous Materials Area Plan (§2720 H&S, 2008) that describes the hazardous materials response system developed to protect public health, prevent environmental damage, and ensure proper use and disposal of hazardous materials. The plan establishes effective response capabilities to contain and control releases, establishes oversight of long-term cleanup and mitigation of residual releases, and integrates multi-jurisdiction and agency coordination. This plan is now implemented by the San Joaquin County Environmental Health Department.

The San Joaquin County Environmental Health Department maintains a Hazardous Materials Management Plan/ Hazardous Materials Business Plan (HMMP/HMBP). The HMMP/HMBP describes agency roles, strategies, and processes for responding to emergencies involving hazardous materials. The Environmental Health Department maintains a Hazardous Materials Database and Risk and Flood Maps available to the public on its website.

In San Joaquin County, all major roads are available for evacuation, depending on the location and type of emergency that arises. The Project would not interfere with any emergency response plan or emergency evaluation plan, as the Project does not include any actions that would impair or physically interfere with the San Joaquin County EOP, San Joaquin County Hazardous Materials Area

Plan, and the Stockton EOP. As previously stated, the Project proposes to construct a primarily residential development comprised of up to 1,411 residential units, parks/open space, and a school site within the Development Area, as well as circulation and infrastructure improvements that would result in increased connectivity of the area. Residential streets within the Development Area would be constructed according to City standards and would provide adequate access for emergency vehicles and connect to exiting major roads. Other improvements to circulation include an extension of the west-east trending Marlette Road, which would provide access to the proposed development and connect to West Lane and Lower Sacramento Road. The proposed Project includes an annexation of right-of-way along Eight Mile Road, which would be improved to City of Stockton standards.

Future uses on the Project site will have access to the County resources that establish protocols for safe use, handling, and transport of hazardous materials. Construction activities are not expected to result in any unknown significant road closures, traffic detours, or congestion that could hinder the emergency vehicle access or evacuation in the event of an emergency. Additionally, the proposed Project would require review and approval by the City's law enforcement and fire personnel to ensure that adequate emergency ingress and egress is provided throughout the site that would not interfere or impair evacuation plans. Therefore, impacts related to the potential for the project to impair implementation of emergency response plans would be ***less than significant*** impact.

Impact 3.8-5: Project implementation has the potential to expose people or structures to a risk of loss, injury, or death from wildland fires (Less than Significant)

The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents) and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area-to-mass ratio and require less heat to reach the ignition point. The County has areas with an abundance of flashy fuels (i.e. grassland) in the foothill areas of the eastern and western portion of the County. As previously discussed, the entire Stockton Planning Area, including the Project site, is located within a LRA and does not contain high or very high FHSZs. The Project site is in an area that is predominately agricultural uses, which are not at a significant risk of wildfire. Natural grassland areas are not located in the Project vicinity. Additionally, the adjacent roadways and nearby urban development would effectively act as firebreaks for the site. The proposed Project would have a ***less than significant*** impact with regards to this environmental issue.

This section describes the regulatory setting, existing hydrology and water quality conditions, and potential impacts on existing drainage patterns, surface hydrology, and water quality conditions that are likely to result from Project implementation, and measures to reduce potential impacts. This section is based in part on the following documents, reports, and studies:

- *Envision Stockton 2040 General Plan* (City of Stockton, December 2018);
- *Envision Stockton 2040 General Plan Update Draft Environmental Impact Report* (City of Stockton, June 2018);
- *California Water Plan Update 2018* (California Department of Water Resources [DWR], 2018);
- *California Water Plan Update 2013, Regional Reports: San Joaquin River Hydrologic Region* DWR, 2013);
- *The Delta Plan* (Delta Stewardship Council, as amended July 2019);
- *National Pollutant Discharge Elimination System Municipal Stormwater Program: Stormwater Management Plan* (City of Stockton, April 2009);
- *California's Groundwater (Bulletin 118) Update 2020* (DWR, 2021);
- *California's Groundwater (Bulletin 118), Basin Boundaries Description: 5-022.01 San Joaquin Valley – Eastern San Joaquin* (DWR, 2019);
- *California's Groundwater (Bulletin 118) Update 2003, Basin Report: 5-022.01 San Joaquin Valley Groundwater Basin, Eastern San Joaquin Subbasin* (DWR, 2006);
- *Eastern San Joaquin Groundwater Basin Groundwater Management Plan* (San Joaquin County Department of Public Works, September 2004);
- *Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan* (Eastern San Joaquin Groundwater Authority, November 2019 [revised June 2022]);
- *Eastern San Joaquin Integrated Regional Water Management Plan Update* (Eastern San Joaquin County Groundwater Basin Authority, June 2014);
- *Lower San Joaquin River and Delta South Regional Flood Management Plan* (San Joaquin Area Flood Control Agency, November 2014);
- *Criteria for Development in 200-year Floodplains* (City of Stockton, revised October 2019);
- San Joaquin County 200-Year Flood Zone viewer (San Joaquin County, November 2023);
- *2021 Annual Groundwater Report* (San Joaquin County Flood Control and Water Conservation District, 2022);
- *2020 Urban Water Management Plan* (City of Stockton, June 2021);

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: Central Valley Regional Water Quality Control Board (August 30, 2023). Each of the comments related to this topic are addressed within this section. Full comments received are included in Appendix A.

3.9.1 ENVIRONMENTAL SETTING

REGIONAL HYDROLOGY

San Joaquin County is in the San Joaquin River watershed. The watershed is named after the San Joaquin River, one of the State's longest rivers, which meanders for over 350 miles throughout the region. The river runs down the western slope of the Sierra Nevada mountain range on California's eastern border and flows roughly northwest through the Central Valley, to where it meets the Sacramento River at the Sacramento-San Joaquin Delta. Once a great marsh, the Sacramento-San Joaquin Delta is now a network of channels and sunken "islands" that cover—together with Suisun Marsh—about 1,300 square miles. Laid over those islands and channels is infrastructure: water supply conduits; major arteries of the state's electrical grid; natural gas fields, storage facilities, and pipelines; highways and railways; and shipping channels, all surrounded by an increasingly urban landscape. This maze of channels and islands drains more than 40 percent of the State's lands and carries about half of the State's total annual runoff (Delta Stewardship Council, as amended July 2019).

Because the Central Valley receives relatively little rainfall (12 to 17 inches a year, falling mostly October through March), snowmelt runoff from the mountains is the main source of fresh water in the San Joaquin River. Over its 300-mile length, the San Joaquin River is fed by many other streams and rivers, most notably the Stanislaus, Tuolumne, and Merced rivers.

Most of the surface water in the upper San Joaquin River is stored and diverted at Millerton Lakes' Friant Dam, near Fresno. From Friant Dam, water is pumped north through the Madera Canal and south through the Friant-Kern canal to irrigation districts and other water retailers, which then deliver the water directly to the end users in the southern portion of the watershed.

In the central and northern portions of the watershed, many agricultural and municipal users receive water from irrigation districts, such as the Modesto, Merced, Oakdale, South San Joaquin, and Turlock Irrigation Districts. That water is provided through diversions from rivers that are tributary to the San Joaquin, such as the Mokelumne, Stanislaus, Tuolumne, and Merced rivers.

In an average year, about 1.5 million acre-feet of water is diverted from the San Joaquin River at Friant Dam, leaving little flow in the river until the Merced River joins the San Joaquin northwest of the City of Merced. Additional water also reaches the river via flows returning to the river from municipal wastewater treatment plants, as well as urban and agricultural runoff. The rest of the area's water supply needs are met by importing water from northern California (via the Central Valley Project) and by pumping water from the groundwater basin (Delta Stewardship Council, as amended July 2019).

Climate

Summers in the region are warm and dry ranging from an average high in July of 93°F to an average low of approximately 59°F. Winters are cool and mild, with an average high of 53°F and a low of 37°F in January. The average annual precipitation is approximately 13.81 inches. Precipitation occurs as

rain, most of which falls between the months of November through April, peaking in January at 2.85 inches. The average temperatures range from December lows of 37.5°F to July highs of 94.3°F.

Watersheds

A watershed is a region that is bound by a divide that drains to a common watercourse or body of water. Watersheds serve an important biological function, oftentimes supporting an abundance of aquatic and terrestrial wildlife including special-status species and anadromous and native local fisheries. Watersheds provide conditions necessary for riparian habitat.

The State of California uses a hierarchical naming and numbering convention to define watershed areas for management purposes. This means that boundaries are defined according to size and topography, with multiple sub-watersheds within larger watersheds. Table 3.9-1 shows the primary watershed classification levels used by the State of California. The second column indicates the approximate size that a watershed area may be within a particular classification level, although variation in size is common.

TABLE 3.9-1. STATE OF CALIFORNIA WATERSHED HIERARCHY NAMING CONVENTION

WATERSHED LEVEL	*APPROXIMATE SQUARE MILES (ACRES)*	*DESCRIPTION*
Hydrologic Region (HR)	12,735 (8,150,000)	Defined by large-scale topographic and geologic considerations. The State of California is divided into ten HRs.
Hydrologic Unit (HU)	672 (430,000)	Defined by surface drainage; may include a major river watershed, groundwater basin, or closed drainage, among others.
Hydrologic Area (HA)	244 (156,000)	Major subdivisions of hydrologic units, such as by major tributaries, groundwater attributes, or stream components.
Hydrologic Sub-Area (HSA)	195 (125,000)	A major segment of an HA with significant geographical characteristics or hydrological homogeneity.

SOURCE: CALIFORNIA DEPARTMENT OF WATER RESOURCES, 2012.

Hydrologic Region

San Joaquin County is in the San Joaquin River Hydrological Region. The San Joaquin River is the principal river of the region, and all other streams of the region are tributary to it (DWR, 2013, p. SRJ-15). The Mokelumne River and its tributary the Cosumnes River originate in the central Sierra Nevada, along with the more southerly Stanislaus and Tuolumne Rivers. The Merced River flows from the south-central Sierra Nevada and enters the San Joaquin River near the City of Newman. The Chowchilla and Fresno Rivers also originate in the Sierra south of the Merced River and trend westward toward the San Joaquin River. Creeks originating in the Coast Range and draining eastward into the San Joaquin River include Del Puerto Creek, Orestimba Creek, and Panoche Creek. Del Puerto Creek enters the San Joaquin near the City of Patterson, and Orestimba Creek enters north of the City of Newman. During flood years, Panoche Creek may enter the San Joaquin River or the Fresno Slough near the town of Mendota. The Kings River is a stream of the Tulare Lake Hydrologic Region, but in flood years it may contribute to the San Joaquin River, flowing northward through the

James Bypass and Fresno Slough to enter near the City of Mendota. The Mud, Salt, Berrenda, and Ash sloughs also add to the San Joaquin River, and numerous lesser streams and creeks also enter the system, originating in both the Sierra Nevada and the Coast Range. The entire San Joaquin River system drains northwesterly through the Delta to Suisun Bay.

Groundwater

The San Joaquin Valley Groundwater Basin underlies about 5,809 square miles in the north half of the San Joaquin Valley. The northern portion of the basin is within the San Joaquin River Hydrologic Region. The San Joaquin Valley Groundwater Basin is divided into several subbasins. The majority of the City of Stockton, as well as the Project site, is in the Eastern San Joaquin Groundwater Subbasin.

LOCAL SETTING

The 306.03-acre Project site consists of the Development Area (236.3 acres), Non-development Area (56.03 acres), and Right-of-Way Annexation Area (13.7 acres). The Project site is bounded on the north by Eight Mile Road, to the east by West Lane, to the west by Lower Sacramento Road, and to the south by Marlette Road, a partially paved frontage road. The Project site is relatively flat and ranges in elevation from approximately 22 to 31 feet above sea level. Irrigation canals run along the northern, eastern, and southern borders of the Development Area, separating existing agricultural uses from the respective roadways.

Local Waterways and Water Systems

Bear Creek, located approximately 0.25-0.5 miles south-southeast of the Project site, is a modified natural channel that conducts base flow and storm runoff from its upstream drainage area. Bear Creek is also used to distribute irrigation water. Bear Creek is a perennial stream and serves as a terminal storm drainage facility. Outside the Stockton urban area, Bear Creek drains more than 92 square miles in eastern San Joaquin and western Calaveras counties. The San Joaquin County Water Conservation and Flood Control District maintains Bear Creek and its associated levee system.

The Project site is located within the Woodbridge Irrigation District (WID). The WID system is operated seasonally to provide irrigation water to adjoining agricultural lands, including the Project area. Irrigation canals operated by the Woodbridge Irrigation District run along the northern, eastern, and southern borders of the Development Area.

Drainage

The major drainage pattern in the Stockton region is westerly from the Sierra Nevada, and then northerly through the San Joaquin Valley to the San Joaquin Delta.

The western half of Stockton is in the Sacramento-San Joaquin Delta (Delta) as defined by DWR. As previously stated, the Sacramento-San Joaquin Delta is formed by the confluence of the state's two (2) largest rivers, the Sacramento, and San Joaquin Rivers, before they flow to San Francisco Bay. The Sacramento flows south from its headwaters near Mt. Shasta while the San Joaquin River originates in the southern Sierra Nevada. The Mokelumne and Cosumnes Rivers, located between Stockton and Sacramento, are also included in the Delta's watershed. The Delta provides drinking

water for two-thirds of Californians and irrigation water for over seven (7) million acres of farmland (Delta Stewardship Council, as amended July 2019).

As stated, the Delta watershed drains nearly 50 percent of the State's runoff and serves as one of the State's most valuable fresh-water resources (Delta Stewardship Council, as amended July 2019). The Delta is highly engineered with numerous leveed islands and tracts, many of which are located west of the City of Stockton. Due to the nature of the Delta as the confluence for several waterways, as well as tidal influence within the Delta, flooding is a concern for development in the vicinity of the Delta. Meeting water quality standards within Delta waterways is a major concern in management of the Delta, as it supplies municipal water to most of the California's population. The Project site does not fall within the Primary or Secondary Zones of the Delta, although the waterways that flow from the Project Area eventually discharge to the Delta (Delta Stewardship Council, as amended July 2019).

The San Joaquin River is heavily managed and is the primary receiving water body for several rivers and streams that flow from the east out of the Sierra Nevada and northward towards the Delta. Its headwater tributaries, the south and middle forks, rise from glacial lakes in the southern Sierra Nevada and flow west toward the Central Valley and then north into the Delta. Regional tributaries that flow from the east and join the main stem include Pixley Slough, Bear Creek, Five Mile Slough, Calaveras River, Mormon Slough, Walker Slough, and French Camp Slough (City of Stockton, 2018).

Figure 3.9-1 identifies the watersheds and waterways located within vicinity of the Project site. The Project site is in the Bear Creek watershed. Bear Creek, located south of the Project site, and Pixley Slough, located north of the Project site, flow into the San Joaquin River west of the Project site.

STORMWATER DRAINAGE

Urban stormwater drainage in the City of Stockton is provided by a storm drain system that is separate from the municipal sewer system. The City of Stockton Municipal Utility Department operates and maintains approximately 620 miles of pipe, 72 pump stations, and more than 100 discharge pipes. The local storm drain facilities collect and route runoff from the streets and gutters through surface canals and stormwater retention basins, as well as a through a network of underground gravity and force mains (pipelines), pump stations, and outfalls into rivers, creeks, and the Delta, including outfalls to the San Joaquin River, Bear Creek, Pixley Slough, Mosher Slough, Five Mile Slough, Fourteen Mile Slough, Calaveras River and Stockton Diverting Canal, Smith Canal, French Camp Slough, Walker Slough, Weber Slough, North Littlejohns Creek, and Duck Creek (City of Stockton, June 2018).

Groundwater

As previously stated, the Project site is located above the Eastern San Joaquin Groundwater Subbasin. The Eastern San Joaquin Groundwater Subbasin covers approximately 1,105 square miles and extends from the Mokelumne River on the north and northwest; San Joaquin River on the west; Stanislaus River on the south; and consolidated bedrock on the east. The Eastern San Joaquin Groundwater Subbasin is bounded on the south, southwest, and west by the Modesto, Delta-

Mendota, and Tracy Subbasins, respectively and on the northwest and north by the Solano, South American, and Cosumnes Subbasins (DWR, 2006).

The Eastern San Joaquin Groundwater Subbasin is not adjudicated; however, a groundwater management plan and groundwater sustainability plan have been prepared for the subbasin. In 2005, Stockton adopted the Eastern San Joaquin Groundwater Basin Groundwater Management Plan (San Joaquin County Department of Public Works, 2004) prepared by the Northeastern San Joaquin County Groundwater Banking Authority, replacing the 1995 Groundwater Management Plan. Given the subbasins critical state of overdraft, the Eastern San Joaquin Groundwater Authority (ESJGWA) was formed in 2017 and the Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan was adopted in November 2019.

According to the Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan, the origin of geologic formations within the Eastern San Joaquin Groundwater Subbasin varies in geologic time ranging from recent to pre-cretaceous bedrock or basement. The Victor formation is the uppermost formation and extends from the ground surface to a maximum depth of about 150 feet. Compared to the underlying formations, the Victor formation is generally more permeable, and the groundwater is typically unconfined. The underlying Laguna formation includes discontinuous lenses of unconsolidated to semi-consolidated sands and silts interspersed with lesser amounts of clay and gravel. The Laguna formation is hydraulically connected to the Victor formation and is estimated to be 750 to 1,000 feet thick. Moderate permeability has been reported within the Laguna formation with some highly permeable coarse-grained beds. Most of the municipal and industrial wells in the region penetrate through the Victor formation into the Laguna formation.

According to the 2014 Eastern San Joaquin Integrated Regional Water Management Plan, the subbasin has been historically in a critical condition of overdraft with the historic hydrologic record estimating net groundwater overdraft to be approximately 150,000 to 160,000 acre-feet per year (AFY). According to the Envision Stockton 2040 General Plan EIR, average groundwater use in the Eastern San Joaquin Groundwater Subbasin is about 809,321 AFY, of which approximately 95 percent is for agricultural uses and 5 percent for municipal and industrial uses. Historically, groundwater elevations have declined about 40 to 60 feet, averaging approximately 1.7 feet per year.

The San Joaquin County Flood Control and Water Conservation District (District) monitors groundwater levels and groundwater quality throughout San Joaquin County to identify the condition of the Eastern San Joaquin Groundwater Subbasin. According to the 2021 Annual Groundwater Report, of the 102 wells within the Stockton East Water District and Woodbridge Irrigation District able to be compared, 78 showed decreases in groundwater levels, 23 showed increases in groundwater levels, and one showed no change in groundwater elevations (San Joaquin County Flood Control and Water Conservation District, 2022). The Eastern San Joaquin Groundwater Subbasin is recharged by water from sources including streams, percolation of rainfall and irrigation water, inflow from other groundwater basins, and intentional recharge at numerous facilities. Intentional recharge is conducted in recharge ponds and on some farm fields with compensation to landowners.

GROUNDWATER RESOURCES

The City currently has groundwater wells located in the City's North and South systems. Groundwater is used conjunctively with the City's other supply sources. Groundwater is managed for long-term sustainability and supply through conjunctive use with surface water supplies. According to the 2020 Urban Water Management Plan (UWMP), the City has determined that the sustainable groundwater yield is 0.75 AFY, equivalent to a groundwater yield of approximately 50,000 AFY. To establish the projected groundwater supply that is reasonably available, the City of Stockton Municipal Utilities Department (MUD) assumes that the reasonably available groundwater for the current water service area (approximately 38,500 acres) is pumped at 0.6 AFY, equivalent to an annual groundwater supply of 23,100 AFY (City of Stockton, June 2021).

LOCAL GROUNDWATER QUALITY

According to *California's Groundwater* (Bulletin 118), most of the groundwater in the Eastern San Joaquin Subbasin is characterized by calcium-magnesium bicarbonate or calcium-sodium bicarbonate types (DWR, 2006). Large areas of chloride type water occur along the western margin of the subbasin along the San Joaquin River. Based on analyses of 174 water supply wells in the subbasin, total dissolved solids (TDS) ranges from 30 to 1,632 mg/L and averages approximately 310 mg/L. Specific conductance of groundwater ranged from 78 to 5,390 µmhos/cm, with a mean value of 685 and a median of 356. Some of the highest specific conductance values were found along the western part of the subbasin and San Joaquin River alignment (DWR, 2006).

According to the Eastern San Joaquin Groundwater Authority, groundwater quality in the Eastern San Joaquin Subbasin varies by location (Eastern San Joaquin Groundwater Authority, 2019 [revised 2022]). Areas along the western margin have historically had higher levels of salinity. Elevated concentrations of other constituents, such as nitrate, arsenic, and point-source contaminants, are generally localized and not widespread, and are generally related to natural sources or land use activities. The Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan establishes ongoing monitoring of salinity, arsenic, nitrate, and several other common water quality constituents to fill data gaps and identify potential trends of concern. According to the 2022 Drinking Water Quality Report prepared by the MUD, the City's drinking water from groundwater meets all drinking water standards set by the State and federal government (City of Stockton, 2023).

Flooding

Flooding is the accumulation of water where none usually occurs or the overflow of excess water from a stream, river, lake, reservoir, or coastal body of water onto adjacent floodplains. Floods are natural events that are considered hazards only when people and property are affected. Flooding events can result in damage to structures, injury or loss of human and animal life, exposure of waterborne diseases, and damage to infrastructure. In addition, standing floodwater can destroy agricultural crops, undermine infrastructure and structural foundations, and contaminate groundwater.

As previously stated, the Project site lies within the larger area known as the Delta Basin, which historically was a tidal marsh formed in an overflow area of the Sacramento and San Joaquin Rivers.

During the early part of the 20th century, over 80 percent of the Delta was reclaimed through construction of levees. There are over 1,100 miles of man-made levees protecting land in the Delta from flooding.

According to the Lower San Joaquin River and Delta South Regional Management Plan, flooding in the City of Stockton comes from three main sources: the San Joaquin River, local creek flooding, and high tides. Flooding events from the San Joaquin River can last months and are typically caused by prolonged snow melts, rain-on-snow events, and/or prolonged duration atmospheric river rainfall events. Local creek flooding events generally last days to a week and are typically caused by very intense, short duration "cloudburst" rainfall events and/or prolonged duration atmospheric river rainfall events. Lastly, flood events from high tides generally last between a few hours and cyclical over a few days.

FLOODPLAINS

The 100-Year floodplain denotes an area that has a one percent chance of being inundated during any 12-month period. Floodplain zones (Special Flood Hazard Areas) are determined by the Federal Emergency Management Agency (FEMA) and used to create Flood Insurance Rate Maps (FIRMs). These tools assist communities in mitigating flood hazards through land use planning. FEMA also outlines specific regulations, intended to be adopted by the local jurisdictions, for any construction, whether residential, commercial, or industrial within 100-year floodplains.

Lands within the FEMA-designated 100-year floodplain are subject to mandatory flood insurance as required by FEMA. The insurance rating is based on the difference between the base flood elevation (BFE), the average depth of the flooding above the ground surface for a specific area, and the elevation of the lowest floor. Because the City of Stockton participates in the National Flood Insurance Program, it must require development permits to ensure that construction materials and methods will mitigate future flood damage, and to prevent encroachment of development within floodways. New construction and substantial improvements of residential structures are also required to "have the lowest habitable floor (including the basement if it is, or easily could be 'habitable') elevated to or above the base flood level." Non-residential structures must have their utility systems above the BFE or be of flood-proof construction.

According to the FEMA FIRM, the Project site is located within Zone X (areas of 0.2 percent annual chance [500-year] flood; and areas protected by levees from the one percent annual chance [100-year] flood). According to the State DWR Levee Flood Protection Zone maps, the Project site is located within a Levee Flood Protection Zone protected by Bear Creek, with an unknown flood depth. The Bear Creek stream corridor was improved with levees by the San Joaquin Area Flood Control Agency (SJAFCA) to permit discharge of storm drainage from planned urban development in the northeast Stockton area, including the Project site. As a result, the Bear Creek levee systems have been engineered to contain 100-year flood flows and provide a minimum of three (3) feet of freeboard, in accordance with FEMA standards.

The State Legislature approved SB 5 and a series of related bills intended to set a new 200-year flood protection standard for urban areas in the Central Valley. According to the County's 200-Year Flood

Zone viewer and the Envision Stockton 2040 General Plan (Safety Element, Figure 5-7), there are several relatively small areas within the Project site that are potentially subject to flood depths of three feet or more during a 200-year storm event; refer to Figure 3.9-4.

REGULATORY FLOODWAY

A "Regulatory Floodway" refers to the channel of a river or other watercourse and the adjacent land areas that must be reserved to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. FEMA requires communities to regulate the development in these floodways to ensure that there are no increases in upstream flood elevations. The Project site is not located within a regulatory floodway.

Dam Failure

The entire Project site is located within the Camanche Dam and Salt Springs inundation area, as shown in Figure 3.9-3. Dam failure is generally a result of structural instability caused by improper design or construction, instability resulting from seismic shaking, or overtopping and erosion of the dam. Larger dams that are higher than 25 feet or with storage capacities over 50 acre-feet of water are regulated by the California Dam Safety Act, which is implemented by the California Department of Water Resources, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring these dams. The Act also requires that dam owners submit to the California Office of Emergency Services inundation maps for dams that would cause significant loss of life or personal injury because of dam failure. The County Office of Emergency Services is responsible for developing and implementing a Dam Failure Plan that designates evacuation plans, the direction of floodwaters, and provides emergency information.

Stormwater Quality

Potential hazards to surface water quality include the following nonpoint pollution problems: high turbidity from sediment resulting from erosion of improperly graded construction projects, concentration of nitrates and dissolved solids from agriculture or surfacing septic tank failures, contaminated street and lawn run-off from urban areas, and warm water drainage discharges into cold water streams.

The most critical period for surface water quality is following a rainstorm which produces significant amounts of drainage runoff into streams at low flow, resulting in poor dilution of contaminates in the low flowing stream. Such conditions are most frequent during the fall at the beginning of the rainy season when stream flows are near their lowest annual levels. Besides the greases, oils, pesticides, litter, and organic matter associated with such runoff, heavy metals such as copper, zinc, and cadmium can cause considerable harm to aquatic organisms when introduced to streams in low flow conditions.

Urban stormwater runoff was managed as a non-point discharge (a source not readily identifiable) under the Federal Water Pollution Control Amendments of 1972 (PL 92-500, Section 208) until the mid-1980's. However, since then, the Federal Environmental Protection Agency has continued to develop implementing rules which categorize urban runoff as a point source (an identifiable source)

subject to National Pollution Discharge Elimination System (NPDES) permits. Rules now affect medium and large urban areas, and further rulemaking is expected as programs are developed to meet requirements of Federal water pollution control laws.

Surface water pollution is also caused by erosion. Excessive and improperly managed grading, vegetation removal, quarrying, logging, and agricultural practices all lead to increased erosion of exposed earth and sedimentation of watercourses during rainy periods. In slower moving water bodies these same factors often cause a buildup of siltation, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affecting both aquatic resources and flood control efforts.

303(D) IMPAIRED WATER BODIES

Section 303(d) of the federal Clean Water Act requires States to identify waters that do not meet water quality standards or objectives and thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a Total Maximum Daily Load (TMDL). The TMDL is a tool that establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby the basis for the States to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved.

According to the California Water Quality Control Monitoring Council, which is part of California Environmental Protection Agency, Natural Resources, there are many areas within the San Joaquin County which are considered Section 303(d) impaired waterbodies. The Project site, via Bear Creek and White Slough, indirectly drains into the San Joaquin River. The San Joaquin River, from the Merced River to the south Delta Boundary, is listed as impaired for boron, chlorpyrifos, DDT, diazinon, electrical conductivity, Group A pesticides[1], mercury, and unknown toxicity. These sources of pollution are mainly attributed to agriculture and resource extraction. Additionally, the waterways in the regional vicinity of the Project site that are impaired are referred as Delta Waterways (Southern Portion) by the Water Quality Control Monitoring Council. This includes 3,125 acres listed as early as 1996 for Chlorpyrifos (Agriculture, Urban Runoff/Storm Sewers), DDT (Agriculture), Diazinon (Agriculture, Urban Runoff/Storm Sewers), Electrical Conductivity (Agriculture), Group A Pesticides (Agriculture), Invasive Species (Source Unknown), Mercury (Resource Extraction), and Unknown Toxicity (Source Unknown).

According to the California State Water Resources Control Board (SWRCB) 303(d) list (Final California 2020 Integrated Report), Bear Creek (San Joaquin and Calaveras Counties; partly in Delta Waterways, eastern portion) has been a listed in Section 303(d) impaired waterbody. Bear Creek (San Joaquin and Calaveras Counties; partly in Delta Waterways, eastern portion) is listed as a Category 5 water body, meaning that it is a water segment where standards are not met and a TMDL is required, but not yet completed, for at least one of the pollutants being listed for the segment. Impairments for the portion of Bear Creek in the vicinity of the Project site include the following: Copper; Indicator Bacteria; Low Dissolved Oxygen; and Oxygen, Dissolved.

[1] Group A Pesticides could include aldrin, deldrin, chlordane, endrin, heptachlor, heptachlor expoxide, hexachlorocyclohexane (including lindane), endosulfan, and toxaphene.

3.9.2 REGULATORY SETTING

There are several regulatory agencies whose responsibility includes the oversight of the water resources of the state and nation including the Federal Emergency Management Agency, the US Environmental Protection Agency, the State Water Resources Board, and the Regional Water Quality Control Board. The following is an overview of the federal, State, and local regulations that are applicable to the proposed Project.

FEDERAL AND STATE

Clean Water Act

The Clean Water Act (CWA), initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. Section 402(p) of the act establishes a framework for regulating municipal and industrial stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) Program. Section 402(p) requires that stormwater associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit.

In California, the EPA has designated the SWRCB and its nine RWQCBs with the authority to identify beneficial uses and adopt applicable water quality objectives. The SWRCB is responsible for implementing the CWA and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for storm water discharges (individual permits and general permits).

National Flood Insurance Program

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 mandate the Federal Emergency Management Agency (FEMA) to evaluate flood hazards. FEMA provides Flood Insurance Rate Maps (FIRM) for local and regional planners to promote sound land use and floodplain development by identifying potential flood areas based on the current conditions. To delineate a FIRM, FEMA conducts engineering studies referred to as Flood Insurance Studies (FIS). The most recent FIS and FIRMs were completed and published for the City of Stockton in 2009. Using information gathered in these studies, FEMA engineers and cartographers delineate Special Flood Hazard Areas (SFHAs) on FIRMs.

The Flood Disaster Protection Act (FDPA) requires owners of all structures in identified SFHAs to purchase and maintain flood insurance as a condition of receiving federal or federally-related financial assistance, such as mortgage loans from federally-insured lending institutions. Community members within designated areas can participate in the National Flood Insurance Program (NFIP) afforded by FEMA. The NFIP is required to offer federally-subsidized flood insurance to property owners in those communities that adopt and enforce floodplain management ordinances that meet minimum criteria established by FEMA. The National Flood Insurance Reform Act of 1994 further strengthened the NFIP by providing a grant program for state and community flood mitigation projects. The act also established the Community Rating System (CRS), a system for crediting

communities that implement measures to protect the natural and beneficial functions of their floodplains, as well as managing erosion hazards.

The City of Stockton, under NFIP, has created standards and policies to ensure flood protection. These policies address development and redevelopment, compatibility of uses, required predevelopment drainage studies, compliance with discharge permits, enhancement of existing waterways, cooperation with the US Army Corps of Engineers (Corps) and the San Joaquin Area Flood Control Agency (SJAFCA) for updating, and method consistency with the Regional Water Quality Control Board (RWQCB) and proposed best management practices (BMPs).

200-Year Flood Protection in the Central Valley

Both State policy and State legislation (Senate Bill 5) call for 200-year (0.5 percent annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. The State of California Central Valley Flood Protection Act of 2008, commonly referred to as Senate Bill 5 (SB 5), requires that the 200-year protection be consistent with criteria used or developed by the Department of Water Resources. SB 5 requires all urban and urbanizing areas in the Sacramento and San Joaquin Valleys to achieve 200-year flood protection to approve development. The new law restricts approval of development after 2016 if "adequate progress" towards achieving this standard is not met. Urban and urbanizing areas protected by State-Federal project levees cannot use "adequate progress" as a condition to approve development after 2025. Adequate progress is defined as meeting all the following:

1. The project scope, cost and schedule have been developed;
2. In any given year, at least 90 percent of the revenues scheduled for that year have been appropriated and expended consistent with the schedule;
3. Construction of critical features is progressing as indicated by the actual expenditure of budget funds;
4. The city or county has not been responsible for any significant delay in completion of the system; and
5. The above information has been provided to the DWR and the Central Valley Flood Protection Board and the local flood management agency shall annually report on the efforts to complete the project.

California Water Code

The Federal Clean Water Act places the primary responsibility for the control of surface water pollution and for planning the development and use of water resources with the states, although this does establish certain guidelines for the states to follow in developing their programs and allows the Environmental Protection Agency to withdraw control from states with inadequate implementation mechanisms.

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the RWQCBs power to protect water quality and is the primary vehicle for implementation

of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region the regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to conditions, areas, or types of waste.

The Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

(a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:

(1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.

(2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.

(3) A person operating, or proposing to construct, an injection well.

(b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.

(c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

National Pollutant Discharge Elimination System

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.).

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The

terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti-degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the California Water Code.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for periods of five (5) years or less and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the RWQCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of waste. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

Individual construction projects that disturb more than one acre would be required to obtain NPDES coverage under the California General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit). The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) describing Best Management Practices (BMP) the discharger would use to prevent and retain storm water runoff. The SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a waterbody listed on the 303(d) list for sediment.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) established a framework for sustainable, local groundwater management. SGMA requires groundwater-dependent regions to halt overdraft and bring basins into balanced levels of pumping and recharge. With passage of the SGMA, the Department of Water Resources launched the Sustainable Groundwater Management (SGM) Program to implement the law and provide ongoing support to local agencies around the state. The SGMA defines "sustainable groundwater management" and requires that a Groundwater Sustainability Plan be adopted for the most important groundwater basins in California to empower local agencies to manage basins sustainably. The SGMA establishes basic requirements for the Groundwater Sustainability Plans as well as a timetable for the adoption of the plans.

Water Quality Control Plan for the Sacramento and San Joaquin River Basins

The Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality

standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under several programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of several national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

The Delta Reform Act of 2009

While there are many agencies involved in both the near and long-term management of the Delta, the Sacramento-San Joaquin Delta Reform Act of 2009 (Delta Reform Act) established the Delta Stewardship Council (Council) to create a comprehensive, long-term, legally enforceable plan to guide how multiple federal, State, and local agencies manage the Delta's water and environmental resources. The 2009 legislation directed the Council to oversee implementation of this plan through coordination and oversight of state and local agencies proposing to fund, carry out, and approve Delta-related activities. It also granted the Council regulatory and appellate authority over certain actions that take place in whole or in part in the Delta and Suisun Marsh, referred to as covered actions.

Since 2010, the Council has developed, amended, and begun implementing the Delta Plan. Developed to achieve the State's coequal goals of a reliable statewide water supply and a protected, restored Delta ecosystem in a manner that preserves the values of the Delta as a place, the Delta Plan includes policies and recommendations that address current and predicted challenges related to the Delta's ecology, flood management, land use, water quality, and water supply reliability.

Central Valley Flood Protection Board and Flood Protection Plan

The Central Valley Flood Protection Board (CVFPB) is the regulating authority over flood risk management in the Central Valley. In addition, CVFPB is charged with the review and adoption of the Central Valley Flood Protection Plan (CVFPP). The CVFPP was adopted in 2012 and updated in 2022. The CVFPP provides a policy, program, and project implementation framework to help guide regional and State level financing plans and investments. The CVFPP proposes a State Systemwide Investment Approach for sustainable, integrated flood management in areas currently protected by facilities of the State Plan of Flood Control. The CVFPP suggests improvements to levees located along the San Joaquin River and tributary channels in the Stockton Metropolitan Area.

LOCAL

Envision Stockton 2040 General Plan

The Envision Stockton 2040 General Plan includes several policies and actions that are relevant to hydrology, water quality, and flooding. General Plan policies and actions applicable to the Project are identified below:

POLICIES: SAFETY ELEMENT

- SAF-2.1. Ensure that community members are adequately prepared for natural disasters and emergencies through education and training.
- SAF-2.2. Prepare sufficiently for major events to enable quick and effective response.
- SAF-2.3. Protect the community from the potential flood events.
- SAF-2.4. Minimize risks to the community from flooding through appropriate siting and protection of structures and occupants.
- SAF-3.2. Protect the availability of clean potable water from groundwater sources.

ACTIONS: SAFETY ELEMENT

- SAF-2.1B. Inform the public about the specific risks of living in flood-prone areas, and provide residents instructional information on how to take steps to reduce their exposure to flood damages
- SAF-2.2A. Require new development to provide adequate access for emergency vehicles and evacuation routes, including by designing roadway systems to provide multiple escape routes in the event of a levee failure.
- SAF-2.2B. Formulate, review, periodically update, and make available to the public emergency management plans for the safe evacuation of people from areas subject to inundation from levee and dam failure.
- SAF-2.2C. Require new critical facilities, including hospitals, emergency operations centers, communications facilities, fire stations, and police stations, to be located, designed, and constructed to avoid or mitigate potential risks and ensure functional operation during flood events (i.e., avoid locating in the 100-year and 200-year floodplains), seismic and geological events, fires, and explosions.
- SAF-2.2D. Continue to work with San Joaquin County, the County Office of Emergency Services, other cities in the region, and disaster agencies to coordinate disaster and emergency preparedness planning.
- SAF-2.3A. Coordinate with appropriate State, federal, and local flood control agencies to develop a flood protection plan for the levee systems protecting the city that:
    - Identifies the levees protecting the city and the entities responsible for the operation and maintenance of the levees;
    - Determines the flood levels in the waterways and the level of protection offered by the existing levees along the waterways;

  - Identifies a long-term plan to upgrade the system as necessary to provide at least a 100-year level of flood protection to the city, and 200-year level of flood protection, where feasible;
  - Encourages multi-purpose flood management projects that, where feasible, incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of the city's streams, creeks, and lakes; and
  - Includes provisions for updates to reflect future State or federally mandated levels of flood protection.
- SAF-2.3B. Collaborate with State and local flood management agencies and other interested parties to develop funding mechanisms to finance the local share of flood management responsibilities, and maintain cooperative working relationships with appropriate agencies to minimize flood hazards and improve safety.
- SAF-2.3C. Require new public and private waterfront development to be oriented to waterways and provide setbacks and easements along levees and channels to provide space for levee widening, flood fighting, roadway and maintenance access, open space and trail amenities, and appropriate landscaping.
- SAF-2.3D. Prepare and maintain a map of evacuation routes for major flood events.
- SAF-2.4A. Regulate new urban development in accordance with State requirements for 200-year level of flood protection and federal requirements for 100-year level of flood protection.
- SAF-2.4C. Preserve floodways and floodplains for non-urban uses to maintain existing flood carrying capacities, except when mitigated in conformance with the City's floodplain management program.
- SAF-2.4D. Consider the best available flood hazard information and mapping from regional, State, and federal agencies to inform land use and public facilities investment decisions.
- SAF-3.2A. Continue to cooperate with San Joaquin County, Stockton East Water District, and CalWater to monitor groundwater withdrawals and ensure that they fall within the target yield for the drinking water aquifer.
- SAF-3.2B. Require new development to employ low impact development (LID) approaches, including:
  - Conserving natural areas and reducing imperviousness;
  - Runoff storage;
  - Hydro-modification (to mimic pre-development runoff volume and flow rate);
  - Reducing trash accumulation; and
  - Public education and outreach.

City of Stockton Municipal Code

The City of Stockton's stormwater quality requirements are primarily contained in Municipal Code Chapter 13.16, Stormwater Management and Discharge Control, and 13.20, Stormwater Quality Control Criteria Plan. Chapter 3.16 establishes uniform requirements for protecting and enhancing the water quality of watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Federal Clean Water Act. This chapter establishes requirements for: operating

and maintaining the municipal stormwater system; eliminating non-stormwater discharges to the municipal separate storm drain; controlling the discharge to municipal separate storm drains from spills, dumping, or disposal of materials other than stormwater; and reducing pollutants in stormwater discharges to the maximum extent practicable. Chapter 13.20 establishes uniform requirements for the selection and incorporation of site design, controls, source controls, volume reduction measures, and treatment controls into new development and redevelopment projects in a manner consistent with the Federal Clean Water Act, the adopted NPDES permit, and the City's corresponding Stormwater Management Plan. Chapter 13.20 requires applicable projects to develop and implement a Stormwater Quality Control Plan (SWQCP), maintenance plan, and/or other materials, as required by the City of Stockton and San Joaquin County Stormwater Quality Control Criteria Plan (SWQCCP), that incorporate stormwater pollution control measures to minimize stormwater quality impacts to the maximum extent practicable.

Chapter 15.44, Flood Damage Prevention, outlines specific requirements for new developments within floodplain areas that serve to minimize public and private losses due to flood conditions. Chapter 15.48, Grading and Erosion Control, of the Stockton Municipal Code regulates grading and erosion control in the City by establishing requirements for clearing and grubbing, grading, filling and excavation of land to minimize damage to surrounding property, public right-of-way, and degradation of water quality; controlling the discharge of sediments and pollutant turnoff from construction related activities to municipal separate storm drains; and reducing pollutants in stormwater discharges to the maximum extent practicable.

Chapter 16.90 Floodplain Management Findings, was designed to comply with provisions of State law that require the City to make specific findings prior to approving certain projects located within a flood hazard zone. Section 16.90.020 of the Municipal Code contains the following provisions related to development agreements, maps, permits, and entitlements:

A. The applicable review authority shall not approve the execution of a development agreement, a tentative map or a parcel map for which a tentative map is not required or a discretionary permit or other discretionary entitlement under this chapter that would result in the construction of a new building or construction that would result in an increase in allowed occupancy for an existing building, or issuance of a ministerial permit under Title 15 that would result in the construction of a new residence for property that is located within a flood hazard zone unless the review authority finds, based on substantial evidence in the record, one of the following:
    1. The facilities of the State Plan of Flood Control or other flood management facilities protect the property to the urban level of flood protection in urban and urbanizing areas or the national Federal Emergency Management Agency standard of flood protection in non-urbanized areas;
    2. The City has imposed conditions on a development agreement, map, permit, or entitlement that will protect the property to the urban level of flood protection in urban and urbanizing areas or the national Federal Emergency Management Agency standard of flood protection in non-urbanized areas;

3. The local flood management agency has made adequate progress (as defined in California Government Code Section 65007) on the construction of a flood protection system that will result in flood protection equal to or greater than the urban level of flood protection in urban or urbanizing areas or the national Federal Emergency Management Agency standard of flood protection in non-urbanized areas for property located within a flood hazard zone, intended to be protected by the system;
4. The property in an undetermined risk area has met the urban level of flood protection;
5. The property is located in an area of potential flooding of three (3) feet or less from a storm event that has a 1-in-200 chance of occurring in any given year, from sources other than local drainage, in urban and urbanizing areas; or
6. The property is located within a watershed with a contributing area of 10 or fewer square miles in urban and urbanizing areas.

B. The review authority's decisions shall be in accordance with criteria prepared by the Director that are consistent with accepted State and federal floodplain management practices.

City of Stockton and San Joaquin County Stormwater Quality Control Criteria Plan

The Stormwater Quality Control Criteria Plan (SWQCCP), originally adopted in 2009, was updated in 2020 to reflect the most recent Phase I NPDES Permit and new State requirements. The SWQCCP was prepared to accomplish the following goals:

- Protect water resources of the City and County from the adverse impacts of urban stormwater runoff;
- Ensure that the implementation of the measures in the SWQCCP is consistent with the NPDES permit and other State requirements, including trash control;
- Provide clear development standards for developers, design engineers, agency engineers, and planners to use in the selection and implementation of appropriate control measures;
- Emphasize the implementation of low impact development (LID)-based strategies; and
- Provide maintenance procedures to ensure that the selected control measures will be maintained to provide effective, long-term pollution control.

The control measures, often termed BMPs, were selected to optimize post-construction, on-site stormwater pollution control. All Priority New Development and Significant Redevelopment Projects must apply all four categories of stormwater pollution controls measures, which include site design controls, source controls, volume reduction measures, and treatment controls. In addition, all Priority Projects and Priority Land Use Projects must apply trash control measures.

City of Stockton NPDES Stormwater Management Plan

The City of Stockton NPDES Stormwater Management Plan (SWMP) includes existing and enhanced program control measures and represents the strategy for controlling the discharge of pollutants from the municipal storm drain system to the maximum extent practicable. The core objectives of the SWMP are to:

1. Identify and control those pollutants in urban runoff that pose significant threats to the waters of the State and waters of the U.S. and their beneficial uses;
2. Comply with the federal regulations to eliminate or control, to the MEP, the discharge of pollutants from urban runoff associated with the stormwater drainage system;
3. Achieve compliance with water quality standards;
4. Develop a cost-effective program which focuses on pollution prevention of urban stormwater;
5. Seek cost-effective alternative solutions where prevention is not a practical solution for a significant problem; and
6. Coordinate the implementation of control measures with other agencies.

To address the core objectives and pollutants of concern, the NPDES SWMP incorporates a series of commitments and performance standards that provides for a long-term, comprehensive, and multidisciplinary effort by the City to achieve water quality standards and protect beneficial uses. Pursuant to the NPDES SWMP, the Project would be required to prepare a Project Stormwater Quality Control Plan (SWQCP) specifying BMPs the project will use, and design specifications for selected BMPs, for submission to the City of Stockton Department of Municipal Utilities (for projects in the City).

Eastern San Joaquin Groundwater Authority

In 2014, the California legislature enacted the Sustainable Groundwater Management Act (SGMA) in response to continued overdraft of California's groundwater resources. The Eastern San Joaquin Groundwater Subbasin is one of 21 basins and subbasins identified by the California Department of Water Resources (DWR) as being in a state of critical overdraft. The Eastern San Joaquin Groundwater Authority (ESJGWA) was formed in 2017 in response to SGMA. A Joint Exercise of Powers Agreement establishes the ESJGWA, which is composed of 16 Groundwater Sustainability Agencies, including the Central Delta Water District, Central San Joaquin Conservation District, City of Lodi, City of Manteca, City of Stockton, Eastside San Joaquin GSA, Linden County Water District, Lockeford Community Services District, North San Joaquin Water Conservation District, Oakdale Irrigation District, San Joaquin County Number 1, San Joaquin County Number 2, South San Joaquin GSA, Stockton East Water District, and the Woodbridge Irrigation District. The ESJGWA is governed by a 16-member Board of Directors (ESJGWA Board), with one representative from each GSA.

The ESJGWA adopted the Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan in November 2019 (which was revised in 2022) to address the overdraft condition in the Eastern San Joaquin Groundwater Subbasin. The sustainability goal for the Eastern San Joaquin Groundwater Subbasin is to maintain an economically-viable groundwater resource for the beneficial use of the people of the Eastern San Joaquin Groundwater Subbasin by operating the Subbasin within its sustainable yield or by modification of existing management to address future conditions. This goal will be achieved through the implementation of a mix of supply and demand type projects consistent with the groundwater sustainability implementation plan.

San Joaquin Area Flood Control Agency

In 1995, the San Joaquin Area Flood Control Agency (SJAFCA) was created as a Joint Powers Authority between the City of Stockton, San Joaquin County and the San Joaquin County Flood Control and Water Conservation District for the purpose of addressing flood protection for the City of Stockton and surrounding County area. SJAFCA works with San Joaquin, other cities, and local reclamation districts to address flood protection and levee requirements in our area. SJAFCA coordinates and partners with State and Federal agencies to address FEMA's Flood Insurance Rate Maps, levee standards, and flood protection issues.

SJAFCA's first endeavor was to prevent the possible de-accreditation of levees and to improve project levees to meet FEMA standards. As a result, SJAFCA constructed the Flood Protection Restoration Project which consisted of flood wall and levee improvements along 40 miles of existing channel levees, 12 miles of new levees, modifications to 24 bridges and the addition of two major detention basins and pumps. Construction of the Flood Protection Restoration Project was completed in 1998. SJAFCA levees are maintained by the San Joaquin County Flood Control and Water Conservation District.

Lower San Joaquin River & Delta South Regional Flood Management Plan

In 2014, the SJAFCA prepared and adopted the Lower San Joaquin River and Delta South Regional Flood Management Plan to provide a reconnaissance-level assessment of flood risks, and identify a prioritized list of near-term and long-term flood risk reduction projects for the Regions. The Lower San Joaquin River and Delta South Regional Flood Management Plan is a multi-faceted plan to improve public safety through integrated flood management to reduce the chance and consequences of flooding while promoting coincident integrated water management benefits, other multi-benefit components, and sustainable economic growth. The goal of this regional flood management plan was to improve flood management systems, emergency response, the operation and maintenance, the ecosystem, and both public and institutional awareness. The Regional Flood Management Plan has been periodically updated since 2014, including a recent development occurring in 2021 with the development of a regional priorities white paper to be considered by DWR during preparation of the 2022 Central Valley Flood Protection Plan.

3.9.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on the environment associated with hydrology and water quality if it will:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin;

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would:
    - Result in substantial erosion or siltation on- or off-site;
    - Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site;
    - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff
    - Impede or redirect flood flows;
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation;
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

IMPACTS AND MITIGATION

Impact 3.9-1: The proposed Project has the potential to violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality (Less than Significant)

CONSTRUCTION PHASE

Short-term construction activities associated with the proposed Project could impact water quality. Sources of potential construction-related storm water pollution include the handling, storage, and disposal of construction materials containing pollutants; maintenance and operation of construction equipment; and site preparation activities, such as excavation, grading, and trenching. These sources, if not controlled, can generate soil erosion and on- and off-site transport via storm run-off (siltation) or mechanical equipment. Grading activities would displace soils and temporarily increase the potential for soils to be subject to wind and water erosion.

Construction-related erosion effects would be addressed through compliance with the NPDES program's Construction General Permit. Construction activity subject to this General Permit includes any construction or demolition activity, including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or greater than one acre. As the Project proposes land disturbance of an area greater than one (1) acre, the Project would be subject to the Construction General Permit.

To obtain coverage under the Construction General Permit, the Project would be required to prepare a Stormwater Pollution Prevention Plan (SWPPP) and monitoring plan, which must include erosion-control and sediment-control Best Management Practices (BMPs) that would meet or exceed measures required by the General Permit to control potential construction-related pollutants. Erosion-control BMPs are designed to prevent erosion, whereas sediment controls are designed to trap sediment once it has been mobilized. Such BMPs may include: temporary erosion

control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover. The BMPs and overall SWPPP would be reviewed by the RWQCB as part of the permitting process. The SWPPP, once approved, must be kept on site, and implemented during construction activities and must be made available upon request to representatives of the RWQCB and/or the lead agency.

Upon completion of the Project, the applicant would be required to submit a Notice of Termination to the RWQCB to indicate that construction is completed. Mandatory compliance with the SWPPP would ensure that the proposed Project would not violate any water quality standards or waste discharge requirements during construction activities. Additionally, the Project would be required to comply with the Stockton Municipal Code, including Chapter 13.16, Stormwater Management and Discharge Control, which establishes limitations and regulations for discharges into the City's stormwater system, and Chapter 13.20, Stormwater Quality Control Criteria Plan, which establishes requirements that control the discharges of pollutants. Further, Chapter 15.48 of the Stockton Municipal Code establishes requirements for clearing and grubbing, grading, filling, and excavation of land to minimize degradation of water quality; control the discharge of sediments and pollutant turnoff from construction related activities to municipal separate storm drains; and reduce pollutants in stormwater discharges to the maximum extent practicable.

Compliance with the NPDES requirements and City of Stockton Municipal Code would ensure the Project's construction-related activities would not violate any water quality standards or otherwise substantially degrade surface or groundwater quality, resulting in a less than significant impact.

OPERATIONAL PHASE

The long-term operations of the proposed Project could result in long-term impacts to surface water quality from urban stormwater runoff. The Project proposes to construct a primarily residential development comprised of up to 1,411 residential units, parks/open space, a school site, and circulation and infrastructure improvements. The Project would result in increased impervious area and would introduce urban uses within the Development Area of the site. As such, the Project could introduce constituents into the storm water system that are typically associated with urban runoff, including sediments, petroleum hydrocarbons, pesticides, fertilizers, and heavy metals such as lead, zinc, and copper. These pollutants tend to build up during the dry months of the year and are washed away during precipitation events during the early portion of the wet season (generally from November to April), resulting in high pollutant concentrations in the initial wet weather runoff. This initial runoff is referred to as the "first flush" of storm events. Subsequent periods of rain would result in less concentrated pollutant levels in the runoff.

The Project proposes to construct a new storm basin near Eight Mile Road. Two (2) options for connecting to offsite drainage facilities are being considered and evaluated. Option 1 would connect to a new outfall structure to the north of the basin and pump storm water into the Woodbridge Irrigation District (WID) drainage ditch that is located south of, and parallel to Eight Mile Road. Option 2 is construction of a force main to Pixley Slough to an existing outfall structure.

Under Option 1, the new basin would collect stormwater from the Project site to be pumped through a force main system to a new outfall structure located north of the basin, and discharge flows into an existing WID drainage facility that parallels Eight Mile Road. Under Option 2, the new basin would collect storm water from the Project site to be pumped through a force main system to the existing Pixley Slough Outfall Facility, located at the northwest corner of the existing Destinations residential master plan community. Storm water from the new basin would be pumped following peak flows to avoid impacting the existing storm drainage system built as part of the Destinations residential community. The force main pipe would be in a drainage easement adjacent to the Eight Mile Road right of way, travel west to the existing Pixley Slough Outfall facility.

The overall design of Project drainage infrastructure, including the proposed storm basin, would be required to comply with the City of Stockton NPDES Stormwater Management Plan, which includes existing and enhanced program control measures for controlling the discharge of pollutants to the municipal storm drain system to the maximum extent practicable. In addition, General Plan Action SAF-3.2B requires new development to employ low impact development (LID) approaches that conserve natural areas and reduce impervious areas. The term LID means a storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to reflect predevelopment hydrologic functions more closely. The Project would be required to integrate LID measures throughout the Project to provide stormwater quality treatment. These LID measures would likely include both volume-based best management practices (BMPs) (i.e., bioretention, infiltration features, pervious pavement, etc.) and flow-based BMPs (i.e., vegetated swales, stormwater planter, etc.). The use of these features would be dependent upon the location and setting within the Project site.

The Project would be required to comply with existing regulations related to water quality standards, including the NPDES permit requirements and City of Stockton Municipal Code. Chapter 13.20 of the Municipal Code requires applicable projects to develop and implement a Stormwater Quality Control Plan (SWQCP) and maintenance plan, as required by the City of Stockton and San Joaquin County Stormwater Quality Control Criteria Plan (SWQCCP), that incorporate stormwater pollution control measures to minimize stormwater quality impacts to the maximum extent practicable. According to the City of Stockton and San Joaquin County Stormwater Quality Control Criteria Plan (SWQCCP), the Project would be considered both a Priority Project and a PLU Project, as the Project includes a residential subdivision of 10 housing units or more (Priority Project) and contains land uses with at least 10 developed dwelling units per acre (PLU Project). Priority projects are required to prepare and submit a Project Stormwater Quality Control Plan that demonstrates the Project incorporates site design measures, landscape features, and engineered treatment facilities (typically bioretention facilities) that will minimize imperviousness, retain, or detain stormwater, slow runoff rates, and reduce pollutants in post-development runoff. In particular, the Project Stormwater Quality Control Plan would specify BMPs required to be implemented by the Project and design specifications for selected BMPs. The Project Stormwater Quality Control Plan must be submitted for review and approval by the City of Stockton Department of Municipal Utilities.

Compliance with NPDES and City of Stockton Municipal Code requirements would ensure that Project operations would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. The Project would have a ***less than significant*** impact in this regard.

Impact 3.9-2: The proposed Project has the potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin (Less than Significant)

As previously stated, the Project site is in the Eastern San Joaquin Groundwater Basin. The basin is recharged by water from sources including streams, percolation of rainfall and irrigation water, inflow from other groundwater basins, and intentional recharge at numerous facilities. Infiltration rates vary depending on a variety of factors, including the overlying soil types. In general, sandy soils have higher infiltration rates; clay soils tend to have lower percolation potential; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff. While the proposed Project would reduce the amount of pervious surfaces within the Project site, the proposed Project is designed to promote infiltration of groundwater in areas with pervious surface. Storm drainage flows in the Project site would be directed to a new storm basin near Eight Mile Road. As described in the response to Impact 3.9.1, the Project would be required to submit a Project Stormwater Quality Control Plan that demonstrates the incorporation of site design measures, landscape features, and approved engineered treatment facilities (typically bioretention facilities) for water quality treatment that minimizes imperviousness, retains or detains stormwater, slows runoff rates, and reduces pollutants in post-development runoff, consistent with the City of Stockton NPDES Stormwater Management Plan.

As described in Section 3.14, Utilities and Service Systems, potable water at the Project site would be provided by the COSMUD, which relies on purchased water from the Calaveras, Stanislaus, and Mokelumne Rivers; surface water from the San Joaquin Delta; and groundwater. According to the Water Supply Assessment (WSA) prepared by COSMUD for the Project (See Section 3.14 Utilities), sufficient water supplies exist to meet the Project's build-out water demand as well as all existing and reasonably foreseeable water demands. Additionally, the WSA concludes that the existing near-term and long-term reliable supplies of surface water supplies and indigenous groundwater supplies can deliver a sustainable reliable water supply to meet existing and foreseeable water demands without impacting environmental values and/or impacting the current stabilization of the groundwater basin underlying the COSMA. As such, implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

Impact 3.9-3: The proposed Project would not alter the existing drainage pattern of the site or area, including the alteration of the course of a river or through the addition of impervious surfaces, in a manner which would result in substantial erosion, siltation, surface runoff, flooding, or polluted runoff (Less than Significant)

Currently, runoff from within the Project site is collected in a system of shallow agricultural and roadside ditches. Irrigation canals, operated by the Woodbridge Irrigation District, run along the northern, eastern, and southern borders of the Development Area, separating existing agricultural uses from the respective roadways.

As previously discussed, the Project site is in the Bear Creek watershed. Bear Creek, located south of the Project site, and Pixley Slough, located north of the Project site, flow into the San Joaquin River west of the Project site. The Project proposes to construct a primarily residential development comprised of up to 1,411 residential units, parks/open space, a school site, and circulation and infrastructure improvements. Storm drainage flows in the Project site would be directed to a new storm basin near Eight Mile Road. The Project would alter the existing drainage through grading and development of urban uses within the Development Area of the site. Additionally, the Project would result in increased impervious surfaces and result in an incremental reduction in the amount of natural soil surfaces available for infiltration of rainfall and runoff, with the potential to generate additional runoff during storm events. Additional runoff could contribute to increased erosion, siltation, and pollution, and increase in flood potential, or runoff that could exceed the capacity of the City's drainage system.

Erosion or siltation is known to occur during construction and/or during the post-construction phase if erosion control measures are not used. Erosion or siltation can also occur in the post-construction phase if runoff is not captured and conveyed appropriately. As stated above, future development would be subject to NPDES permit requirements that address the control of erosion and siltation. This includes the Construction General Permit, which requires a SWPPP and the effective implementation of erosion control measures. Additionally, the Project would be required to comply with the Stockton Municipal Code, including Chapter 13.16, Stormwater Management and Discharge Control, which establishes limitations and regulations for discharges into the City's stormwater system, and Chapter 13.20, Stormwater Quality Control Criteria Plan, which establishes requirements that control the discharges of pollutants. Further, Chapter 15.48 of the Stockton Municipal Code establishes requirements for clearing and grubbing, grading, filling, and excavation of land to minimize degradation of water quality; control the discharge of sediments and pollutant turnoff from construction related activities to municipal separate storm drains; and reduce pollutants in stormwater discharges to the maximum extent practicable. Through compliance with existing federal, State, and local regulations, including implementation of erosion and sediment control BMPs, erosion/siltation impacts resulting from Project implementation would be less than significant.

Flooding can occur from an increase in impervious surfaces, which increases the volume and speed of runoff. When the volume and speed of runoff are increased, drainage facilities may be unable to

handle the flows and capacity could be exceeded. The Project would result in increased impervious area and would introduce urban uses within the Development Area of the site. As such, the Project could introduce constituents into the storm water system that are typically associated with urban runoff, including sediments, petroleum hydrocarbons, pesticides, fertilizers, and heavy metals such as lead, zinc, and copper.

Development of the proposed Project would include construction of a new storm basin near Eight Mile Road, and two (2) options for connecting to offsite drainage facilities. As described in the response to Impact 3.9.1, the Project would be required to submit a Project Stormwater Quality Control Plan that demonstrates the incorporation of site design measures, landscape features, and approved engineered treatment facilities for water quality treatment that minimizes imperviousness, retains or detains stormwater, slows runoff rates, and reduces pollutants in post-development runoff, consistent with the City of Stockton NPDES Stormwater Management Plan.

Through compliance with existing federal, State, and local regulations as discussed above, the Project would not provide substantial additional sources of polluted runoff and impacts would be less than significant. Further, the proposed storm basin would be designed with a surface area and volume in compliance with City standards to prevent an exceedance of drainage facility capacities. Therefore, implementation of the Project would not result in flooding on- or off-site or runoff water exceeding the capacity of existing or planned stormwater drainage systems.

Overall, compliance with Federal, State, and local standards and regulations would ensure that that the proposed Project would not result in substantial erosion, siltation, surface runoff, flooding, or polluted runoff and that the impact would be ***less than significant***.

Impact 3.9-4: The proposed Project has the potential to, in a flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation (Less than Significant with Mitigation)

FLOOD HAZARD ZONES

According to the FEMA FIRM, the Project site is located within Zone X (areas of 0.2 percent annual chance [500-year] flood; and areas protected by levees from the one percent annual chance [100-year] flood), as shown in Figure 3.9-2. According to the State DWR Levee Flood Protection Zone maps, the Project site is located within a Levee Flood Protection Zone protected by Bear Creek, with an unknown flood depth. There are several relatively small areas within the Project site that are potentially subject to flood depths of three feet or more during a 200-year storm event, as shown on Figure 3.9-4. Additionally, the entire Project site is located within the Camanche Dam and Salt Springs inundation area, as shown in Figure 3.9-3.

Regular inspection by the DSD and maintenance by the dam owners ensure that the dams are kept in safe operating condition. As such, failure of the Camanche Dam and/or Salt Springs is considered to have an extremely low probability of occurring and is not considered to be a reasonably foreseeable event.

The Project site is subject to flood inundation because of levee failure along Bear Creek, located to the south of the Project site. The Bear Creek levee is maintained by the SJAFCA. Regular inspection and maintenance by SJAFCA will ensure that the levees are kept in safe operating condition. As such, failure of the levee is considered to have a low probability of occurring.

Pursuant to State law and the City's floodplain regulations contained in Chapter 16.90 of the Stockton Municipal Code, the City would not approve the proposed Project unless findings are made that the proposal meets State flood protection requirements. Stockton Municipal Code Section 16.90.020(A) requires at least one of the following findings to be made, based on substantial evidence in the record:

1. The facilities of the State Plan of Flood Control or other flood management facilities protect the property to the urban level of flood protection in urban and urbanizing areas or the national Federal Emergency Management Agency standard of flood protection in non-urbanized areas;
2. The City has imposed conditions on a development agreement, map, permit, or entitlement that will protect the property to the urban level of flood protection in urban and urbanizing areas or the national Federal Emergency Management Agency standard of flood protection in non-urbanized areas;
3. The local flood management agency has made adequate progress (as defined in California Government Code Section 65007) on the construction of a flood protection system that will result in flood protection equal to or greater than the urban level of flood protection in urban or urbanizing areas or the national Federal Emergency Management Agency standard of flood protection in non-urbanized areas for property located within a flood hazard zone, intended to be protected by the system;
4. The property in an undetermined risk area has met the urban level of flood protection;
5. The property is located in an area of potential flooding of three (3) feet or less from a storm event that has a 1-in-200 chance of occurring in any given year, from sources other than local drainage, in urban and urbanizing areas; or
6. The property is located within a watershed with a contributing area of 10 or fewer square miles in urban and urbanizing areas.

Section 16.90.020(B) requires the review authority's decision to approve a project in accordance with the City's established criteria for development in 200-year floodplains, which are consistent with accepted State and federal floodplain management practices. According to the City's established criteria, the Project site would be considered an urban area, as it is located within the City's corporate limits. Thus, the Project may be approved provided that all properties within the Project site would meet the urban level of flood protection.

As described in the City's established criteria for development in 200-year floodplains, the urban level of flood protection could be achieved for proposed residential development by elevating proposed residential structures such that the lowest floor of the habitable area of a building is or will be no lower than three feet from the 200-year base flood elevation. Non-residential structures can be flood-proofed by other means (i.e., dry floodproofing). In any event, compliance with the requirements of the Stockton Municipal Code must be certified by a licensed land surveyor or civil

engineer, verified by the Building Division, and submitted to the Director. Project exposure to 200-year flooding is considered a potentially significant impact, which would be reduced to a less than significant level with implementation of Mitigation Measure 3.9-1.

Following implementation of Mitigation Measure 3.9-1 and compliance with existing regulations, the Project would not result in a flood hazard or result in the release of pollutants due to on- or off-site flooding due to implementation of the proposed Project and impacts would be ***less than significant*** in this regard.

TSUNAMIS AND SEICHES

Tsunamis originating in the Pacific Ocean would dissipate in the San Francisco Bay, and therefore pose a negligible hazard to the Project site. The probability of a seiche occurring in the San Joaquin River or in one of the many upstream reservoirs is considered minimal. Given the geologic context of the Project area, if such an event were to occur, the likelihood of it exposing Project facilities or people to a significant risk of injury or death is considered low. Given the Project site's distance from the San Joaquin River and the fact that the Project site is not located adjacent to an existing reservoir lake, or other large standing water body, impacts relative to this topic would be ***less than significant.***

MITIGATION MEASURE(S)

Mitigation Measure 3.9-1: *All residential and non-residential structures within the Project site shall meet the urban level of flood protection, as required by the State of California Central Valley Flood Protection Act of 2008 (Senate Bill 5). Finished floor elevations of proposed residential structures shall be elevated to or above the prescribed 200-year floodplain elevation, or proposed nonresidential structures shall be floodproofed, consistent with the City of Stockton's Criteria for Development in 200-year Floodplains and City of Stockton Municipal Code. Code compliance shall be documented in materials prepared by licensed professionals and submitted to the Community Development Director.*

Impact 3.9-5: The proposed Project has the potential to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan (Less than Significant)

The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins and the Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability are the two (2) guiding documents for water quality and sustainable groundwater management in the Project area.

WATER QUALITY CONTROL PLAN FOR THE SACRAMENTO RIVER AND SAN JOAQUIN RIVER BASINS

The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The preparation and adoption of water quality control plans (Basin Plans) is required by the California Water Code (Section 13240) and supported by the Federal Clean Water Act. Section 303 of the Clean Water Act requires states to adopt water quality standards which "consist of the designated uses of the navigable waters

involved and the water quality criteria for such waters based upon such uses." The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

To ensure that stormwater runoff from the Project site does not adversely increase pollutant levels in adjacent surface waters and stormwater conveyance infrastructure, or otherwise degrade water quality, the Project would be required to prepare a SWPPP and monitoring plan. The SWPPP would require the application of BMPs to effectively reduce pollutants from stormwater leaving the site, which would ensure that stormwater runoff does not adversely increase pollutant levels and would reduce the potential for disturbed soils and ground surfaces to result in erosion and sediment discharge into adjacent surface waters during construction and operational phases of the Project. Additionally, as described under Impact 3.9-1, the Project would be required to submit a Project Stormwater Quality Control Plan that demonstrates the Project incorporates site design measures, landscape features, and engineered treatment facilities (typically bioretention facilities) to minimize imperviousness, retain or detain stormwater, slow runoff rates, and reduce pollutants in post-development runoff.

The Project would also be subject to the applicable water quality regulations, including, but not limited to, Stockton Municipal Chapter 13.16, Stormwater Management and Discharge Control, which established limitation and regulations for discharges into the City's stormwater system, and Chapter 13.20, Stormwater Quality Control Criteria Plan, which establishes requirements that control the discharges of pollutants. Compliance with these applicable regulations would ensure Project consistency with the Basin Plan.

EASTERN SAN JOAQUIN GROUNDWATER SUBBASIN GROUNDWATER SUSTAINABILITY PLAN

The ESJGWA adopted the Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan in November 2019 (revised in 2022). The goal for the Plan is to maintain an economically viable groundwater resource for the beneficial use of the people of the Eastern San Joaquin Groundwater Subbasin by operating the subbasin within its sustainable yield or by modification of existing management to address future conditions. The Groundwater Sustainability Plan outlines the need to reduce overdraft conditions and identifies projects for potential development that either replace groundwater use (offset) or supplement groundwater supplies (recharge) to meet current and future water demands. According to the Plan, the Subbasin will achieve sustainability by implementing water supply projects that either replace groundwater use or supplement groundwater supplies to attain the current estimated pumping offset and/or recharge need of 78,000 AFY.

As discussed in Impact 3.9-2, the Project would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin. As previously stated, the Project's WSA concluded that the existing near-term and long-term reliable supplies of surface water supplies and indigenous groundwater supplies

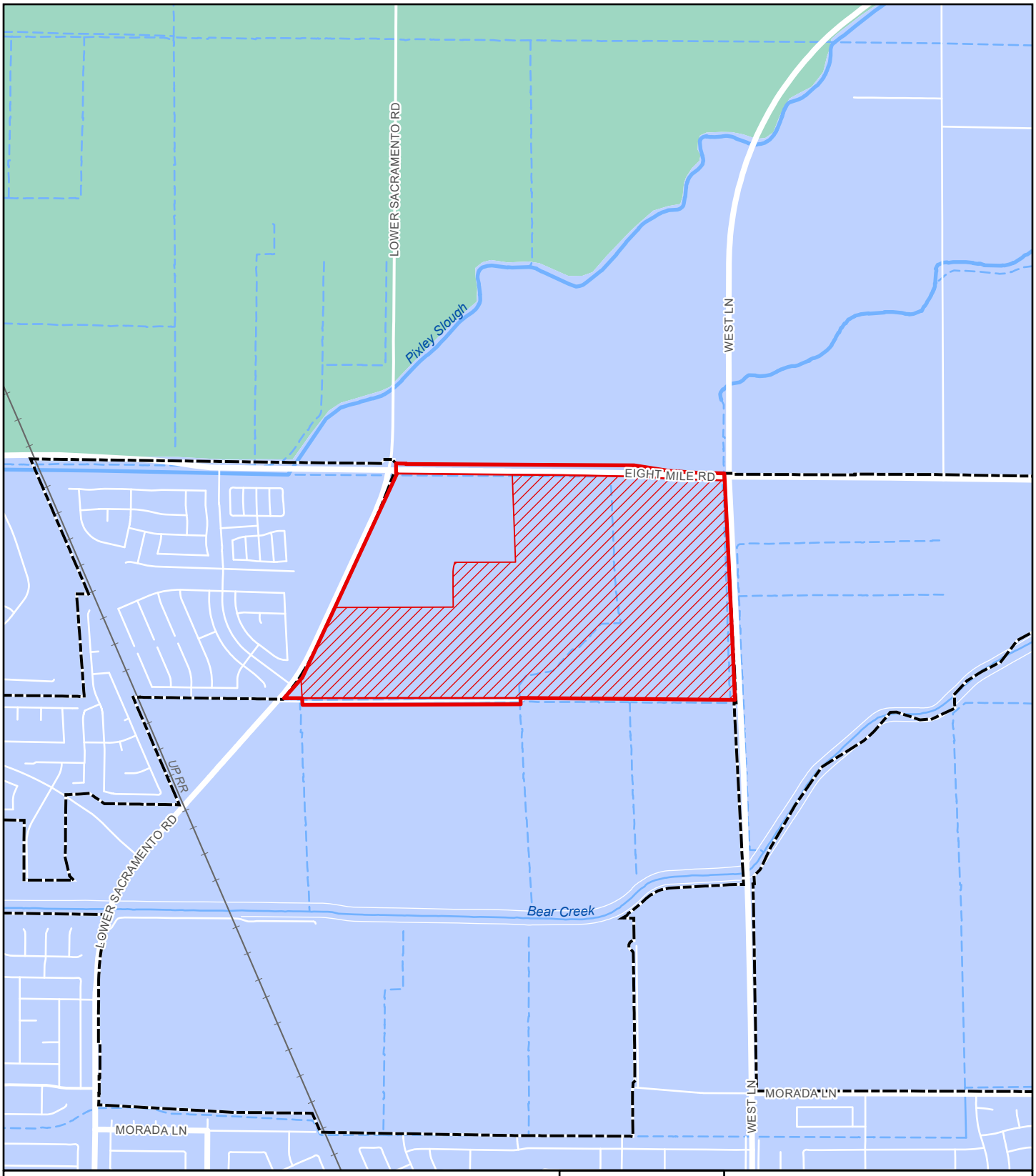
can deliver a sustainable reliable water supply to meet existing and foreseeable water demands without impacting environmental values and/or impacting the current stabilization of the groundwater basin underlying the COSMA (See Section 3.14 Utilities).

Additionally, the Project would be required to prepare a SWPPP and monitoring plan. The SWPPP would require the application of BMPs to effectively reduce pollutants from stormwater leaving the site, which would ensure that stormwater runoff does not adversely increase pollutant levels and would reduce the potential for disturbed soils and ground surfaces to result in erosion and sediment discharge into adjacent surface waters during construction and operational phases of the Project. Additionally, as described under Impact 3.9-1, the Project will be required to submit a Project Stormwater Quality Control Plan that demonstrates the Project incorporates site design measures, landscape features, and engineered treatment facilities that will minimize imperviousness, retain, or detain stormwater, slow runoff rates, and reduce pollutants in post-development runoff. The Project would also be subject to the applicable water quality regulations, including, but not limited to, Stockton Municipal Chapter 13.16, Stormwater Management and Discharge Control, which established limitation and regulations for discharges into the City's stormwater system, and Chapter 13.20, Stormwater Quality Control Criteria Plan, which establishes requirements that control the discharges of pollutants. Compliance with these applicable regulations would ensure Project consistency with the Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan.

CONCLUSION

Overall, implementation of the proposed Project and adherence to existing regulatory requirements would have a ***less than significant*** impact related to conflicts with the Basin Plan and the Groundwater Sustainability Plan.

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LEGEND

- Project Site
- Development Area
- Stockton City Limits
- Bear Creek
- Middle River-San Joaquin River

Waterways

- Connector, Pipeline, or Artificial Path
- Canal or Ditch
- Stream River

Sources: NHD; San Joaquin County GIS. Map date: July 13, 2023.

N

0 400 800

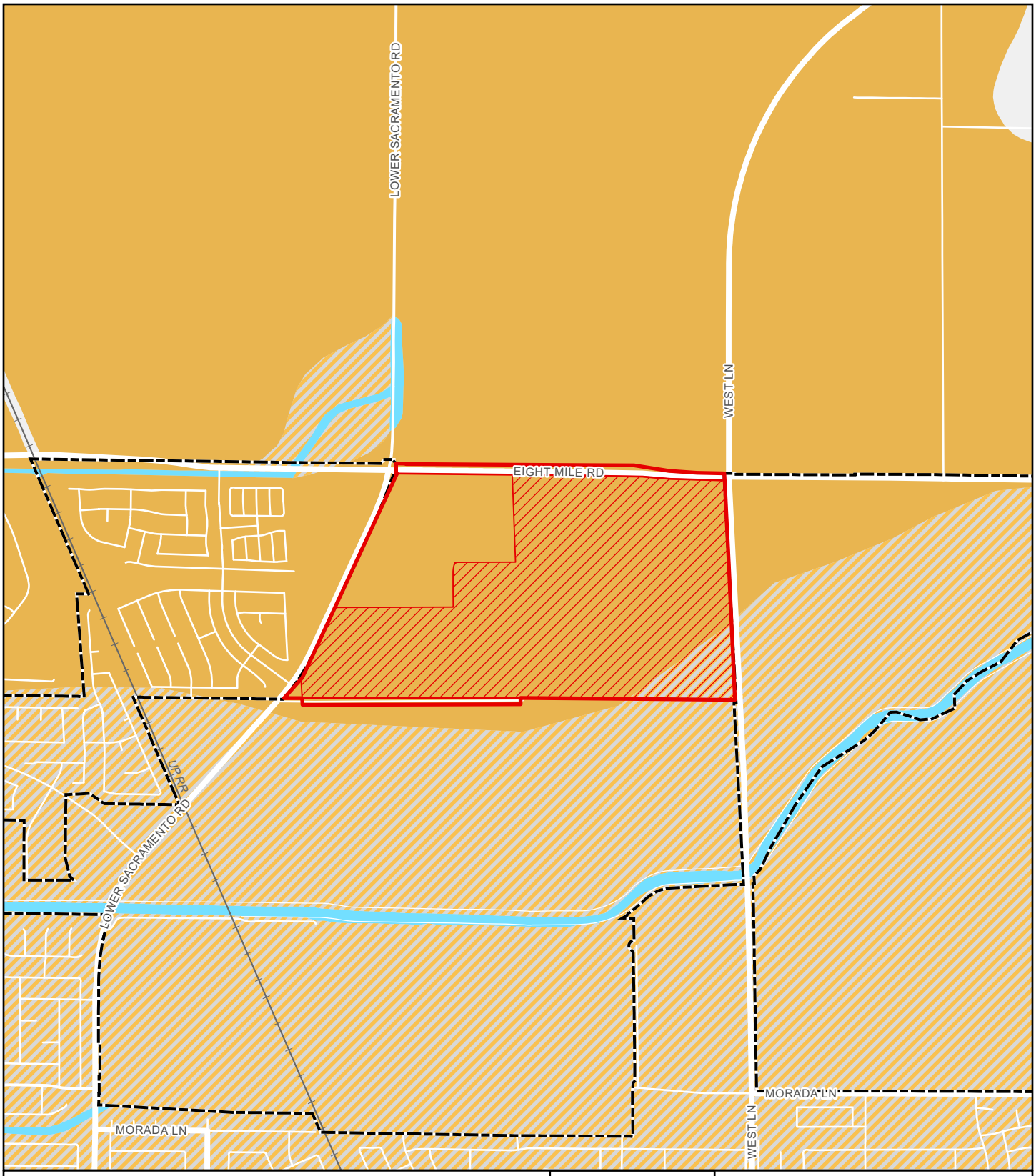
US Feet

STOCKTON LEBARON RANCH

Figure 3.9-1. Watersheds

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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LEGEND

- Project Site
- Development Area
- Stockton City Limits

FEMA Designation

- Regulator Floodway
- 500-Year Flood Zone
- Area with Reduced Flood Risk due to Levee
- 100-Year Flood Zone

N

0 400 800

US Feet

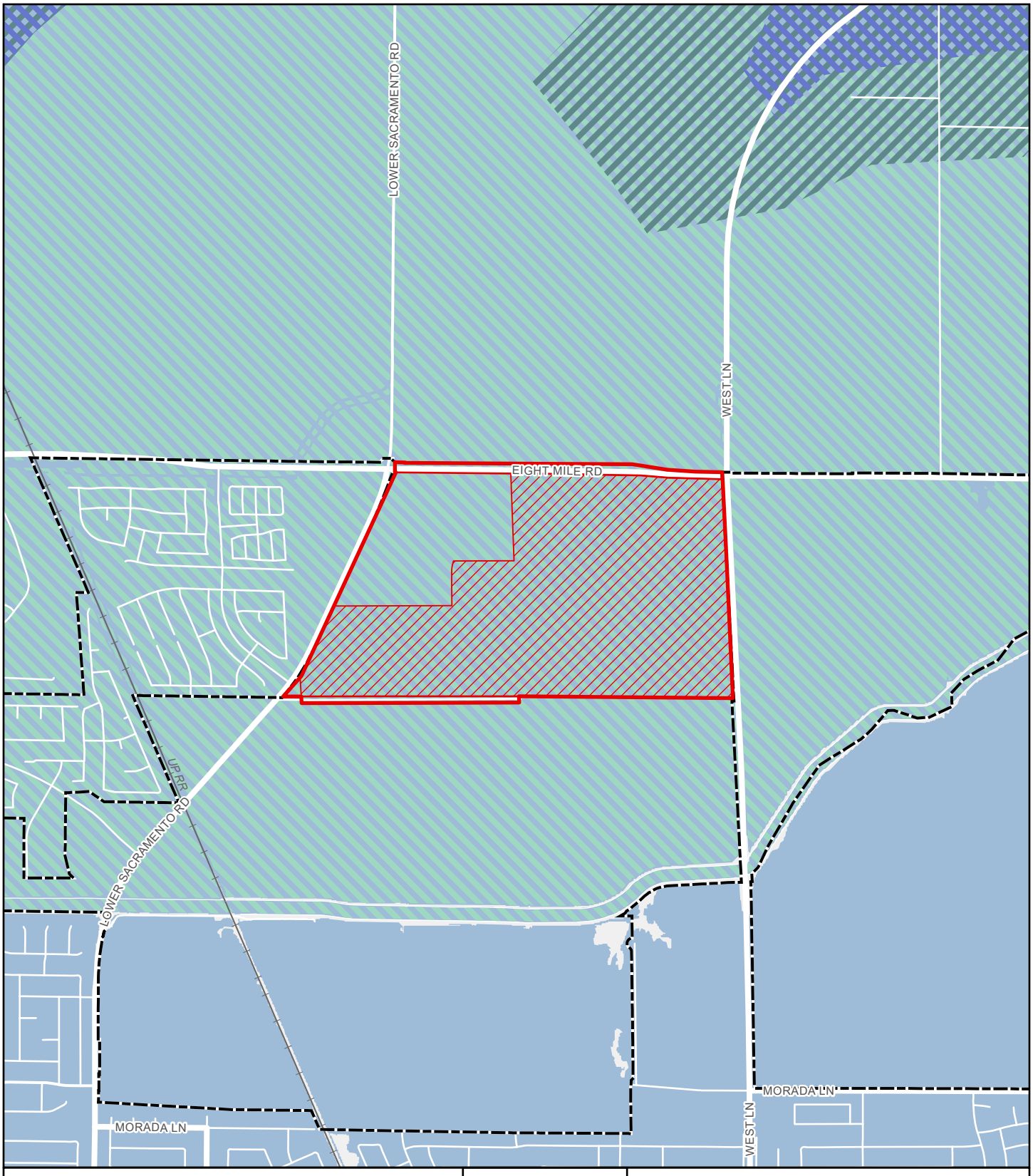
Sources: FEMA; San Joaquin County GIS. Map date: September 25, 2023.

STOCKTON LEBARON RANCH

Figure 3.9-2. Flood Zones

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LEGEND

- Project Site
- Development Area
- Stockton City Limits
- Lower Bear River Inundation Area
- Bear River Inundation Area
- Camanche Inundation Area
- Salt Springs Inundation Area

N

0 400 800

US Feet

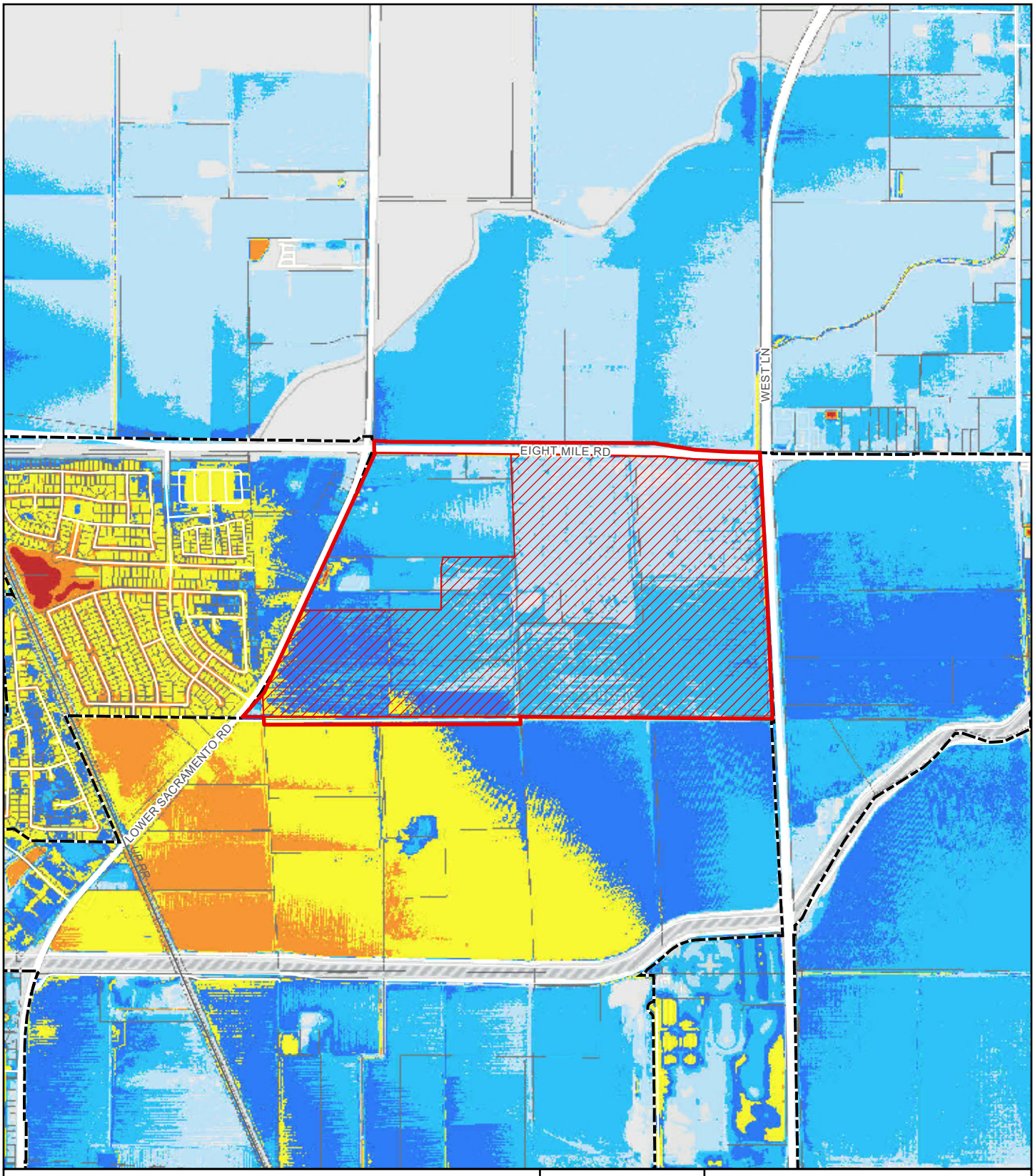
Sources: DWR; San Joaquin County GIS. Map date: November 8, 2023.

STOCKTON LEBARON RANCH

Figure 3.9-3. Dam Inundation Areas

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LEGEND

- Project Site
- Development Area
- Stockton City Limits

200-Year Storm Flood Depths (feet)

- 0 - 1
- 1.01 - 2.00
- 2.01 - 3.00
- 3.01 - 5.00
- 5.01 - 10.00
- > 10.01

N

0 400 800

US Feet

Sources: San Joaquin County GIS. Map date: November 9, 2023.

STOCKTON LEBARON RANCH

Figure 3.9-4. 200-Year Storm Flood Depths

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This section describes the existing land uses on the Project site and in the surrounding area, describes the applicable land use regulations, and evaluates the environmental effects of implementation of the proposed Project related to land use. Information in this section is based on information provided in the Project materials, site surveys conducted by De Novo Planning Group in 2020, and the following reference documents:

- *Envision Stockton 2040 General Plan* (2018);
- *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* (2018);
- *City of Stockton 2023-2031 Housing Element* (2023);
- City of Stockton Municipal Code (2020); and
- *San Joaquin County General Plan* (2016).

There was one comment received during the public review period for the Notice of Preparation (NOP) regarding this topic: the San Joaquin Council of Governments (SJCOG) (August 1, 2023). The portion of this comment letter that pertains to land use is discussed in this section. See Appendix A for full NOP comment letters.

3.10.1 ENVIRONMENTAL SETTING

EXISTING PHYSICAL ENVIRONMENT

The City of Stockton is in central San Joaquin County, approximately 11 miles north of Manteca and approximately 31 miles south of Sacramento. State Route 99 travels through Stockton near the eastern edge of the City and Interstate 5 travels through Stockton near the western edge of the City. The Stockton Planning Area, which includes the City and its Sphere of Influence, occupies an area of approximately 135 square miles.

Project Site

The Development Area is bordered on the north by Eight Mile Road, on the east by West Lane, on the west by agricultural land, a residential home, a church and commercial building along Lower Sacramento Road, and on the south by Marlette Road, a partially paved frontage road. The Development Area is predominantly comprised of agricultural and undeveloped uses; sheds and associated agricultural equipment exist in the center portion of the site. Additionally, two (2) dirt/gravel roadways bisect the Development Area, including one roadway extending north to south from Eight Mile Road to the southern boundary at Marlette Road, and another extending east to west from West Lane connecting to the dirt/gravel roadway in the center of the Development Area. Irrigation canals, operated by the Woodbridge Irrigation District, run along the northern, eastern, and southern borders of the Development Area, separating existing agricultural uses from the respective roadways.

The Non-development Area is bordered on the north by Eight Mile Road, on the east and south by agricultural lands within the Development Area, and on the west by Lower Sacramento Road. The

Non-development area consists of agricultural land, one (1) existing residential home in the northwestern portion, a commercial use (single building), and a church.

The Right-of-Way Annexation Area includes Eight Mile Road, forming the northern border of the Project site.

Figure 2.0-4 shows aerial imagery of the current existing site uses within the Project site.

Surrounding Land Uses

The Project site is primarily bounded by lands within the County of San Joaquin (County) to the north and south. Lands within the City of Stockton are located to the east and west. Uses within the surrounding area include the following:

- North – Immediately north of the site is Eight Mile Road. North of Eight Mile Road are existing agricultural lands.
- East – Immediately east of the site is West Lane. East of West Lane are existing agricultural lands. The existing agricultural lands were recently incorporated into the City of Stockton and will be developed with residential and commercial uses as part of the approved Tra Vigne development project.
- South – Immediately south of the site is Marlette Road. South of Marlette Road are agricultural lands, Bear Creek, and McNair High School.
- West – Immediately west of the site is Lower Sacramento Road. West of Lower Sacramento Road is a City of Stockton residential neighborhood called "Destinations."

DEMOGRAPHICS

Population Trends

The City experienced a population increase from 2005 to 2020 of 39,188 persons (14%) as shown in Table 3.10-1. During the period from 2005 to 2020. Population continued to increase in the City in 2021, however, there has been a population decline each of the last two years (2022 and 2023).

TABLE 3.10-1: POPULATION GROWTH

YEAR	*POPULATION*	*CHANGE*	*PERCENT CHANGE*
2005	280,000	-	-
2010	291,707	11,707	4.18%
2015	306,138	14,431	4.95%
2020	319,188	13,050	4.26%
2021	323,101	3,913	1.23%
2022	321,911	-1,190	-0.37%
2023	319,731	-2,180	-0.68%

SOURCES: DOF (REPORT E-4 2010-2020, REPORT E-4 2021-2023).

Persons Per Dwelling Unit

According to the most recent Department of Finance data (2023), the average number of persons residing in a dwelling unit in the City of Stockton is 3.13.

3.10.2 REGULATORY SETTING

STATE

Government Code

California Government Code Section 65300 et seq. establishes the obligation of cities and counties to adopt and implement general plans. The general plan is a comprehensive, long-term, and general document that describes plans for the physical development of a jurisdiction and of any land outside its boundaries that, in the jurisdiction's judgment, bears relation to its planning. The general plan addresses a broad range of topics, including, at a minimum, land use, circulation, housing, conservation, open space, noise, and safety. In addressing these topics, the general plan identifies the goals, objectives, policies, principles, standards, and plan proposals that support the jurisdiction's vision for the area. The general plan is a long-range document that typically addresses the physical character of an area over a 20-year period. Although the general plan serves as a blueprint for future development and identifies the overall vision for the planning area, it remains general enough to allow for flexibility in the approach taken to achieve the plan's goals.

The State Zoning Law (California Government Code Section 65800 et seq.) establishes that zoning ordinances, which are laws that define allowable land uses within a specific district, are required to be consistent with the general plan and any applicable specific plans. When amendments to the general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure the land uses designated in the general plan would also be allowable by the zoning ordinance (Government Code, Section 65860, subd. [c]).

State of California Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000

The Cortese-Knox-Hertzberg Local Government Reorganization Act establishes procedures for local government changes of organization, including city incorporations, annexations to a city or special district, and city and special district consolidations. In approving an annexation, the LAFCo will consider the following factors:

- Population and population density; land area and land use; per capita assessed valuation; topography, natural boundaries, and drainage basins; proximity to other populated areas; and the likelihood of significant growth in the area and in adjacent incorporated and unincorporated areas during the next ten years.
- The need for organized community services; the present cost and adequacy of governmental services and controls in the area; probable future needs for those services and controls; and the probable effect of the pro-posed incorporation, formation,

annexation, exclusion and of alternative courses of action on the cost and adequacy of services and controls in the area and adjacent areas.

- The effect of the proposed action and of alternative actions on adjacent areas, on mutual social and economic interests, and on the local government structure of the county.
- The conformity of both the proposal and its anticipated effects with both the adopted commission policies on providing planned, orderly, and efficient patterns of urban development, and the policies and priorities set forth in Government Code section 56377.
- The effect of the proposal on maintaining the physical and economic integrity of agricultural lands, as defined by Government Code section 56016.
- The definiteness and certainty of the boundaries of the territory, nonconformance of proposed boundaries with lines of assessment or ownership, creation of islands or corridors of unincorporated territory, and other similar matters affecting the proposed boundaries.
- Consistency with city or county general and specific plans.
- The sphere of influence of any local agency that may be applicable to the proposal being reviewed.
- The comments of any affected local agency.
- The ability of the newly formed or receiving entity to provide the services that are the subject of the application to the area, including the sufficiency of revenues for those services following the proposed boundary change.
- Timely availability of water supplies adequate for projected needs as specified in Government Code section 65352.5.
- The extent to which the proposal will affect a city or cities and the county in achieving their respective fair shares of the regional housing needs, as determined by the appropriate council of governments consistent with Housing Element laws.
- Any information or comments from lawmakers.
- Any information relating to existing land use designations.

In addition to the above factors, LAFCo may also consider any resolution raising objections to the action that may be filed by an affected agency, and any other matters which the Commission deems material.

LOCAL

Envision Stockton 2040 General Plan

As noted above, General Plans are prepared under a mandate from the State of California, which requires each city and county to prepare and adopt a comprehensive, long-term general plan for its jurisdiction and any adjacent related lands within its Sphere of Influence. State law requires general plans to address seven mandated components: circulation, conservation, housing (as a separate and distinct document), land use, noise, open space, and safety. In addition to those components required by State law, the Stockton General Plan also contains optional elements, including

Community Design, Economic Development, District and Villages, Public Facilities and Services, Recreation and Waterways, and Youth and Education.

The Envision Stockton 2040 General Plan includes an introduction, a description of the City's land use planning framework, and four (4) separate chapters that establish goals, policies, and actions for each given set of topics. The chapters cover all the topics required by California State Government Code Section 65302 as well as topics of particular interest to Stockton. The General Plan structure is summarized as follows:

- **Introduction:** Describes the required elements of the General Plan and its planning context, and provides an overview of the Plan's organization.
- **Planning Framework:** Covers existing land use conditions and the policy framework, describes the Envision Stockton 2040 General Plan Update process, and presents the location, intensity, and type of future growth and development in the City and its Sphere of Influence (SOI).
- **Land Use:** Provides overall land use policies for the City, including the connection between land use and transportation and utilities and other infrastructure. This chapter also incorporates the State-required Open Space and Conservation Element topics, as well as other topics important to the community, including economic development and community design.
- **Transportation:** Satisfies the State law requirement that the Transportation Element specify the general location and extent of existing and proposed major streets and other transportation facilities. This chapter is correlated with the Land Use chapter to provide adequate pedestrian, bicycle, motor vehicle, transit, air, and water transportation to serve both new and existing land uses.
- **Safety:** Serves as the State-required Safety Element. It provides information about risks in Stockton due to natural and human-made hazards, and contains goals, policies, and actions designed to protect the community and property from hazards. It specifically addresses risks associated with geologic and seismic hazards, flooding and storm drainage, wildland fires, and hazardous materials and waste. Based on clear community input to prioritize public safety from criminal activity, this chapter also includes policies and actions to deter crime and support law enforcement and community protection efforts.
- **Community Health:** Addresses the State-required Environmental Justice and Noise Element topics, as well as Air Quality, which is a required general plan topic regionally per the San Joaquin Valley Air Pollution Control District. This chapter also addresses public services and utilities, as well as the community-identified priorities of public health, recreation, youth and education, the local economy, and climate change and adaptation.

2023-2031 HOUSING ELEMENT

The housing element is one of eight mandated elements of the general plan. State law requires local government plans to address the existing and projected housing needs of all economic segments of the community through their housing elements. The purpose of the housing element is to identify the community's housing needs, to state the community's goals and objectives with regard to

housing production, rehabilitation, and conservation to meet those needs, and to define the policies and programs that the community will implement to achieve the stated goals and objectives.

GENERAL PLAN LAND USE

The proposed Project would require a City of Stockton General Plan Amendment to the Land Use Element to change land uses on the Project site. Changes to the General Plan Land Use Map are largely a reorganization of the precise locations for each land use within the boundary of the Project site as opposed to land use changes. Figures 2.0-6-A and 2.0-6-B illustrates the proposed Stockton General Plan land uses with and without the school site. Table 3.10-2 summarizes the existing and proposed land use designations.

TABLE 3.10-2: COMPARISON OF EXISTING AND PROPOSED LAND USE DESIGNATIONS

LAND USE DESIGNATIONS	*EXISTING (ACRES)*	*PROPOSED (ACRES) WITH SCHOOL*	*DIFFERENCE*	*PROPOSED (ACRES) WITHOUT SCHOOL*	*DIFFERENCE*
Low Density Residential	126.4	78.0	-48.4	78.0	-48.4
Medium Density Residential	63.9	100.7	36.8	113.6	49.7
High Density Residential	19.4	9.5	-9.9	9.5	-9.9
Institutional	13.7	12.0	-1.7	--	-13.7
Parks and Recreation	12.9	12.0	-0.9	12.2	-0.7
Storm Basin	--	4.5	4.5	4.5	4.5
Open Space (“Wellness Walks” and Open Ditch); and Rights of Way	--	19.6	19.6	18.5	18.5
TOTAL	**236.3**	**236.3**	**0**	**236.3**	**0**

The General Plan contains the following standards to guide development for these land uses.

Low Density Residential: This designation allows for single-family residential units, duplexes, triplexes, semi-detached patio homes, town homes, public and quasi-public uses, second units, and other similar and compatible uses. The maximum density is 6.1 units per acre based on gross acreage and 8.7 units per acre based on net acreage.

Medium Density Residential: This designation allows for single-family residential units, duplexes, triplexes, semi-detached patio homes, town homes, public and quasi-public uses, second units, and other similar and compatible uses. Based on gross acreage, this designation allows densities ranging from 6.2 to 13.1 units per acre; based on net acreage, it allows 8.8 to 17.4 units per acre. This designation also allows neighborhood-serving retail, commercial service, and mixed uses in appropriate locations that provide residents with easy access to daily services and necessities within their neighborhood, if they are compatible with surrounding uses, at a maximum FAR of 0.3

High Density Residential: This designation allows for multi-family residential units, apartments, dormitories, group homes, guest homes, public and quasi-public uses, and other similar and

compatible uses. This designation also allows neighborhood-serving retail, commercial service, and mixed uses in appropriate locations that provide residents with easy access to daily services and necessities within their neighborhood, if they are compatible with surrounding uses. The allowable density and intensity ranges differ based on the geographic area, as follows:

- Outside the Greater Downtown: Based on gross acreage, this designation allows 13.2 to 24 units per acre; based on net acreage, it allows 17.5 to 30 units per acre. The maximum FAR for neighborhood-serving retail uses is 0.3.
- Inside the Greater Downtown: Based on gross acreage, this designation allows 16 to 72 units per acre; based on net acreage, it allows 20 to 90 units per acre. The maximum FAR for neighborhood-serving retail uses is 3.0.
- Inside the Downtown Core: Based on gross acreage, this designation allows 16 to 108.8 units per acre; based on net acreage, it allows 20 to 136 units per acre. The maximum FAR for neighborhood-serving retail uses is 5.0.

Institutional: This designation allows for public and quasi-public uses such as schools, libraries, colleges, water treatment facilities, airports, some governmental offices, federal installations, and other similar and compatible uses. The maximum FAR for institutional uses is 0.5 outside the Downtown area and 5.0 within the Downtown area.

Parks and Recreation: This designation allows for City and County parks, golf courses, marinas, community centers, public and quasi-public uses, and other similar and compatible uses. The maximum FAR for parks and recreation uses is 0.2.

GENERAL PLAN POLICIES

The following policies of the Envision Stockton 2040 General Plan related to land use and population are applicable to the proposed Project:

- **LU-3.1.** Ensure that exterior remodels and the siting, scale, and design of new development are compatible with surrounding and adjacent buildings, public spaces, and cultural and historic resources.
- **LU-4.1.** Encourage large-scale development proposals in appropriate locations that include significant numbers of higher-wage jobs and local revenue generation. Such development may utilize the Economic and Education Enterprise land use designation if the proposal meets all of the criteria listed under the definition of the designation.
- **LU-4.2.** Attract employment- and tax-generating businesses that support the economic diversity of the city.
- **LU-6.2.** Prioritize development and redevelopment of vacant, underutilized, and blighted infill areas.
- **LU-6.6.** Coordinate land use planning efforts among City departments and with regional agencies.
- **LU-6.7.** Enhance public participation in the planning process.

GENERAL PLAN ACTIONS

The following actions of the Envision Stockton 2040 General Plan related to land use and population are applicable to the proposed Project:

- **LU-4.1B.** Seek out and market to businesses that build on Stockton's competitive advantages and offer high- and living-wage jobs in a range of industries, such as management of companies and enterprises, finance and insurance, wholesale trade, professional and technical services, information, healthcare and social assistance, and education.
- **LU-6.6B.** Participate in the San Joaquin Council of Governments' (SJCOG) regional planning programs and coordinate City plans and programs with those of SJCOG, including the Regional Transportation Plan/Sustainable Communities Strategy, among others, and work with non-profit organizations also engaging in these planning programs.
- **LU-6.6C.** Review and update the Development Code to ensure consistency with the updated General Plan.
- **LU-6.7A.** Work with community-based organizations to develop and implement a comprehensive and accountable long-term strategy to engage the Stockton community in planning decisions.
- **LU-6.7B.** Require that sponsors of new development projects, especially those that require Planning Commission and/or City Council approval, have early, frequent, and meaningful communication with affected citizens and stakeholders.

Stockton Municipal Code, Title 16 – Development Code

The purpose of Title 16, Development Code, of the City's Municipal Code is to establish the zoning districts applied to property within the City, determine how the zoning districts are applied on the Zoning Map, and provides general permit requirements for development and new land use in accordance with the Stockton General Plan.

PRE-ZONING

The Project site is currently outside of the jurisdiction of the City of Stockton, and therefore does not have City zoning. The proposed Project includes a request for pre-zoning of the Development Area and Non-development Area, as described below. The pre-zoning would go into effect upon annexation into the City of Stockton.

Development Area: The pre-zoning request is for an RL District, RM District, RH District and PF District. These districts are defined as follows:

- **RL (Residential, Low Density) District**. The RL zoning district is applied to single-family residential neighborhoods, low-density residential planned developments, and/or other low-density residential development, and is intended to maintain densities and protect existing neighborhood character. Allowable density shall be up to 8.7 dwelling units per net acre and 6.1 per gross acre. The RL zoning district is consistent with the low/medium density residential land use designation of the General Plan.

- **RM (Residential, Medium Density) District**. The RM zoning district is applied to more intensely developed residential neighborhoods and/or other medium-density residential planned developments. Allowable housing types may include single-family independent dwelling units, duplexes, triplexes, townhouses, and multifamily units. Allowable density shall be 8.8 to 17.4 dwelling units per net acre and 6.2 to 13.1 dwelling units per gross acre. The maximum floor area ratio (FAR) for neighborhood-serving retail uses is 0.3. The RM zoning district is consistent with the low/medium density residential land use designation of the General Plan.

  The Applicant is seeking a Planned Unit Residential (PURD) Permit to introduce design deviations to the standards to allow for an alternative range of lot sizes. The planned development permit may adjust or modify, where necessary and justifiable, all applicable development standards (e.g., building envelope, off-street parking, street layout, etc.) contained within this Development Code.
- **RH (Residential, High Density) District**. The RH zoning district is applied to high-density residential neighborhoods. Allowable housing types may include multifamily and various types of group housing, as well as high density single-family residential development. The RH zoning district is consistent with the High Density Residential land use designation of the General Plan. Consistent with the General Plan, allowable densities are as follows:
  - **Outside the Greater Downtown**. 17.5 to 30 dwelling units per net acre and 13.2 to 24 dwelling units per gross acre. The maximum floor area ratio (FAR) for neighborhood-serving retail uses is 0.30.
- **PF (Public Facilities) District**. The PF zoning district is applied to areas appropriate for a variety of public and quasi-public land uses, including facilities and lands owned by the City, County, State, or Federal governments as well as religious facilities. The PF zoning district is consistent with the institutional and parks and recreational land use designations of the General Plan. The maximum FAR is 0.2.

Non-development Area: The pre-zoning request is for an RL District and RM District for six (6) parcels totaling 56.03 acres. These parcels currently have agricultural uses, a commercial use (1 building) and a church, situated in the northwestern portion of the Project site. These districts are defined as follows:

- **RL (Residential, Low Density) District**. The RL zoning district is applied to single-family residential neighborhoods, low-density residential planned developments, and/or other low-density residential development, and is intended to maintain densities and protect existing neighborhood character. Allowable density shall be up to 8.7 dwelling units per net acre and 6.1 per gross acre. The RL zoning district is consistent with the low/medium density residential land use designation of the General Plan.
- **RM (Residential, Medium Density) District**. The RM zoning district is applied to more intensely developed residential neighborhoods and/or other medium-density residential planned developments. Allowable housing types may include single-family independent dwelling units, duplexes, triplexes, townhouses, and multifamily units. Allowable density shall be 8.8 to 17.4 dwelling units per net acre and 6.2 to 13.1 dwelling units per gross acre.

The maximum floor area ratio (FAR) for neighborhood-serving retail uses is 0.3. The RM zoning district is consistent with the low/medium density residential land use designation of the General Plan.

The proposed zoning for the Project site is shown on Figures 2.0-7-A and 2.0-7-B.

San Joaquin County General Plan

The San Joaquin County General Plan is comprehensive, long-range, and general. The San Joaquin County General Plan has the following purposes:

- To identify the community's land use, transportation, environmental, economic, and social goals and policies as they relate to land use, conservation, and development;
- To enable the County Board of Supervisors and the Planning Commission to establish long-range conservation and development policies;
- To provide a basis for judging whether specific private development proposals and public projects are in harmony with these policies; and
- To inform citizens, developers, decision makers, and other jurisdictions of the policies that will guide development and conservation within the County.

GENERAL PLAN LAND USE MAP (2010)

The San Joaquin County General Plan Land Use Map portrays the ultimate uses of land in the County through land use designations. The Land Use Map designates the Project site as Low Density, High Density (R/H), and Office Commercial (C/O). The General Plan contains the following descriptions for these land uses:

Low Density Residential: This designation provides for low density residential development in neighborhoods where single-family homes are the dominant land use. The Low-Density Residential Designation generally applies to residential neighborhoods in Urban Communities and City Fringe Areas. Typical building types include one- to two-story single-family dwellings in an urban setting. The density range is between 2.1 and 6.0 dwelling units per acre. The minimum lot size is 5,000 square feet.

High Density Residential: This designation provides for residential development in more intensely developed residential and commercial areas. Development at the higher end of the density range should occur along major transportation routes and within major commercial centers. The High-Density Residential Designation generally applies to central business districts and main street areas within Urban Communities and City Fringe Areas. Typical building types include one- to three-story multifamily developments. The density range is between 15.1 and 40.0 dwelling units per acre. The minimum lot size is 6,000 square feet.

Office Commercial (C/O): This designation provides for office/employment centers. The Office Commercial designation is limited to Urban Communities and City Fringe Areas and should be organized in clusters rather than a linier development pattern. Developments should be located on

a County-defined Minor Arterial or higher classification roadway and include pedestrian and bicycle facilities. Typical building types include one- to three-story structures. The allowable floor area ratio (FAR) range is between 0.20 and 0.60.

San Joaquin County Municipal Code, Title 9 – Development Title

The purpose of Title 19, Development Title, of the County's Municipal Code is to replace the Planning Title and contain information on zones, development application requirements, and standards and regulations relating to such issues as infrastructure, natural resources, safety, and signs.

ZONING MAP

The Zoning Map identifies zoning districts within the County at the parcel level. The Zoning Map designates the Project site as Agriculture-Urban Reserve (AU-20). The County's Municipal Code provides the following descriptions for AU-20 designations:

Agriculture-Urban Reserve (AU-20) Zoning District: This designation is intended to retain in agriculture those areas planned for future urban development to facilitate compact, orderly growth and to assure the proper timing and economical provision of services and utilities. The minimum parcel size within the AU zone is 20 acres.

San Joaquin Local Agency Formation Commission (LAFCo)

The San Joaquin LAFCo is responsible for coordinating orderly reorganization to local jurisdictional boundaries, including annexations. Annexation of the Project site to the City of Stockton is subject to LAFCo approval, and LAFCo will review the proposed annexation for consistency with LAFCo's Annexation Policies and Procedures. An annexation can only be approved if the applicable Municipal Services Review (MSR) and Plan for Services demonstrate that adequate services can be provided to the annexed area. An MSR, produced as part of a LAFCo's regular review of municipal services, consists of a written statement of its determinations regarding infrastructure, growth and population projections, financing, cost avoidance, rate restructuring, shared facilities, government structure options, management efficiency, and local accountability and governance. An annexation proposal must include a Plan for Services consistent with the applicable MSR and must demonstrate that the City can provide the required services. The City must pre-zone the lands to be annexed and subsequent changes to the General Plan land use designation and zoning are prohibited for two years.

San Joaquin LAFCo has adopted Policies and Procedures for Annexation and Detachment to and from all agencies within their jurisdiction. LAFCo has also adopted Procedures for the California Environmental Quality Act in accordance with the California Code of Regulations (Chapter 3, Title 14 Section 15022), which requires that each public agency adopt objectives, criteria, and specific procedures for administering its responsibilities under CEQA. Below is a brief discussion of San Joaquin LAFCo Policies and Procedures.

LAFCO CHANGE OF ORGANIZATION POLICIES AND PROCEDURES (INCLUDING ANNEXATIONS AND REORGANIZATIONS) (AS AMENDED 12/14/12)

General Standards for Annexation and Detachment

These standards govern San Joaquin LAFCo determinations regarding annexations and detachments to and from all agencies. The annexations or detachments must be consistent with the general policies set forth in these Policies and Procedures.

1. *Spheres and Municipal Service Reviews*: The annexation or detachment must be consistent with the internal planning horizon of the sphere of influence. The land subject to annexation shall normally lie within the first planning increment (5 to 10 year) boundary. The annexation must also consider the applicable Municipal Service Review. An annexation shall be approved only if the Municipal Services Review and the Sphere of Influence Plan demonstrates that adequate services can be provided with the timeframe needed by the inhabitants of the annexed area. If detachment occurs, the sphere will be modified. LAFCo generally will not allow spheres of influence to be amended concurrently with annexation proposals.

   Proposed annexations of land that lie outside of the first planning horizon (5 to 10 year) are presumed to be inconsistent with the Sphere Plan. In such a case the agency must first request LAFCo to consider a sphere amendment pursuant to the above policies. If the amendment is approved, the agency may then proceed with the annexation proposal. A change of organization or reorganization will not be approved solely because an area falls within the SOI of any agency.

   As an exception to the presumed inconsistency mentioned above, Master Plan and Specific Plan developments may span several planning horizons of the sphere of influence. Annexation of the entire project area may be desirable to comprehensively plan and finance infrastructure and provide for amenity-based improvements. In these cases, no amendment of the planning horizon is necessary provided project phasing is recognized in the Sphere of Influence Plan.

2. *Plan for Services*: Every proposal must include a Plan for Services that addresses the items identified in Section 56653 of the Government Code. The Plan for Services must be consistent with the Municipal Service Review of the Agency. Proponents must demonstrate that the city or special district can meet the need for services.

3. *Contiguity*: Territory proposed to be annexed to a city must be contiguous to the annexing city or district unless specifically allowed by statute. Territory is not contiguous if the only connection is a strip of land more than 300 feet long and less than 200 wide, that width to be exclusive of highways. The boundaries of a proposed annexation or reorganization must not create or result in areas that are difficult to serve.

4. *Development within Jurisdiction*: Development of existing vacant or non-prime agricultural lands for urban uses within the existing jurisdiction or within the sphere of influence should

be encouraged before any proposal is approved which would allow for or lead to the development of existing open space lands for non-open space uses which are outside of the existing jurisdiction of the local agency or outside of the existing sphere of influence of the local agency. (Section 56377)

5. *Progressive Urban Pattern*: Annexations to agencies providing urban services shall be progressive steps toward filling in the territory designated by the affected agency's adopted sphere of influence. Proposed growth shall be from inner toward outer areas.

6. *Piecemeal Annexation Prohibited*: LAFCo requires annexations and detachments to be consistent with the schedule for annexation that is contained in the agency's Sphere of Influence Plan. LAFCo will modify small piece-meal or irregular annexations, to include additional territory to promote orderly annexation and logical boundaries, while maintaining a viable proposal. In such cases, detailed development plans may not be required for those additional areas but compliance with CEQA is required.

7. *Annexations to Eliminate Islands*: Proposals to annex islands or to otherwise correct illogical distortion of boundaries will normally be approved unless they would violate another provision of these standards. To avoid the creation of an island or to encourage the elimination an existing island, detailed development plans may not be required for the remnant areas.

8. *Annexations that Create Islands*: An annexation will not be approved if it will result in the creation of an island of unincorporated territory or otherwise cause or further the distortion of existing boundaries. The Commission may nevertheless approve such an annexation where it finds that the application of this policy would be detrimental to the orderly development of the community and that a reasonable effort has been made to include the island in the annexation but that inclusion is not feasible at this time.

9. *Substantially Surrounded*: To applying the provisions of the Cortese-Knox-Hertzberg Act regarding island annexation without protest hearings (Section 56375.5), the subject territory of an annexation proposal shall be deemed "substantially surrounded" if it is within the sphere of influence of the affected city and two-thirds of its boundary is surrounded by the affected city.

10. *Definite and Certain Boundaries*: All boundaries shall be definite and certain and conform to lines of assessment or ownership. The Commission's approval of boundary change proposals containing split parcels will typically be subject to a condition requiring the recordation of a parcel map, lot line adjustment or other instrument to avoid creating remnants of legal lots.

11. *Service Requirements*: An annexation shall not be approved merely to facilitate the delivery of one or a few services to the determent of the delivery of a larger number of services or service more basic to public health and welfare.

12. *Adverse Impact of Annexation on the Other Agencies*: LAFCo will consider any significant adverse effects upon other service recipients or other agencies serving the area and may

condition any approval to mitigate such impacts. Significant adverse effects shall include the effect of proposals that negatively impact special districts' budgets or services or require the continuation of services without the provision of adequate funding. LAFCo will not approve detachments from special districts or annexations that fail to provide adequate mitigation of the adverse impact on the district. LAFCo may determine an appropriate temporary mitigation, if any, and impose that temporary mitigation to the extent it is within its powers. If the needed mitigation is not within LAFCo's authority and approval would, in the opinion of the Commission, seriously impair the District's operation, the Commission may choose to deny the application.

13. *District's Proposal to Provide new, different, or Divestiture of a Particular Function or Class of Services*: In addition to the plan for services specified in Section 2 of these Policies and Procedures any application for a new, different, or divestiture of a service shall also include the requirements outlined in Section 56824.12 of the Government Code. Applications for such request will be considered a change of organization and shall follow the requirements of such an application as outlined in the Cortese-Knox-Hertzberg Act and within these policies and procedures. The factors enumerated in Sections 56668 and 56824.14 of the Government Code shall be considered by the Commission at the time of consideration of the application for such functions.

14. *Disadvantaged Unincorporated Communities*: Disadvantaged Unincorporated Communities (DUCs) are those territories shown in Exhibit A or as may be shown in a city municipal service review and sphere of influence plan.

    The Commission shall not approve an annexation to a city or any territory greater than 10 acres where there exists a disadvantaged unincorporated community (DUC) that is contiguous to the area of proposed annexation, unless a concurrent application to annex all or a portion of the DUC to the subject city has been filed. An application to annex a DUC shall not be required if either of the following applies:

    1. A prior application for annexation of the territory has been made in the preceding five years.

    2. The Commission finds, based upon written evidence, that a majority of the registered voters within the DUC are opposed to annexation.

       Written evidence can be a scientific survey conducted by an academic institution or professional polling company.

15. *Protest Procedures*: The Commission delegates the conducting authority functions and responsibilities to the LAFCo Executive Officer pursuant to Government Code Section 57000.

City Annexations

1. *Annexation of Streets*: Annexations shall reflect the logical allocation of streets and rights of way as follows:

- Territory should be included within the annexation to assure that the city reasonably assumes the burden of providing adequate roads to the property to be annexed. LAFCo will require cities to annex streets where adjacent lands that are in the city will generate additional traffic or where the annexation will isolate sections of county road. Cities shall include all contiguous public roads that can be included without fragmenting governmental responsibility by alternating city and county road jurisdiction over short section of the same roadway.

- When a street is a boundary line between two cities, the centerline of the street dividing them may be used as the boundary, or may follow a boundary reached by agreement of the affected cities.

2. *Pre-zoning Required*: The Cortese-Knox-Hertzberg Act requires the city to pre-zone territory to be annexed and prohibits subsequent changes to the General Plan and/or pre-zoning designations for a period of two (2) years after completion of the annexation, unless the city council makes a finding at a public hearing consistent with the provisions of Governments Code Section 56375(e). In instances where LAFCo amends a proposal to include additional territory, the Commission's approval of the annexation will be conditioned upon the pre-zoning of the new territory.

San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMCP)

The San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) provides comprehensive measures for compensation and avoidance of impacts on various biological resources, including agricultural land. One of the primary goals of the SJMSCP is to preserve productive agriculture where that goal is compatible with protecting and preserving lands with biological resources and habitat. The SJMSCP is administered by the San Joaquin Council of Governments (SJCOG). The Project applicant will pay fees to SJCOG on a per-acre basis for designated agricultural lands and habitat that are converted to urban use. SJCOG will then use these funds to purchase conservation easements on agricultural and habitat lands in the region. The purchase of conservation easements allows the landowners to retain ownership of the land and continue agricultural operations, essentially preserving such lands in perpetuity. Most of the Project site is designated as Category C/Pay Zone B. This zone consists of "Agricultural Habitat Lands", as described in Chapter 2.2 of the SJMSCP. Portions of the Project site located along French Camp Slough are designated as Category A/No Pay Zone. This zone consists of "Urban Lands," as described in Chapter 2.2 of the SJMSCP.

The City of Stockton is a permit holder and is responsible for local implementation responsibilities including collection of fees, maintenance of implementing ordinances/resolutions and coordinating with the Joint Powers Authority (JPA) for annual reporting requirements.

3.10.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on land use and population if it will:

- Physically divide an established community;
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect;
- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure); and/or
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

IMPACTS AND MITIGATION MEASURES

Impact 3.10-1: The proposed Project would not physically divide an established community (No Impact)

The Project site is adjacent to the City of Stockton's northern city limits, within the City of Stockton SOI (as defined in the Envision Stockton 2040 General Plan), and within the City of Stockton Urban Services Boundary. The Project site is primarily bounded by lands within the County of San Joaquin (County) to the north and south. Lands within the City of Stockton are located to the east and west. Uses within the surrounding area include the following:

- North – Immediately north of the site is Eight Mile Road. North of Eight Mile Road are existing agricultural lands.
- East – Immediately east of the site is West Lane. East of West Lane are existing agricultural lands. The existing agricultural lands were recently incorporated into the City of Stockton and will be developed with residential and commercial uses as part of the approved Tra Vigne development project.
- South – Immediately south of the site is Marlette Road. South of Marlette Road are agricultural lands, Bear Creek, and McNair High School.
- West – Immediately west of the site is Lower Sacramento Road. West of Lower Sacramento Road is a City of Stockton residential neighborhood called "Destinations."

The Project would result in an extension of developed uses within an area of the City that currently has development uses and is planned for urban development by the City's General Plan. The Project would provide roadways and pedestrian pathways to connect the Project site to the existing circulation system and to allow access to and from the site. Development of the Project site would not result in physical barriers, such as a highway, wall, or other division, that would divide an existing community, but would serve as an orderly extension of existing and planned development. The Project would have ***no impact*** regarding the physical division of an established community.

Impact 3.10-2: The proposed Project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project adopted to avoid or mitigate an environmental effect (Less than Significant)

Land use plans, policies, and regulations that govern the land uses on the Project site and have jurisdiction over the Project include San Joaquin County General Plan, San Joaquin County Municipal Code, Envision Stockton 2040 General Plan, Stockton Municipal Code, the San Joaquin LAFCO, and the SJCMSCP. Consistency with the SJMPSCP is discussed in Impact 3.4-9 in Section 3.4, Biological Resources.

SAN JOAQUIN COUNTY GENERAL PLAN AND SAN JOAQUIN COUNTY MUNICIPAL CODE

As noted previously, the Project site is currently within San Joaquin County, and within the City of Stockton's Sphere of Influence. The San Joaquin County General Plan and San Joaquin County Municipal Code are the current governing documents for the Project site.

The Project would result in the annexation of the Project site into the City of Stockton. The proposed Project includes an Annexation of 12 APNs totaling 306.03 acres. This includes the Development Area (six parcels totaling 236.30 acres), Non-development Area (six parcels totaling 56.03 acres), and the remaining Right-of-Way Annexation Area (13.7 acres of existing County right-of-way). The annexation will also include detachment from the Lincoln Fire District. Upon annexation of the Project site, the San Joaquin County General Plan and San Joaquin County Municipal Code would not apply to the Project.

ENVISION STOCKTON 2040 GENERAL PLAN

Since general plans often contain numerous policies emphasizing differing legislative goals, a development project may be "consistent" with a general plan, taken as a whole, even though the project appears to be inconsistent or arguably inconsistent with some individual policies. (*Sequoyah Hills Homeowners Association v. City of Oakland* (1993) 23 Cal.App.4th 704, 719.) The Project is consistent with the key land use issues and development concepts of the Envision Stockton 2040 General Plan, which provide for logical growth of the City, emphasize community form, scale, and identity, encourage attractive, sustainable neighborhoods, support public transit and bicycle and pedestrian circulation, encourage housing opportunity, promote employment and economic development, encourage a mix of land uses that balance public services and fiscal sustainability, and promote access to open space.

The Project site is adjacent to the City of Stockton's northern city limits, within the City of Stockton SOI (as defined in the Envision Stockton 2040 General Plan), and within the City of Stockton Urban Services Boundary. The Envision Stockton 2040 General Plan Land Use Map (Figure 2.0-5) designates the Project site as Low Density Residential, Medium Density Residential, High Density Residential, Institutional, and Parks and Recreation. Table 2.0-2 in Chapter 2.0, Project Description, provides an existing land use summary of the Development Area per the 2040 Stockton General Plan.

The Project is located within the City limits and will provide residential, park, and institutional uses in an area of the City designated for these uses.

When land uses are not consistent with a General Plan there are two courses of action: 1) the uses are not allowed due to the inconsistency, or 2) the land uses are changed through an amendment to the General Plan to create consistency. The land uses as proposed are consistent with the General Plan. Although the proposed Project is consistent with the site's existing General Plan designations, the proposed Project would require a City of Stockton General Plan Amendment to the Land Use Element to reorganize land uses on the Project site. Changes to the General Plan Land Use Map are largely a reorganization of the precise locations for each land use within the boundary of the Project site as opposed to land use changes. Figures 2.0-6-A and 2.0-6-B in Chapter 2.0 illustrate the proposed Stockton General Plan land uses with and without the school site. Table 2.0-3 summarizes the existing and proposed land use designations. Approval of the General Plan amendment would ensure that the proposed Project would be substantially consistent with the Envision Stockton 2040 General Plan land use requirements.

Additionally, the Project is consistent with most of the applicable General Plan policies that aim to avoid or mitigate an environmental effect. As shown in Table 3.10-3, the Project is consistent with all the City's General Plan policies.

TABLE 3.10-3: GENERAL PLAN POLICY CONSISTENCY

GENERAL PLAN POLICY	*PROJECT CONSISTENCY*
LAND USE	
LU-1.1: Encourage retail businesses and housing development in mixed-use developments along regional transportation routes and in areas that serve local residents.	**Consistent.** The Project is a residential development which is compatible with existing and future surrounding uses. Land to the east and south of the Project site is designated for commercial and residential land uses. Eight Mile Road, which is considered a local transportation route, is adjacent north of the site. The existing development to the west of the Project site includes residential uses. The land to the east and south of the Project site is also designated for residential uses. The proposed institutional and residential uses would be constructed in a similar form and scale as the existing residential uses to the west.
LU-3.1: Ensure that exterior remodels and the siting, scale, and design of new development are compatible with surrounding and adjacent buildings, public spaces, and cultural and historic resources.	**Consistent.** As noted above, the Project is a residential development which is compatible with existing and future surrounding uses. The proposed institutional and residential uses would be constructed in a similar form and scale as the existing residential uses to the west. The Project includes public spaces, such as the K-8 school site and park and open space uses.
LU-3.2: Retain narrower roadways and reallocate right-of-way space to preserve street trees and mature landscaping and enhance the pedestrian and bicycle network within and adjacent to residential neighborhoods.	**Consistent.** The Project site is bounded on the north by Eight Mile Road, to the east by West Lane, and to the west by Lower Sacramento Road. Limited street trees are located along these adjacent roadways. The proposed Project will provide both City standard sidewalks, and as part of specific project roadways, enhanced sidewalks (also referred to as "wellness walks") throughout the development, along with bike lanes along the major arterials that the proposed Project fronts to offer additional bicycling and walking facilities for all of Stockton's residents. The Development Area is proposed as a natural progression of the existing

GENERAL PLAN POLICY	*PROJECT CONSISTENCY*
	housing areas and street network to the west of the Project site and will tie directly to the existing roadway network. The Project includes an extension of the west-east trending Marlette Road that will provide several access points to the proposed development, and connect to West Lane and Lower Sacramento Road. Class IV bikeways (separated bikeways) will be provided along the major arterials that border the Project site; which includes Lower Sacramento Road, West Lane, and Eight Mile Road. The Eight Mile Road cross section, shows both a Class IV bikeway on Eight Mile Road and a Class I bike path between the proposed Project and the Woodbridge Irrigation Ditch. Landscaping would be provided throughout the Project site, including along proposed roadways.
LU-3.3: Maintain or expand the currently available amount of public park and open space area in each neighborhood.	**Consistent.** The Project includes 12.0 acres of parkland, including an 8.5-acre central park and 3.47-acre northern park. Additionally, 18.5 to 19.6 acres of open space land uses would be provided. Part of the open space acreage will come from a series of streets with an enhanced right of way to accommodate a pedestrian "wellness walk."
LU-4.1: Encourage large-scale development proposals in appropriate locations that include significant numbers of higher-wage jobs and local revenue generation. Such development may utilize the Economic and Education Enterprise land use designation if the proposal meets all of the criteria listed under the definition of the designation.	**Consistent.** The proposed Project is considered large-scale and would provide jobs and local revenue for the city. The Project location is appropriate for residential and institutional uses because it is located on land planned for residential and institutional uses by the General Plan.
LU-4.2: Attract employment- and tax-generating businesses that support the economic diversity of the city.	**Consistent.** The proposed Project would generate an employment- and tax-generating business (the K-8 school site) and would provide construction jobs, which would support the economic diversity of the city.
LU-5.1: Integrate nature into the city and maintain Stockton's urban forest.	**Consistent.** An urban forest is not currently found on-site. As discussed in Section 3.4, Biological Resources, the Development Area contains numerous shade trees along the agricultural parcel boundaries, near the center of the Development Area, and near the southwestern corner of the Development Area. It may be possible for specific trees to be incorporated into the final design of the development once the more detailed engineering effort begins. However, it is likely that removal of most of the on-site trees would be required. Mitigation Measure 3.4-4 requires that, if removal of any oak tree on the project site is required, a certified arborist shall survey the oak trees proposed for removal to determine if they are Heritage Trees as defined in Stockton Municipal Code Chapter 16.130. The arborist report with its findings shall be submitted to the City's Community Development Department. If Heritage Trees are determined to exist on the property, removal of any such tree shall require a permit to be issued by the City in accordance with Stockton Municipal Code Chapter 16.130. The permittee shall comply with all permit conditions, including tree replacement at specified ratios. Further, the Project would include ample landscaping throughout the site, which would include shade and street trees.

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LU-5.2: Protect natural resource areas, fish and wildlife habitat, scenic areas, open space areas, agricultural lands, parks, and other cultural/historic resources from encroachment or destruction by incompatible development.	**Consistent:** There are no known cultural or historic resources on site which would be encroached on or destroyed by the proposed Project. Nevertheless, Section 3.5, Cultural and Tribal Resources, of this EIR includes mitigation measures to be followed should cultural resources be found on-site during construction. Natural resources areas, habitat, and agricultural lands are found on-site. Additionally, this section includes mitigation measures to reduce the potential impacts to special-status birds to a less-than-significant level. Further, the Project would be subject to the City and County Right-to-Farm ordinances, which would ensure that the Project does not encroach or destroy agricultural operations in the area.
LU-5.3: Define discrete and clear city edges that preserve agriculture, open space, and scenic views.	**Consistent:** The proposed Project site is in the northern portion of the City of Stockton Metropolitan Area, within the unincorporated area of San Joaquin County. The Project site is adjacent to the City of Stockton's northern city limits, within the City of Stockton Sphere of Influence (SOI) (as defined in the Envision Stockton 2040 General Plan), and within the City of Stockton Urban Services Boundary. The site has been anticipated for development of residential and institutional urban uses as part of the City's General Plan. As noted previously, the Project includes 12.0 acres of parkland, including an 8.5-acre central park and 3.47-acre northern park. Additionally, 18.5 to 19.6 acres of open space land uses would be provided. However, the agricultural areas on the site would be converted to urban uses as part of the Project. As discussed in Section 3.2, Agricultural Resources, of this EIR, the Envision Stockton 2040 General Plan EIR anticipated development of the Project site as part of the overall evaluation of the buildout of the City. The General Plan EIR determined that impacts associated with the conversion and loss of Important Farmland would be significant and unavoidable. According to the General Plan EIR, although the General Plan includes policies and actions that would reduce and partially offset the conversion of farmland, it designates approximately 16,160 acres of farmlands of concern under CEQA for non-agricultural uses. Because these farmland areas are located near existing urbanized areas, they may not be viable for agricultural operations due to conflicts with nearby urbanized areas. The only way to mitigate this impact would be to prohibit any development on farmland of concern. However, as noted, the General Plan identifies this area for development of residential and institutional uses while maintaining other areas for agricultural use.
LU-5.4: Require water and energy conservation and efficiency in both new construction and retrofits.	**Consistent:** The proposed Project would be subject to the water conservation requirements set forth in the City's Municipal Code. Water conservation requirements—including restrictions on outdoor watering—are set forth in Municipal Code Chapter 13.28, Water Conservation. Additionally, the Project would be subject to the California Building Code, which includes Building Energy Efficiency Standards (i.e., requirements in the Energy Code [Title 24, Part 6]).
LU-6.2: Prioritize development and redevelopment of vacant, underutilized, and blighted infill areas.	**Does Not Conflict.** The proposed Project site is not a vacant, underutilized, or blighted infill area. However, the Project site is designated for residential and institutional land uses in the City's General Plan. Additionally, the Project would not prevent the City from developing and/or redeveloping vacant, underutilized, or blighted infill areas of the City.

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LU-6.3: Ensure that all neighborhoods have access to well-maintained public facilities and utilities that meet community service needs.	**Consistent.** The proposed Project site is near public facilities, such as schools and parks. Additionally, the Project would include development of park areas and possible dedication of a school site. Further, as discussed in Section 3.14, Utilities and Service Systems, the Project would result in less-than-significant impacts related to utilities.
LU-6.4: Ensure that land use decisions balance travel origins and destinations in as close proximity as possible, and reduce vehicle miles traveled (VMT).	**Consistent.** Impact 3.13-1 in Section 3.13, Transportation and Circulation, of this Draft EIR discussed VMT impacts. The residential project threshold in the City of Stockton Traffic Impact Analysis Guidelines was used and compared to the Project VMT. Under Baseline Year conditions, citywide VMT under the no-project condition would be 5,184,549. VMT under the with-project condition would be 5,220,298. Because VMT with the Project would be greater than VMT under the no-project condition, the Project is considered to have a significant impact on total VMT. Under Cumulative Year conditions, citywide VMT under the no-project condition would be 6,597,410. VMT under the with-project condition would be 6,636,505. Because VMT with the Project would be greater than VMT under the no-project condition, the Project is considered to have a significant impact on total VMT. The Project site is in the vicinity of travel origins, such as commercial uses, job centers, and schools.
TRANSPORTATION	
TR-1.1: Ensure that roadways safely and efficiently accommodate all modes and users, including private, commercial, and transit vehicles, as well as bicycles and pedestrians and vehicles for disabled travelers.	**Consistent.** Implementation of the Project would result in the construction of a network of bicycle and pedestrian facilities. Impacts associated with bicycle, pedestrian, and transit facilities are discussed in Impact 3.13-2 in Section 3.13 of the Draft EIR. As discussed, implementation of the proposed Project would result in an increase in demand for public transit service in the vicinity of the Project site. However, the proposed Project would not disrupt an existing transit facility or service and would not interfere with the implementation of future transit service. Additionally, implementation of the proposed Project would not disrupt existing bicycle or pedestrian facilities, interfere with planned bicycle or pedestrian facilities; or cause other changes to bicycle or pedestrian systems that would be inconsistent with performance expectations established in adopted bicycle or pedestrian system plans, guidelines, policies, or standards.
TR-2.1: Develop safe and interconnected bicycle and pedestrian facilities, including along "complete" streets that target multiple travel modes.	**Consistent.** Implementation of the Project would result in the construction of a network of bicycle and pedestrian facilities. The proposed Project will connect with and expand the existing circulation system in the City of Stockton. Additionally, the proposed Project will provide both standard sidewalks, and as part of specific project roadways, enhanced sidewalks (also referred to as "wellness walks") throughout the development, along with bike lanes along the major arterials that the proposed Project fronts to offer additional bicycling and walking facilities for all of Stockton's residents.
TR-2.2: Connect housing and employment development in areas with good transit access through open and inclusive processes where appropriate.	**Consistent.** The proposed Project includes development of housing in an area with good transit access. San Joaquin Regional Transit District (SJRTD) operates County Hopper Route 93 along West Lane along the eastern edge of the Project site. This route travels between the Stockton Downtown Transit Center and the Lodi Transit Station. The route operates eight times a day in the northbound direction, and 10

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	times a day in the southbound direction.
TR-2.3: Utilize natural features and routes with lower traffic volumes and speeds to encourage residents to walk and wheel more frequently.	**Consistent.** As described in Chapter 2.0, Project Description, sidewalks will be included per the City standards, along with enhanced sidewalks (also referred to as "wellness walks") throughout portions of the development to provide access to the two parks and the trail system along Eight Mile Road. The "wellness walk" network would be provided throughout the proposed Project, which would provide bicyclists and walkers with a wider pathway to share a pedestrian-friendly option for traveling throughout the Project area. A connection is also proposed from the "wellness walk" to the Class IV bikeway along West Lane and to the Class I bike path along the Project's northern boundary.
TR-3.1: Avoid widening existing roadways in an effort to preclude inducement of additional vehicle traffic.	**Consistent.** The Project would not require or result in the widening of any existing roadways in the Project area.
TR-3.2: Require new development and transportation projects to reduce travel demand and greenhouse gas emissions, support electric vehicle charging, and accommodate multi-passenger autonomous vehicle travel as much as feasible.	**Consistent.** The proposed Project would be subject to the California Building Code, which requires electric vehicle infrastructure and parking spaces. Additionally, as required by Mitigation Measure 3.13-1 in Section 3.13, the Project would be required to submit a TDM Plan to the City, which would include strategies to reduce travel demand and greenhouse gas emissions.
TR-4.1: Utilize level of service (LOS) information to aid understanding of potential major increases to vehicle delay at key signalized intersections.	**Consistent.** LOS analysis was completed for the proposed Project. The City will utilize the LOS information to understand increases in delay at key signalized intersections. Because LOS is no longer an environmental topic under CEQA, the LOS analysis is not included in the Draft EIR.
TR-4.2: Replace LOS with: (1) vehicle-miles traveled (VMT) per capita; and (2) impacts to non-automobile travel modes, as the metrics to analyze impacts related to land use proposals under the California Environmental Quality Act, in accordance with SB 743.	**Consistent.** Impact 3.13-1 in Section 3.13 of the Draft EIR analyzes impacts related to VMT. Impact 3.13-2 analyzes impacts related to transit, roadway, bicycle, and pedestrian facilities. As noted above, LOS analysis was completed for the proposed Project. The City will utilize the LOS information to understand increases in delay at key signalized intersections. Because LOS is no longer an environmental topic under CEQA, the LOS analysis is not included in the Draft EIR.
TR-4.3: Use the threshold recommended by the California Office of Planning and Research for determining whether VMT impacts associated with land uses are considered significant under State environmental analysis requirements.	**Consistent.** As discussed in Section 3.13 of the Draft EIR, the Envision Stockton 2040 General Plan Policy TR-4.3 addresses the topic of VMT as an impact in CEQA documents. The policy states, "Use the threshold recommended by the California Office of Planning and Research for determining whether VMT impacts associated with land uses are considered significant under State environmental analysis requirements." The OPR Technical Advisory on Evaluating Transportation Impacts in CEQA provides recommended thresholds for determining the significance of VMT impacts associated with land use development projects. Specific thresholds are provided for residential, office, and retail commercial types of development.

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	The City of Stockton General Plan Action TR-4.3A states, "Establish a threshold of 15 percent below baseline VMT per capita to determine a significant transportation impact under the California Environmental Quality Act." The 15 percent threshold in General Plan Action TR-4.3A is similar to thresholds for residential and office land use types recommended by OPR in the Technical Advisory on Evaluating Transportation Impacts in CEQA. Notably, the City of Stockton Traffic Impact Analysis Guidelines was prepared before the recent changes to CEQA due to Senate Bill 743 (Steinberg 2013).
COMMUNITY HEALTH	
CH-1.1. Maintain walking and wheeling facilities and parks that are safe and accessible in all areas of Stockton.	**Consistent.** There is currently no existing pedestrian, bicycle, or transit service/facility within the undeveloped Project area. The Envision Stockton 2040 General Plan identifies an interconnected, hierarchical system of sidewalks, on-street bike lanes, and off-street trails for pedestrians and bicyclists that provides access to this area of the City of Stockton. Additionally, the Project would include bicycle and pedestrian facilities on-site. Further, no parks are currently found on-site as it is vacant, but the Project would include 12.9 acres of park and recreation areas. As such, the Project would create and maintain walking and wheeling facilities on-site.
CH-3.2. Encourage neighborhood-serving commercial uses in areas where frequently needed goods and services are not widely available, especially for those areas with no availability within a 2-mile radius.	**Consistent.** The two-mile radius around the Project site currently has limited opportunities to purchase needed goods and services. The site is not designated for Commercial uses, but adjacent parcels to the east, west, and south of the site are designated for Commercial land uses. The Commercial designation allows for a wide variety of retail, service, and commercial recreational uses; business, medical, and professional offices; residential uses; public and quasi-public uses; and other similar and compatible uses. Community or regional commercial centers as well as freestanding commercial establishments are permitted. The possibility exists that neighborhood-serving commercial uses could be developed adjacent to the site in the future.
CH-4.1: Attract and encourage residential development that offers a range of housing options to meet the needs and income constraints of all Stockton residents.	**Consistent.** The Project would provide a range of housing options, including low density, medium density, and high density.
SAFETY	
SAF-2.4. Minimize risks to the community from flooding through appropriate siting and protection of structures and occupants.	**Consistent:** Impacts associated with potential flood events are discussed in Section 3.9, Hydrology and Water Quality, of this EIR. As discussed, the Project site is located within Zone X (areas of 0.2 percent annual chance [500-year] flood; areas of one percent annual chance [100-year] flood with average depths of less than one foot or with drainage areas with less than one square mile; and areas protected by levees from the one percent annual chance [100-year] flood), as shown in Figure 3.9-2. According to the State DWR Levee Flood Protection Zone maps, the Project site is located within a Levee Flood Protection Zone protected by Bear Creek, with an unknown flood depth. There are isolated areas within the Project site that are potentially subject to flood depths of three feet or more during a 200-year storm event. Pursuant to State law and the City's floodplain

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	regulations contained in Chapter 16.90 of the Stockton Municipal Code, the City would not approve the proposed Project unless findings are made that the proposal meets State flood protection requirements. Through compliance with existing regulations, the Project would not result in a flood hazard or result in the release of pollutants due to on- or off-site flooding due to implementation of the proposed Project and impacts would be less than significant in this regard.
SAF-2.5. Protect the community from health hazards and annoyance associated with excessive noise levels.	**Consistent.** All impacts associated with excessive noise levels were determined to be less than significant or less than significant with mitigation. See Section 3.11, Noise, for the complete discussions.
SAF-2.6. Minimize the risk to city residents and property associated with then transport, distribution, use, and storage of hazardous materials.	**Consistent.** As discussed in Section 3.8, Hazards and Hazardous Materials, depending on the future industrial uses on-site, the Project has the potential to routinely transport, use, or dispose of hazardous materials, and/or present a reasonably foreseeable release of hazardous materials. Any operations that involve the use of hazardous materials would be required to have the hazardous material transported, stored, used, and disposed of in compliance with local, state, and federal regulations. The San Joaquin County Department of Environmental Health is the CUPA for San Joaquin County and is responsible for the implementation of statewide programs within the City including Hazardous Materials Business Plan (HMBP) requirements, among numerous other programs. Additionally, businesses are regulated by Cal/OSHA and are therefore required to ensure employee safety. Specific requirements include identifying hazardous materials in the workplace, providing safety information to workers that handle hazardous materials, and adequately training workers. To further ensure the safety of employees and reduce the potential for accidental release of hazardous materials into the environment, the applicant must submit a HMBP to San Joaquin County Department of Environmental Health (CUPA) for review and approval prior to bringing hazardous materials onsite, as required by Mitigation Measure 3.8-3.
SAF-3.2. Protect the availability of clean potable water from groundwater sources.	**Consistent.** This issue is addressed in Section 3.8 (Hydrology and Water Quality) of the Draft EIR. Impacts associated with groundwater depletion, interference with groundwater recharge, and conflicts with groundwater management plans were determined to be less than significant.
SAF-3.3: Encourage use of recycled ("gray") water for landscaping irrigation to reduce demand on potable supplies.	**Does Not Conflict.** The proposed Project would not utilize recycled water for landscaping irrigation.
SAF-3.4: Ensure adequate collection, treatment, and safe disposal of wastewater.	**Consistent.** The proposed Project would be adequately served by the City's wastewater system, including the Stockton Regional Wastewater Control Facility (RWCF). As discussed in Impact 3.14-2, the proposed Project is estimated to generate approximately 613,040 gallons per day (gpd) of wastewater or approximately 1.9 percent of the City's current 33 million gallons per day (mgd) current average flow. Municipal wastewater collection and treatment will be provided by the City of Stockton. The site is within the City Urban Service Area and has been included in the City's Wastewater Collection System Master Plan. The proposed Project would be located within System 10 sub-area of the City of Stockton wastewater

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	collection system. This plan has anticipated the extension of municipal wastewater collection and treatment service for the Project site. It is also noted that occupancy of the proposed Project would be prohibited without sewer allocation, as required by section 13.12.100, Mandatory Sanitary Service Required, of the City's Municipal Code.
SAF-4.1. Reduce air impacts from mobile and stationary sources of air pollution.	**Consistent.** Impacts associated with air impacts are discussed in Sections 3.3 and 3.7 of this Draft EIR. As discussed in Section 3.3, the Project would emit mobile and area emissions. Impacts related to criteria pollutant emissions would be significant and unavoidable. As discussed in Section 3.7, all impacts related to greenhouse gas emission would be less than significant. It is noted that the Project would be subject to the California Building Code, which includes Building Energy Efficiency Standards (i.e., requirements in the Energy Code [Title 24, Part 6]). Additionally, as required by Mitigation Measure 3.13-1 in Section 3.13, the Project would be required to submit a TDM Plan to the City, which would include strategies to reduce travel demand. Reduced travel demand would result in an associated reduction in mobile emissions.
SAF-4.2. Encourage major employers to participate in a transportation demand management program (TDM) that reduces vehicle trips through approaches such as carpooling, vanpooling, shuttles, car-sharing, bike-sharing, end-of-trip facilities like showers and bicycle parking, subscription bus service, transit subsidies, preferential parking, and telecommuting.	**Consistent.** As required by Mitigation Measure 3.13-1 in Section 3.13, the Project would be required to submit a TDM Plan to the City, which would include strategies to reduce travel demand. It is also noted that implementation of the Project would result in the construction of a network of bicycle and pedestrian facilities. The proposed Project will connect with and expand the existing circulation system in the City of Stockton. Additionally, the proposed Project will provide both standard sidewalks, and as part of specific project roadways, enhanced sidewalks (also referred to as "wellness walks") throughout the development, along with bike lanes along the major arterials that the proposed Project fronts to offer additional bicycling and walking facilities for all of Stockton's residents.

SOURCE: DE NOVO PLANNING GROUP, 2023.

Overall, the proposed Project would have a ***less than significant*** impact relative to the General Plan.

STOCKTON ZONING CODE

The Stockton Municipal Code implements the General Plan. As noted above, the San Joaquin LAFCo will require the Project site to be pre-zoned by the City of Stockton in conjunction with the proposed annexation. The City's pre-zoning will include the following zoning designations: RL, RM, RH and PF. The pre-zoning would go into effect upon annexation into the City of Stockton. The proposed pre-zoning for the Project site is shown in Figure 2.0-7-A and 2.0-7-B in Chapter 2.0. These proposed zoning assignments would ensure that future zoning would be consistent with the proposed General Plan designations within the Project site. The City's Development Code establishes permitted uses, development densities and intensities, and development standards for each zone to ensure that public health, safety, and general welfare are protected, consistent with the purpose of the Municipal Code. The Applicant is seeking a PURD Permit to introduce design deviations to the standards to allow for an alternative range of lot sizes. The planned development permit may adjust

or modify, where necessary and justifiable, all applicable development standards (e.g., building envelope, off-street parking, street layout, etc.) contained within this Development Code, however no changes to density are being proposed and the Project will comply with the density ranges per the General Plan and Municipal Code.

The City will review each component of the proposed Project as plans (improvement plans, building plans, site plans, etc.) are submitted for final approval to ensure that they are consistent with the City's Zoning ordinance. Approval of the zone change would ensure that the proposed Project would be consistent with the Zoning Code and will have a ***less than significant*** impact relative to this topic.

SAN JOAQUIN LAFCO

The Project site is currently in an unincorporated portion of San Joaquin County adjacent to the City of Stockton's city limits, within the Stockton Sphere of Influence (SOI) (as defined in the Stockton General Plan), and within the City of Stockton Urban Services Boundary. The proposed Project requires annexation of the Project site into the city limits.

LAFCo (Commission) is serving as a responsible agency for this EIR pursuant to their *LAFCo Procedures for the California Environmental Quality Act (Adopted June 20, 2007).* When LAFCo is a Responsible Agency under CEQA, to approve the annexation, the Commission will certify that it has reviewed the Lead Agency's environmental documents and, if required, adopt findings for approval and statements of overriding considerations in accordance with Sections 15091 and 15903 of the CEQA Guidelines. The City of Stockton has consulted LAFCo. The consultation process included sending LAFCo a copy of the Notice of Preparation during the 30-day public review period. LAFCo will also be sent a copy of the Draft EIR during the 45-day public review period and the Final EIR for their use in the annexation process. If the LAFCo Executive Officer determines that the Draft and Final EIR are adequate for their use, they will prepare, or cause to be prepared, "draft" Findings and Statements, findings for approval, and statements of overriding considerations for LAFCo Commission consideration. If the LAFCo Commission approves the annexation, the Executive Officer will file a Notice of Determination within five (5) working days after deciding to approve the annexation.

The San Joaquin LAFCo will review the proposed annexation for consistency with the *LAFCo Change of Organization Policies and Procedures (Including Annexations and Reorganizations)*. These policies and procedures govern San Joaquin LAFCo determinations regarding annexations to all agencies. The following policies will be reviewed as part of the annexation process by the San Joaquin LAFCo.

General Standards for Annexation and Detachment

1. *Spheres and Municipal Service Reviews*: The City of Stockton Sphere of Influence Plan/Municipal Service Review (2020) identifies the Project site as within the SOI and within the 10-year frame for potential development by 2017; therefore, a sphere amendment prior to proceeding with the annexation would not be required.

2. *Plan for Services*: The Draft EIR assesses service capacity and demands for these services in Sections 3.12, Public Services and Recreation, and 3.14, Utilities. There are not any service

deficiencies noted by the City of Stockton, or contained within this EIR that are anticipated to occur after installation of infrastructure and payment of fees. See Section 3.12, Public Services and Recreation, for more information. The proposed annexation area is within the Stockton Water Service Area boundary and the Wastewater Service Area boundary as defined by LAFCo and the City. It is also noted that a City Services Plan would be required and prepared for the Project to ensure services are available. The Services Plan would be submitted with the LAFCo annexation application for the Project.

3. *Contiguity*: The proposed annexation area is contiguous to the Stockton city limits along the eastern and western boundaries of the Project area.

4. *Development within Jurisdiction*: The proposed annexation area is within the SOI and lands within the Project area are designated for development under the General Plan. However, the Project site is currently in agricultural operation and agricultural resources are located adjacent to the proposed annexation area. Development of the proposed Project would result in the permanent conversion of 23.12 acres of Prime Farmland, 217.79 acres of Farmland of Statewide Importance, and 7.51 acres of Farmland of Local Importance, as shown in Table 3.2-5 and Figure 3.2-1, to non-agricultural use.

   The loss of Important Farmland as classified under the Farmland Mapping & Monitoring Program is considered a potentially significant environmental impact. Additionally, the Project site meets the Cortese-Knox-Hertzberg definition for prime agricultural land. This is the definition used by LAFCo in their consideration of the proposed annexation. No parcels within the Development Area are currently under a Williamson Act contract. However, a parcel located within the northwestern portion of the Project site (APN 084-050-03) is under a Williamson Act contract. As this parcel is located within the Project's Non-development Area, the parcel would not be converted from agricultural to urban uses under the proposed Project; however, annexation into the City would require the applicant to file a notice of nonrenewal for the Williamson Act contract parcel with the County. The City would then process the nonrenewal.

   It is noted that existing agricultural uses can continue to operate as legal nonconforming uses within the City of Stockton (see Chapter 16.228, non-conforming uses, structures, and parcels). The proposed annexation area is not designated by the City of Stockton for agricultural uses. However, the San Joaquin County General Plan designated the site for agricultural uses. The proposed Project would result in the development of existing open space lands for non-open space uses. The San Joaquin LAFCo does not impose agricultural mitigation requirements for the conversion of agricultural land to urban uses related to annexations or other applications.

   Impacts related to the development of existing open space lands were analyzed in the Stockton General Plan EIR. The General Plan EIR determined that impacts would be significant and unavoidable. According to the General Plan EIR, although City and County policies would support continued agricultural uses and would require urban development

to fund agricultural conservation easements and other programs, no additional feasible mitigation is available.

5. *Progressive Urban Pattern*: The proposed annexation area is within the SOI and is designated for urban development under the General Plan. The proposed Project would develop the proposed annexation area (adjacent to the Stockton city limits) and would continue the pattern of urbanization, including residential uses, that occurs within the City limits to the east (future) and west (existing) of the proposed annexation area.

6. *Piecemeal Annexation Prohibited*: Annexation of the Project area is contiguous with the city limits.

7. *Annexations to Eliminate Islands*: The proposed annexation includes lands contiguous with the current city limits and parcels within the SOI. Parcels proposed for annexation do not involve the elimination of islands. The Project would, however, create an island of unincorporated territory to the south of the site. This is discussed below.

8. *Annexations that Create Islands*: The proposed annexation includes lands contiguous with the current city limits and parcels within the SOI. Parcels proposed for annexation would involve the creation of an island of unincorporated territory to the south of the site. The pre-planning process for the proposed Project included meetings with Jim Glaser, former Executive Officer of the San Joaquin LAFCo, and JD Hightower, current Executive Officer of the San Joaquin LAFCo, to discuss the proposed annexation.

   Per LAFCo's recommendation, the Project applicant consulted with the owner of the property to the south, which would become an island of unincorporated territory upon annexation of the proposed Project site, to discuss potential annexation of the southern site to the City as part of the proposed Project. The owner of the parcel to the south of the Project site declined to join in the proposed annexation proposed by the Project. Jim Glaser and the Project applicant had several phone calls to further discuss the proposed annexation. A reasonable effort has been made to include the island in the annexation.

   During meetings with the applicant, Jim Glaser, former Executive Officer of the San Joaquin LAFCo, indicated that they supported the proposed annexation moving forward, even if it resulted in an unincorporated island. During meetings with the applicant, JD Hightower, current Executive Officer of the San Joaquin LAFCo, indicated that they also supported the proposed annexation.[1]

   As noted in this Policy, LAFCo may nevertheless approve such an annexation where it finds that the application of this policy would be detrimental to the orderly development of the

[1] Personal communication between Trevor Smith, TS Planning & Development, and Nicole Moore, City of Stockton. April 12, 2023.

community and that a reasonable effort has been made to include the island in the annexation but that inclusion is not feasible at this time.

9. *Substantially Surrounded*: As previously stated, the proposed annexation does not involve island annexation. Therefore, this policy is not relevant to the proposed annexation.

10. *Definite and Certain Boundaries*: The proposed annexation boundaries are definite and certain and conform to lines of ownership.

11. *Service Requirements*: As stated in this policy procedure, "an annexation shall not be approved merely to facilitate the delivery of one or a few services to the determent of the delivery of a larger number of services or service more basic to public health and welfare." The proposed annexation is not requested in order to facilitate the delivery of one or a few services to the determent of the delivery of a larger number of services, or service more basic to public health and welfare. As stated further in Section 3.12 (Public Services and Recreation) and Section 3.14 (Utilities), the City has adequate service capacity to serve the proposed Project without reducing the adequacy of services elsewhere. See Section 3.12 (Public Services and Recreation) for more information. Therefore, the proposed annexation is consistent with this policy.

12. *Adverse Impact of Annexation on Other Agencies*: This EIR includes an assessment of the impacts of the proposed Project and proposed annexation on service agencies. This Draft EIR concludes that the proposed Project would have significant and unavoidable impacts related to agricultural resources. The proposed residential development and the proposed annexation would not result in any significant, adverse impacts to any of the service agencies such that it would seriously impair operation.

13. *District's Proposal to Provide new, different, or Divestiture of a Particular Function or Class of Services*: This policy relates to proposals for new, different, or divestiture of services, which is not relevant to the proposed annexation.

16. *Disadvantaged Unincorporated Communities*: As stated in this policy procedure, "Disadvantaged Unincorporated Communities (DUCs) are those territories shown in Exhibit A or as may be shown in a city municipal service review and sphere of influence plan. The Commission shall not approve an annexation to a city or any territory greater than 10 acres where there exists a disadvantaged unincorporated community (DUC) that is contiguous to the area of proposed annexation, unless a concurrent application to annex all or a portion of the DUC to the subject city has been filed." The San Joaquin LAFCo does not currently maintain a list of DUCs in the Project area. However, the LAFCo does map unincorporated census tracts with median household incomes below 80%. According to the City of Stockton Sphere of Influence Plan/Municipal Service Review (2020), the Project area is not within or contiguous to an unincorporated census tract with median household incomes below 80%. The nearest unincorporated census tract with median household incomes below 80% is located approximately 0.47 miles or further west of the Project site.

It is also noted that the City of Stockton Housing Element identifies CalEnviroScreen percentiles in Figure HE-15. A disadvantaged community or environmental justice community (EJ Community) is identified by the California Environmental Protection Agency as "areas that are disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation," and may or may not have a concentration of low-income households, high unemployment rates, low homeownership rates, overpayment for housing, or other indicators of disproportionate housing need. As shown in Figure HE-15 of the Housing Element, CalEnviroScreen Percentiles, the primary indicators leading to the low scores outside of city limits to the south and west, as reported by CalEnviroScreen, are pesticides, groundwater threats, hazardous waste, impaired waters, and solid waste. Within the vicinity of the Project site, the unincorporated Census Tract 6077004102 adjacent north of the site has a CalEnviroScreen percentile of 72 percent.

Nevertheless, this adjacent area does not meet the San Joaquin LAFCo definition of a DUCs. Therefore, this policy is not relevant to the proposed annexation.

City Annexations

1. *Annexation of Streets*: The proposed annexations reflect the logical allocation of streets and rights of way to assure that the city reasonably assumes the burden of providing adequate roads to the property to be annexed.

2. *Pre-zoning Required*: The proposed Project includes the adoption of pre-zoning for the proposed annexation area, which will serve to regulate the uses of land and structures within the Project area. The City's pre-zoning will include the following zoning designations: RL, RM, RH, and PF. The Applicant is seeking a PURD Permit to introduce design deviations to the standards to allow for an alternative range of lot sizes. The planned development permit may adjust or modify, where necessary and justifiable, all applicable development standards (e.g., building envelope, off-street parking, street layout, etc.) contained within this Development Code. The proposed annexation is consistent with this policy.

The policies discussed above are intended to ensure orderly reorganization to local jurisdictional boundaries, including annexations. Ultimately, LAFCo will determine whether the proposed annexation would first require an update to the City of Stockton Sphere of Influence Plan/Municipal Service Review (2020) to approve the annexation. This LAFCo policy was not specifically adopted to avoid or mitigate an environmental effect, rather it is intended to ensure orderly and logical reorganization to local jurisdiction boundaries, including annexations. The proposed Project is generally consistent with LAFCo policies adopted to address environmental impacts. Section 3.2, Agricultural Resources, addresses impacts related to conversion of agricultural land and includes all feasible mitigation measures to reduce impacts to prime farmland. Nevertheless, annexation and subsequent urban development of the Project site will have a significant and unavoidable impact on prime farmland. This topic was analyzed as part of the City's General Plan Draft EIR, and ultimately the City approved land use designations that would allow for the conversion of the prime farmland

to an urban use. As such, implementation of the proposed Project will have a ***less than significant*** impact relative to this topic.

CONCLUSION

In conclusion, implementation of the proposed Project will have a ***less than significant*** impact relative to this topic.

Impact 3.10-3: The proposed Project would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure) (Less than Significant)

Section 15126.2(d) of the CEQA Guidelines requires that an EIR evaluate the growth-inducing impacts of a proposed action. A growth-inducing impact is defined by the CEQA Guidelines as:

> *The way in which a proposed Project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth…It is not assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment.*

Based on the CEQA Guidelines, growth inducement is any growth that exceeds planned growth of an area and results in new development that would not have taken place without implementation of the project. A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project, for example, involved construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it would involve a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services to support the new employment demand (*Napa Citizens for Honest Government v. Napa County Board of Supervisors* (2001) 91 Cal.App.4th 342). Similarly, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. A project providing an increased water supply or wastewater treatment/collection in an area where this service historically limited growth could be considered growth-inducing.

The State CEQA Guidelines further explain that the environmental effects of induced growth are considered indirect impacts of the proposed action. These indirect impacts or secondary effects of growth may result in significant, adverse environmental impacts. Potential secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, and adverse environmental impacts such as degradation of air and water quality, degradation or loss of plant and animal habitat, and conversion of agricultural and open space land to developed uses.

Growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans provide for land use development patterns and growth policies that allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service, and solid waste service.

COMPONENTS OF GROWTH

The timing, magnitude, and location of land development and population growth in a region are based on various interrelated land use and economic variables. Key variables include regional economic trends, market demand for residential and non-residential uses, land availability and cost, the availability and quality of transportation facilities and public services, proximity to employment centers, the supply and cost of housing, and regulatory policies or conditions. Since the general plan of a community defines the location, type, and intensity of growth, it is the primary means of regulating development and growth in California.

GROWTH EFFECTS OF THE PROJECT

Direct Population Growth: According to the Department of Finance population estimates for the year 2023, the population in Stockton is 319,731 people. The proposed Project would include the development of approximately 236.6-acres of land which will include: residential, parks, open space, public facilities, and public roadway right-of-way land uses. The proposed Project establishes a site for a 12.0-acre K-8 school to be developed by Lodi Unified School District (LUSD). The development of a K-8 school at this site is the discretionary decision of the LUSD, and while the proposed Project has planned for a school at this location, it will be determined by LUSD later through their decision-making process. If the LUSD decides to not pursue building a school at this site, then the site would be developed with 79 single family residential units. Construction of homes in this location would increase the number of units by 79 units when compared to the proposed Project with the school site. The total combined residential units would increase from 1,332 under the proposed Project to 1,411 units under this variation (i.e., no school). Using the most recent Department of Finance data (2023) for the average number of persons residing in a dwelling unit in the City of Stockton (3.13 persons per household), the Project could result in 4,169 to 4,416 residents.

The proposed Project would require a City of Stockton General Plan Amendment to the Land Use Element to reorganize land uses on the Project site. This reorganization of the General Plan Land Use Map land uses are largely a reorganization of the precise locations for each land use within the boundary of the Project site as opposed to land use changes. Figures 2.0-6-A and 2.0-6-B in Chapter 2.0 (Project Description) illustrate the proposed Stockton General Plan land uses with and without the school site. Table 3.10-4 summarizes the existing and proposed land use designations.

TABLE 3.10-4: COMPARISON OF EXISTING AND PROPOSED LAND USE DESIGNATIONS

LAND USE DESIGNATIONS	*EXISTING (ACRES)*	*PROPOSED (ACRES) WITH SCHOOL*	*DIFFERENCE*	*PROPOSED (ACRES) WITHOUT SCHOOL*	*DIFFERENCE*
Low Density Residential	126.4	78.0	-48.4	78.0	-48.4
Medium Density Residential	63.9	100.7	36.8	113.6	49.7
High Density Residential	19.4	9.5	-9.9	9.5	-9.9
Institutional	13.7	12.0	-1.7	--	-13.7
Parks and Recreation	12.9	12.0	-0.9	12.2	-0.7
Storm Basin	--	4.5	4.5	4.5	4.5
Open Space ("Wellness Walks" and Open Ditch); and Rights of Way	--	19.6	19.6	18.5	18.5
TOTAL	**236.3**	**236.3**	**0**	**236.3**	**0**

The Stockton General Plan designates land uses to ensure a balance between new residential development and jobs-creating uses and designates the Project site for urban uses, including residential, institutional, and parks and recreation. The proposed Project would not result in direct population growth beyond the City's capacity identified in the General Plan; rather, it would result in a reduction of the total number of units anticipated under the General Plan by approximately 662 to 741 units. The net population reduction associated with the reduction of units is anticipated to be 2,072 to 2,319 persons.

The proposed Project would not include upsizing of offsite infrastructure or roadways. The installation and sizing of new infrastructure would be limited to the needs of the proposed use. Additionally, the Project site is in the City limits and has City land use designations of Low Density Residential, Medium Density Residential, High Density Residential, Institutional, and Parks and Recreation; therefore, the potential employment growth associated with the proposed school site was considered as part of the City's General Plan and associated EIR process. The proposed Project would not induce substantial population growth in an area, either directly or indirectly.

The proposed Project would not result in direct population growth beyond the City's capacity that is planned in the General Plan.

Indirect Population Growth: As described above, projects that include employment-generating uses have the potential to result in indirect population growth through the creation of jobs or the extension of infrastructure into areas that were not previously served. Implementation of the Project would provide job growth to the area at the K-8 school. It is anticipated that local employment would be increased to provide administrative, facilities, and management services. The proposed Project is expected to require both full-time and part-time employees. It is anticipated that the employment growth would be met both by existing residents and through the attraction of new residents.

The Project may establish employment opportunities that can support the skilled and educated workforce of Stockton and the local area by dedicated a K-8 school site. If the school is not developed by the School District, fewer employment opportunities would result. The Stockton General Plan anticipated the Project site for Low Density Residential, Medium Density Residential, High Density Residential, Institutional, and Parks and Recreation uses. As discussed previously, the proposed Project would require a City of Stockton General Plan Amendment to the Land Use Element to change land uses on the Project site. Changes to the General Plan Land Use Map are largely a reorganization of the precise locations for each land use within the boundary of the Project site as opposed to land use changes. Figures 2.0-6-A and 2.0-6-B in Chapter 2.0 (Project Description) illustrate the proposed Stockton General Plan land uses with and without the school site. Table 3.10-4 summarizes the existing and proposed land use designations.

According to the City's General Plan EIR, the 2040 horizon-year projection for the General Plan includes the following:

- 40,900 new dwelling units
- 132,200 new residents
- 63,300 new jobs
- 13.8 million square feet of new commercial space and office space
- 35.6 million square feet of new industrial space

By comparison, SJCOG projects the following for the City of Stockton between 2015 and 2040:

- 41,030 new dwelling units
- 122,708 new residents
- 39,754 new jobs

The largely residential land uses proposed by the Project would be within the growth projections anticipated and analyzed in the General Plan EIR. Overall, the proposed Project is not anticipated to exceed the planned growth (directly or indirectly) in the area beyond what is anticipated in the City's General Plan or regional growth projections.

CONCLUSION

While the proposed Project will result in employment growth, it is not anticipated to significantly induce growth. Implementation of the proposed Project will have a ***less than significant*** impact relative to this topic.

Impact 3.10-4: The proposed Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere (No Impact)

The Project site currently contains agricultural operations and undeveloped land and does not contain any existing housing that would be displaced. Development of the site, as proposed, would

not displace substantial numbers of existing people or housing. As such, ***no impact*** would occur related to this topic.

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This section provides a general description of the existing noise sources in the Project vicinity, a discussion of the regulatory setting, and identifies potential noise impacts associated with the proposed Project. Project impacts are evaluated relative to applicable noise level criteria and to the existing ambient noise environment. Mitigation measures have been identified for significant noise-related impacts. This section is based in part on the following documents, reports, and studies:

- *Envision Stockton 2040 General Plan* (City of Stockton, December 2018);
- *Envision Stockton 2040 General Plan Update Draft Environmental Impact Report* (City of Stockton, June 2018); and
- *Environmental Noise Assessment, LeBaron Ranches Residential, City of Stockton, California* (Saxelby Acoustics, 2023) (see Appendix E).

There were no comments received during the public review period or scoping meeting for the Notice of Preparation regarding this topic.

3.11.1 ENVIRONMENTAL SETTING

KEY TERMS

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.
CNEL	Community noise equivalent level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
$L_{(n)}$	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L_{50} is the sound level exceeded 50 percent of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.

Noise Unwanted sound.

SEL Sound exposure levels. A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.

FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (DNL or L_{dn}) is based upon the average noise level over a 24-hour day, with a +10-decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.)

hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment. Table 3.11-1 lists several examples of the noise levels associated with common situations.

TABLE 3.11-1: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	*NOISE LEVEL (DBA)*	*COMMON INDOOR ACTIVITIES*
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. SEPTEMBER 2013.

EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a 1 dBA change cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING NOISE AND VIBRATION ENVIRONMENTS

Existing Noise Receptors

Some land uses are considered more sensitive to noise than others. Land uses often associated with sensitive receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise.

Sensitivity is a function of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities involved. In the vicinity of the Project site, sensitive land uses include existing single-family residential uses to the west, south, and northeast of the Project site as well as a church directly west of the Project site.

Existing Ambient Noise Levels

To quantify the existing ambient noise environment in the Project vicinity, a continuous (24-hour) noise level measurement was conducted at four locations on the Project site on August 25, 2022 and short-term noise level measurements at two locations on the Project site on August 24, 2022. The noise measurement locations are shown on Figure 3.11-1. The noise level measurement survey results are provided in Table 3.11-2. Appendix B of the Noise Assessment (Appendix E) shows the complete results of the noise monitoring.

The sound level meters were programmed to record the maximum, median, and average noise levels at each site during the survey. The maximum value, denoted L_{max}, represents the highest noise level measured. The average value, denoted L_{eq}, represents the energy average of all of the noise received by the sound level meter microphone during the monitoring period. The median value, denoted L_{50}, represents the sound level exceeded 50 percent of the time during the monitoring period.

TABLE 3.11-2: SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA

SITE	LOCATION	L_{DN}	AVERAGE MEASURED HOURLY NOISE LEVELS, dB					
			DAYTIME (7AM-10PM)			NIGHTTIME (10PM-7AM)		
			L_{EQ}	L_{50}	L_{MAX}	L_{EQ}	L_{50}	L_{MAX}
CONTINUOUS (24-HOUR) NOISE LEVEL MEASUREMENTS								
LT-1	100 feet to centerline of Lower Sacramento Rd.	65	60	59	74	59	51	75
LT-2	100 feet to centerline of West Ln.	69	68	59	84	61	51	79
LT-3	100 feet to centerline of Lower Sacramento Road	61	56	53	76	54	53	66
LT-4	100 feet to centerline of Eight Mile Road	61	56	53	76	54	53	66
SHORT-TERM NOISE LEVEL MEASUREMENTS								
ST-1	100 feet to CL of Lower Sacramento Road	N/A	58	56	70	N/A	N/A	N/A
ST-2	100 feet to CL of West Lane	N/A	65	61	76	N/A	N/A	N/A

SOURCE: SAXELBY ACOUSTICS, 2023.

EXISTING ROADWAY NOISE LEVELS

To predict existing noise levels due to traffic, the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. Traffic volumes for existing conditions were obtained from the traffic data prepared for the Project (WK Shijo Consulting, 2023). Truck usage and vehicle speeds on the local area roadways were estimated from field observations.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each Project-area roadway segment. Table 3.11-3 shows the existing traffic noise levels in terms of L_{dn} at closest sensitive receptors along each roadway segment. A complete listing of the FHWA Model input data is contained in Appendix C of the Noise Assessment (Appendix E).

TABLE 3.11-3: EXISTING TRAFFIC NOISE LEVELS AND DISTANCES TO CONTOURS

ROADWAY	SEGMENT	EXTERIOR TRAFFIC NOISE LEVEL, dB L_{DN}
Interstate 5	Eight Mile Road to SR 12	69.5
Interstate 5	Eight Mile Road to Hammer Lane	71.5
Eight Mile Road	Marlette Road to Lower Sacramento Road	61.2
Lower Sacramento Road	Eight Mile Road to Marlette Road	64.4
Lower Sacramento Road	Marlette Road to Grider Way	71.3
Eight Mile Road	West Lane to Leach Road	69.5
Morada Lane	West Lane to McNair Lane	50.6
Morada Lane	West Lane to Caywood Drive	65.9
State Route 99	Eight Mile Road to Armstrong Road	77.5
State Route 99	Eight Mile Road to Morada Lane	69.5

SOURCE: SAXELBY ACOUSTICS, 2023.

LODI AIRPARK NOISE

Lodi Airpark is located approximately 1.8 miles north of the northern Project site boundary. No aircraft overflights were observed during visits to the Project site. The site is generally located outside the airport noise contours. Figure 3.11-2 shows the noise contours for the airport as published in the San Joaquin County Council of Governments Project Review Guidelines for the Airport Land Use Commission.

3.11.2 REGULATORY SETTING

FEDERAL

There are no federal regulations related to noise that apply to the proposed Project.

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines, Appendix G, indicate that a significant noise impact may occur if a project exposes persons to noise or vibration levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels. CEQA standards are discussed more below under the Thresholds of Significance section.

State Building Code, Title 24, Part 2 of the State of California Code of Regulations

The State Building Code, Title 24, Part 2 of the State of California Code of Regulations, establishes uniform minimum noise insulation performance standards to protect persons within new buildings which house people, including hotels, motels, dormitories, apartment houses, and dwellings other than single-family dwellings. Title 24 mandates that interior noise levels attributable to exterior sources shall not exceed 45 dB L_{dn} or CNEL in any habitable room. Title 24 also mandates that for structures containing noise-sensitive uses to be located where the L_{dn} or CNEL exceeds 60 dB, an acoustical analysis must be prepared to identify mechanisms for limiting exterior noise to the prescribed allowable interior levels. If the interior allowable noise levels are met by requiring that windows be kept closed, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment.

LOCAL

Envision Stockton 2040 General Plan

The Envision Stockton 2040 General Plan contains the following policies and actions related to noise are applicable to the proposed Project.

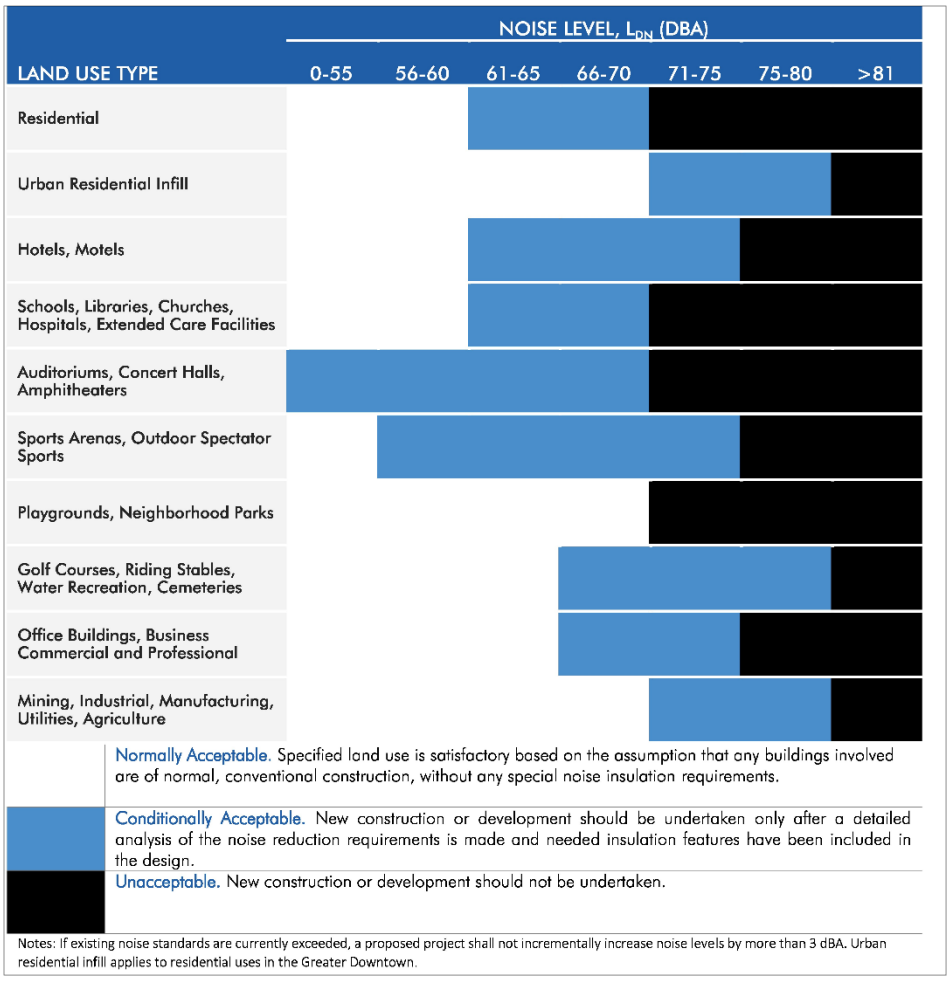
POLICY: SAFETY ELEMENT

- SAF-2.5: Protect the community from health hazards and annoyance associated with excessive noise levels.

ACTIONS: SAFETY ELEMENT

- SAF-2.5A: Prohibit new commercial, industrial, or other noise-generating land uses adjacent to existing sensitive noise receptors such as residential uses, schools, health care facilities, libraries, and churches if noise levels are expected to exceed 70 dBA Community Noise Equivalent (CNEL) (decibels on A-weighted scale CNEL) when measured at the property line of the noise sensitive land use.
- SAF-2.5B: Require projects that would locate noise sensitive land uses where the projected ambient noise level is greater than the "normally acceptable" noise level indicated on Table 5-1 [Table 3.11-4] to provide an acoustical analysis that shall:
    - Be the responsibility of the applicant;
    - Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics;
    - Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions;
    - Estimate existing and projected (20-year) noise levels in terms of L_{dn}/CNEL and compare the levels to the adopted noise policies and actions in this General Plan;
    - Recommend appropriate mitigation to achieve compatibility with the adopted noise policies and standards;
    - Where the noise source in question consists of intermittent single events, address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance;
    - Estimate noise exposure after the prescribed mitigation measures have been implemented;
    - If the project does not comply with the adopted standards and policies of this General Plan, provide acoustical information for a statement of overriding considerations for the project; and
    - Describe a post-project assessment program, which could be used to evaluate the effectiveness of the proposed mitigation measures.

TABLE 3.11-4: MAXIMUM ALLOWABLE NOISE EXPOSURE BY LAND USE



SOURCE: CITY OF STOCKTON GENERAL PLAN (PUBLISHED DECEMBER 4, 2018) TABLE 5-1.

- SAF-2.5C: Require noise produced by commercial uses to not exceed 75 dB L_{dn}/CNEL at the nearest property line.
- SAF-2.5D: Grant exceptions to the noise standards for commercial and industrial uses only if a recorded noise easement is conveyed by the affected property owners.
- SAF-2.5E: Require all new habitable structures to be set back from railroad tracks to protect residents from noise, vibration, and safety impacts.

City of Stockton Municipal Code

The City of Stockton Municipal Code Chapter 16, Development Code, contains performance standards for non-transportation noise sources, as shown in Table 3.11-5. Section 16.60, requires proposed noise sensitive land uses that will be impacted by existing land use-related noise sources be required to mitigate the noise levels from those noise sources so that the resulting noise levels on the proposed noise-sensitive land use(s) do not exceed the standards in Table 3-7, Part II (Table 3.11-5).

TABLE 3.11-5: STOCKTON MUNICIPAL CODE NOISE STANDARDS FOR NON-TRANSPORTATION NOISE

NOISE LEVEL DESCRIPTOR	*MAXIMUM ACCEPTABLE NOISE LEVEL*	
	DAYTIME (7 A.M. – 10 P.M.)	*NIGHTTIME (10 P.M. – 7 A.M.)*
Hourly L_{eq}, dBA	55	45
Maximum Level (L_{max}), dBA	75	65

*NOTE: * EACH OF THE NOISE LEVEL STANDARDS SPECIFIED ABOVE SHALL BE REDUCED BY 5 DBA FOR SIMPLE TONE, NOISE CONSISTING PRIMARILY OF SPEECH OR MUSIC, OR RECURRING IMPULSIVE NOISES.*
SOURCE: STOCKTON MUNICIPAL CODE, CHAPTER 16.

Section 16.60 requires noise attenuation (i.e. mitigation) where noise sensitive uses would be impacted. The noise attenuation must ensure that noise levels affecting the noise-sensitive use does not exceed the standards in Table 3-7, Part I (reproduced as Table 3.11-6 below).

TABLE 3.11-6: STOCKTON MUNICIPAL CODE NOISE STANDARDS FOR TRANSPORTATION NOISE

NOISE LEVEL DESCRIPTOR, DB	*MAXIMUM ACCEPTABLE NOISE LEVEL*	
	OUTDOOR ACTIVITY AREA	*INDOOR SPACES*
Residential (all types)	65	45
Child care	--	45
Educational facilities	--	45
Libraries and museums	--	45
Live-work facilities	65	45
Lodging	65	45
Medical services	--	45
Multi-use (with residential)	65	45

SOURCE: STOCKTON MUNICIPAL CODE, CHAPTER 16.

Activities exempt from noise regulations, exempts activities conducted on parks and playgrounds and school grounds, between 7:00 a.m. and 10:00 p.m., expect for additional hours that may be granted by the City Manager.

Additionally, Activities Deemed Violations of this Division, outlines construction noise and loading and unloading operational noise activities which violate the noise ordinance:

> Construction Noise. Operating or causing the operation of tools or equipment on private property used in alteration, construction, demolition, drilling, or repair work between the hours of 10:00 p.m. and 7:00 a.m., so that the sound creates a noise disturbance across a residential property line, except for emergency work of public service utilities.

San Joaquin County General Plan

Table PHS-2 of the San Joaquin County 2035 General Plan establishes an acceptable exterior noise level standard of 65 dBA L_{dn} and an interior noise level standard of 45 dBA L_{dn} for residential uses next to transportation noise sources. For non-transportation noise sources, the General Plan establishes the standards for sensitive uses. See Table 3.11-7. These standards are similar to the City's standards shown in Table 3.11-5 but are 5 dBA lower than the City's standards for daytime hours.

TABLE 3.11-7: SAN JOAQUIN COUNTY GENERAL PLAN NON-TRANSPORTATION NOISE STANDARDS

NOISE LEVEL DESCRIPTOR	*OUTDOOR ACTIVITY AREAS[1] DAYTIME[2] (7 A.M. TO 10 P.M.)*	*OUTDOOR ACTIVITY AREAS[1] NIGHTTIME[2] (10 P.M. TO 7 A.M.)*
Hourly equivalent sound level (L_{eq}), dB	50	45
Maximum sound level (L_{max}), dB	70	65

NOTES: THESE STANDARDS APPLY TO NEW OR EXISTING RESIDENTIAL AREAS AFFECTED BY NEW OR EXISTING NON-TRANSPORTATION SOURCES.

[1]WHERE THE LOCATION OF OUTDOOR ACTIVITY AREAS IS UNKNOWN OR IS NOT APPLICABLE, THE NOISE STANDARD SHALL BE APPLIED AT THE PROPERTY LINE OF THE RECEIVING LAND USE. WHEN DETERMINING THE EFFECTIVENESS OF NOISE MITIGATION MEASURES, THE STANDARDS SHALL BE APPLIED ON THE RECEIVING SIDE OF NOISE BARRIERS OR OTHER PROPERTY LINE NOISE MITIGATION MEASURES.

[2] REFER TO MOUNTAIN HOUSE MASTER PLAN, TABLE 11.2, EXTERIOR NOISE STANDARDS FOR NOISE-SENSITIVE USES AFFECTED BY NON- TRANSPORTATION NOISE SOURCES, PAGE 11.12, FOR MOUNTAIN HOUSE NOISE STANDARDS.

[3] EACH OF THE NOISE LEVEL STANDARDS SPECIFIED SHALL BE REDUCED BY 5 DB FOR IMPULSIVE NOISE, SINGLE TONE NOISE, OR NOISE CONSISTING PRIMARILY OF SPEECH OR MUSIC.

SOURCE: SAN JOAQUIN COUNTY GENERAL PLAN.

San Joaquin County Development Regulations

The San Joaquin County Development Regulations, Section 9-1025.9(b), establishes land use noise level standards for new non-transportation or "stationary" noise sources, such as HVAC systems, generators, compressors, etc. that are more common in industrial or commercial areas. These stationary noise sources are typically attached to a building, or located on a site in a fixed location and can create a constant or periodic noise from that fixed location. The regulations for stationary sources of noise are outlined below.

9-1025.9(B) – STATIONARY NOISE SOURCES.

Proposed projects that will create new stationary noise sources shall be required to mitigate the noise levels from these stationary noise sources so as not to exceed the noise level standards specified in Table 9-1025.9(b), Part II (Table 3.11-8).

TABLE 3.11-8: SAN JOAQUIN COUNTY STATIONARY NOISE SOURCE STANDARDS

NOISE LEVEL DESCRIPTOR	*OUTDOOR ACTIVITY AREAS[1] DAYTIME[2] (7 A.M. TO 10 P.M.)*	*OUTDOOR ACTIVITY AREAS[1] NIGHTTIME[2] (10 P.M. TO 7 A.M.)*
Hourly equivalent sound level (L_{eq}), dB	50	45
Maximum sound level (L_{max}), dB	70	65

NOTES: [1]WHERE THE LOCATION OF OUTDOOR ACTIVITY AREAS IS UNKNOWN OR IS NOT APPLICABLE, THE NOISE STANDARD SHALL BE APPLIED AT THE PROPERTY LINE OF THE RECEIVING LAND USE. WHEN DETERMINING THE EFFECTIVENESS OF NOISE MITIGATION MEASURES, THE STANDARDS SHALL BE APPLIED ON THE RECEIVING SIDE OF NOISE BARRIERS OR OTHER PROPERTY LINE NOISE MITIGATION MEASURES.

[2]EACH OF THE NOISE LEVEL STANDARDS SPECIFIED SHALL BE REDUCED BY 5 DB FOR IMPULSIVE NOISE, SINGLE TONE NOISE, OR NOISE CONSISTING PRIMARILY OF SPEECH OR MUSIC.

(ORD. 3675; ORD. 4036 § 2(PART), 1999)

SOURCE: SAN JOAQUIN COUNTY DEVELOPMENT REGULATIONS.

VIBRATION STANDARDS

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of amplitude and frequency. A person's perception to vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

The City of Stockton does not have specific policies pertaining to vibration levels. However, Stockton Municipal Code Section 16.32.100 includes qualitative benchmarks for reducing vibration effects within Stockton. Land uses that generate vibrations may not generate ground vibration that is perceptible without instruments by the average person at any point along or beyond the property line of the parcel containing the activities. Such uses also may not generate vibrations that cause discomfort or annoyance to reasonable persons of normal sensitivity or that endangers the comfort, repose, health, or peace of residents whose property abuts the use. Vibrations from temporary construction and demolition activities are exempt from the provisions of this section, as are vehicles that leave the subject parcel (e.g., trucks, trains, and aircraft).

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 3.11-9 indicates that the threshold for damage to structures ranges from 0.2 to 0.6 peak particle velocity in inches per second (in/sec p.p.v). A threshold of 0.20 in/sec p.p.v. is considered to be a reasonable threshold for short-term construction projects.

TABLE 3.11-9: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

P.P.V.		*HUMAN REACTION*	*EFFECT ON BUILDINGS*
MM/SEC.	*IN./SEC.*		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage

P.P.V.		HUMAN REACTION	EFFECT ON BUILDINGS
MM/SEC.	IN./SEC.		
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage.

SOURCE: CALTRANS. TRANSPORTATION RELATED EARTHBORN VIBRATIONS. TAV-02-01-R9601 FEBRUARY 20, 2002.

3.11.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Project will have a significant impact related to noise if it will result in:

- Generation of a temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Generation of excessive groundborne vibration or groundborne noise levels; and/or
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

Determination of a Significant Increase in Noise Levels

TEMPORARY CONSTRUCTION NOISE IMPACTS

With temporary noise impacts (construction), identification of "substantial increases" depends upon the duration of the impact, the temporal daily nature of the impact, and the absolute change in decibel levels. Per the City of Stockton Municipal Code SMC 16.60.030, construction activities are prohibited between 10:00 p.m. and 7:00 a.m. Per the County of San Joaquin Municipal Code, construction noise is prohibited between the hours of 9:00 p.m. and 6:00 a.m. any day and would be considered a significant impact.

The City has not adopted any formal standard for evaluating temporary construction noise which occurs within allowable hours. For short-term noise associated with Project construction, the Caltrans threshold of an increase criteria of 12 dBA (Caltrans Traffic Noise Protocol, 2020), applied to existing residential receptors in the Project vicinity is used. This level of increase is approximately equivalent to a doubling of sound energy and has been the standard of significance for Caltrans projects at the State level for many years. Application of this standard to construction activities is considered reasonable considering the temporary nature of construction activities.

OPERATIONAL IMPACTS

The noise standards applicable to the Project include the relevant portions of the City of Stockton and County of San Joaquin General Plan and Municipal Code described in the Regulatory Setting section above (Section 3.11.2), and the following standards. Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in traffic noise from the project is a factor in determining significance. Research into the human perception of changes in sound level indicates the following:

- A 3-dB change is barely perceptible,
- A 5-dB change is clearly perceptible, and
- A 10-dB change is perceived as being twice or half as loud.

A limitation of using a single noise level increase value to evaluate noise impacts is that it fails to account for pre-project noise conditions. Table 3.11-10 is based upon recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{dn}.

TABLE 3.11-10: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE

AMBIENT NOISE LEVEL WITHOUT PROJECT, L_{dn}	*INCREASE REQUIRED FOR SIGNIFICANT IMPACT*
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>60 dB	+1.5 dB or more

SOURCE: FEDERAL INTERAGENCY COMMITTEE ON NOISE (FICON).

Based on the Table 3.11-10 data, an increase in the traffic noise level of 5 dB or more would be significant where the pre-project noise levels are less than 60 dB L_{dn}, or 3 dB or more where existing noise levels are between 60 to 65 dB L_{dn}. Extending this concept to higher noise levels, an increase in the traffic noise level of 1.5 dB or more may be significant where the pre-project traffic noise level exceeds 65 dB L_{dn}. The rationale for the Table 3.11-10 criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause annoyance.

IMPACTS AND MITIGATION MEASURES

Impact 3.11-1: The proposed Project has the potential to generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (Less than Significant with Mitigation)

TRAFFIC NOISE ENVIRONMENT AT OFF-SITE RECEPTORS

Implementation of the proposed Project would result in an increase in daily traffic volumes on the local roadway network, and consequently, an increase in noise levels from traffic sources along affected segments. Tables 3.11-11 and 3.11-12 show the predicted traffic noise level increases on the local roadway network for Existing, Existing Plus Project, Cumulative No Project, and Cumulative Plus Project conditions. Appendix C of the Noise Assessment (Appendix E) provides the complete inputs and results of the FHWA traffic noise modeling.

TABLE 3.11-11: EXISTING AND EXISTING PLUS PROJECT TRAFFIC NOISE LEVELS

		NOISE LEVELS (L_{DN}, dB) AT NEAREST SENSITIVE RECEPTORS				
ROADWAY	*SEGMENT*	*EXISTING*	*EXISTING + PROJECT*	*CHANGE*	*CRITERIA*	*SIGNIFICANT?*
Interstate 5	Eight Mile Road to SR 12	69.7	69.7	0.0	+ 3 dB	No
Interstate 5	Eight Mile Road to Hammer Lane	72.1	72.1	0.0	+ 3 dB	No
Eight Mile Road	Marlette Road to Lower Sacramento Road	62.5	62.6	0.1	+ 3 dB	No
Lower Sacramento Road	Eight Mile Road to Marlette Road	65.0	65.1	0.1	+ 3 dB	No
Eight Mile Road	West Lane to Leach Road	71.4	71.8	0.4	+ 3 dB	No
Morada Lane	West Lane to McNair Lane	50.6	50.7	0.1	+ 3 dB	No
Morada Lane	West Lane to Caywood Drive	65.8	66.3	0.5	+ 3 dB	No
State Route 99	Eight Mile Road to Armstrong Road	77.7	77.7	0.0	+ 3 dB	No
State Route 99	Eight Mile Road to Morada Lane	70.0	70.0	0.0	+ 3 dB	No

SOURCE: SAXELBY ACOUSTICS. 2023.

TABLE 3.11-12: CUMULATIVE AND CUMULATIVE PLUS PROJECT TRAFFIC NOISE LEVELS

		NOISE LEVELS (L_{DN}, dB) AT NEAREST SENSITIVE RECEPTORS				
ROADWAY	*SEGMENT*	*CUMULATIVE*	*CUMULATIVE + PROJECT*	*CHANGE*	*CRITERIA*	*SIGNIFICANT?*
Interstate 5	Eight Mile Road to SR 12	70.4	70.4	0.0	+ 3 dB	No
Interstate 5	Eight Mile Road to Hammer Lane	72.2	72.3	0.1	+ 3 dB	No
Eight Mile Road	Marlette Road to Lower Sacramento Road	62.5	62.6	0.1	+ 3 dB	No
Lower Sacramento Road	Eight Mile Road to Marlette Road	65.1	65.2	0.1	+ 3 dB	No
Lower Sacramento Road	Marlette Road to Grider Way	72.3	72.4	0.1	+ 3 dB	No
Eight Mile Road	West Lane to Leach Road	71.6	71.7	0.1	+ 3 dB	No
Morada Lane	West Lane to McNair Lane	56.8	56.8	0.0	+ 3 dB	No

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN}, dB) AT NEAREST SENSITIVE RECEPTORS				
		CUMULATIVE	CUMULATIVE + PROJECT	CHANGE	CRITERIA	SIGNIFICANT?
Morada Lane	West Lane to Caywood Drive	67.0	67.4	0.4	+ 3 dB	No
State Route 99	Eight Mile Road to Armstrong Road	78.4	78.4	0.0	+ 3 dB	No
State Route 99	Right Mile Road to Morada Lane	70.7	70.7	0.0	+ 3 dB	No

SOURCE: SAXELBY ACOUSTICS. 2023.

Based upon the Table 3.11-10 FICON criteria, where existing traffic noise levels are greater than 65 dBA L_{dn} at the outdoor activity areas of noise-sensitive uses, a +1.5 dBA L_{dn} increase in roadway noise levels will be considered significant. Where traffic noise levels are between 60 dBA L_{dn} and 65 dBA L_{dn}, a +3.0 dB L_{dn} increase in roadway noise levels will be considered significant. Where traffic noise levels are less than 60 dBA L_{dn}, a +5.0 dB L_{dn} increase in roadway noise levels will be considered significant.

According to Tables 3.11-11 and 3.11-12, the maximum increase in traffic noise at the nearest sensitive receptor is predicted to be 0.5 dBA, which is less than the minimum significance threshold of +1.5 dB. Therefore, impacts resulting from increased traffic noise would be considered ***less-than-significant*** and no mitigation is required.

OPERATIONAL NOISE AT EXISTING SENSITIVE RECEPTORS

Traffic circulation and residential HVAC noise are considered to be the primary noise sources for high density residential uses. The Project is projected to generate 1,308 daily trips with 99 trips in the afternoon peak hour (WK Shijo Consulting, 2023). The analysis assumes that two (2) of the peak hour trips could be heavy trucks (i.e. delivery trucks). Parking lot movements are predicted to generate a SEL of 71 dBA SEL at 50 feet for passenger vehicles and 85 dBA SEL at 50 feet for heavy trucks. Nighttime traffic outside of the a.m. or p.m. peak hour is estimated to be approximately 1/4 of daytime trips during nighttime hours (10:00 p.m. to 7:00 a.m.). The analysis assumes that each high-density residential unit (194 high density residential units total) would have a single three-ton HVAC condenser. The units were assumed to have a sound level rating of 70 dBA, based on the manufacturers data. Steady state HVAC noise does not fluctuate greatly, so exceedances of the City's maximum noise level standard are not predicted to occur.

Saxelby Acoustics used the SoundPLAN noise prediction model. Inputs to the model included sound power levels for the noise-generating sources, existing and proposed buildings, terrain type, and locations of sensitive receptors. Figure 3.11-3 shows the noise level contours resulting from operation of the proposed high density residential.

As shown on Figure 3.11-3, the Project is predicted to expose nearby residences to the west to noise levels up to 39 dBA L_{eq} during both daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) hours. The predicted project noise levels would meet the City of Stockton nighttime stationary noise level standard of 45 dBA L_{eq}.

It should be noted that maximum noise levels generated by the high-density residential HVAC units and on-site vehicle circulation are predicted to be 20 dBA, or less, than the average (L_{eq}) values. The City of Stockton maximum (L_{max}) nighttime noise level standard is 65 dBA L_{max}, which is 20 dBA higher than the L_{eq} standard. Therefore, where average noise levels are in compliance with the L_{eq} standards, maximum noise levels will also meet the City's standards. Based upon the predicted average noise level of 39 dBA, the maximum noise level will be 59 dBA and comply with the City maximum standards. This is a ***less-than-significant*** impact, and no mitigation is required.

CONSTRUCTION NOISE

During the construction phases of the Project, noise from construction activities would add to the noise environment in the immediate project vicinity. As indicated in Table 3.11-13, activities involved in construction would generate maximum noise levels ranging from 76 to 90 dBA L_{max} at a distance of 50 feet. Construction activities would also be temporary in nature and are anticipated to occur during normal daytime working hours. The City of Stockton Development Code prohibits construction noise between the hours of 10:00 p.m. to 7:00 a.m.

TABLE 3.11-13: CONSTRUCTION EQUIPMENT NOISE

EQUIPMENT	*QUANTITY*
Auger Drill Rig	84
Backhoe	78
Compactor	83
Compressor (air)	78
Concrete Saw	90
Dozer	82
Dump Truck	76
Excavator	81
Generator	81
Jackhammer	89
Pneumatic Tools	85

SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006.

Caltrans defines a significant increase due to noise as an increase of 12 dBA over existing ambient noise levels; Saxelby Acoustics used this criterion to evaluate increases due to construction noise associated with the Project. As shown in Table 3.11-13, construction equipment is predicted to generate noise levels of up to 90 dBA L_{max} at 50 feet. Construction noise is evaluated as occurring at the center of the site to represent average noise levels generated over the duration of construction across the project site. The nearest sensitive uses are residential uses located approximately 2,130 feet to the west as measured from the center of the construction area. At this distance, maximum construction noise levels would be up to 57 dBA. From the center of the high-density residential development area, which may be developed separately from the single-family residential component of the Project, the nearest sensitive receptors are located 425 feet to the west. At this distance, maximum construction noise levels would be up to 67 dBA. Average daytime maximum noise levels of up to 74 dBA were measured in the vicinity of the nearby sensitive receptors.

Therefore, project construction would not cause an increase of greater than 12 dBA at the nearby sensitive receptors.

Noise would also be generated during the construction phase by increased truck traffic on area roadways. A project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from the construction site. This noise increase would be of short duration and would occur during daytime hours.

Although construction activities are temporary in nature and would occur during normal daytime working hours, construction-related noise could result in sleep interference at existing noise-sensitive land uses in the vicinity of the construction if construction activities were to occur outside the normal daytime hours. Therefore, impacts resulting from noise levels temporarily exceeding the threshold of significance due to construction would be considered potentially significant. Compliance with the City's permissible hours of construction, as well as implementing the best management noise reduction techniques and practices (both outlined in Mitigation Measure 3.11-1), would ensure that construction noise would not result in a substantial temporary increase in ambient noise levels that would result in annoyance or sleep disturbance of nearby sensitive receptors. Therefore, with implementation of Mitigation Measure 3.11-1, temporary construction noise impacts would be ***less-than-significant***.

MITIGATION MEASURE(S)

Mitigation Measure 3.11-1: *To reduce potential construction noise impacts during Project construction, the following multi-part mitigation measure shall be implemented for the Project:*

- *All construction equipment powered by internal combustion engines shall be properly muffled and maintained.*
- *Quiet construction equipment, particularly air compressors, shall be selected whenever possible.*
- *All stationery noise-generating construction equipment such as generators or air compressors shall be located as far as is practical from existing residences. In addition, the Project contractor shall place such stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project site.*
- *Unnecessary idling of internal combustion engines shall be prohibited.*
- *The construction contractor shall, to the maximum extent practical, locate on-site equipment staging areas so as to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all Project construction.*
- *Construction shall be limited to 7:00 a.m. to 10:00 p.m.*
- *Staging areas on the Project site shall be located in areas that maximize, to the extent feasible, the distance between staging activity and sensitive receptors.*

These requirements shall be noted on the Project improvement plans as part of the submittal for grading or building permit, whichever shall occur first, to the City of Stockton Building and Life Safety Division.

Impact 3.11-2: The proposed Project would not generate excessive groundborne vibration or groundborne noise levels. (Less than Significant)

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural damage.

The primary vibration-generating activities would be grading, utilities placement, and parking lot construction. Table 3.11-14 shows the typical vibration levels produced by construction equipment.

TABLE 3.11-14: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT

TYPE OF EQUIPMENT	P.P.V. AT 25 FEET (INCHES/SECOND)	P.P.V. AT 50 FEET (INCHES/SECOND)	P.P.V. AT 100 FEET (INCHES/SECOND)
Large Bulldozer	0.089	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Small Bulldozer	0.003	0.001	0.000
Auger/drill Rigs	0.089	0.031	0.011
Jackhammer	0.035	0.012	0.004
Vibratory Hammer	0.070	0.025	0.009
Vibratory Compactor/roller	0.210 (Less than 0.20 at 26 feet)	0.074	0.026

SOURCE: TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES. FEDERAL TRANSIT ADMINISTRATION. MAY 2006.

The Table 3.11-14 data indicate that construction vibration levels anticipated for the Project are less than the 0.2 in/sec threshold at distances of 26 feet. Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located further than 26 feet from typical construction activities. At distances greater than 26 feet construction vibrations are not predicted to exceed acceptable levels. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours. Therefore, this is a ***less-than-significant*** impact, and no mitigation is required.

Impact 3.11-3: The proposed Project would not expose people residing or working in the Project area to excessive noise levels. (Less than Significant)

Lodi Airpark is located approximately 1.8 miles north of the northern Project site boundary. Noise contours for the airport as published in the San Joaquin County Council of Governments Project Review Guidelines for the Airport Land Use Commission.

As shown in Figure 3.11-2, the Project site is located approximately 1.6 miles outside of the predicted 55 dBA CNEL noise contour. Therefore, noise originating from aircraft will not be a major contributor to the transportation noise environment on site. This is a ***less-than-significant*** impact, and no mitigation is required.



LEGEND

- Project Site
- Noise Measurement Site - Long Term
- Noise Measurement Site - Short Term

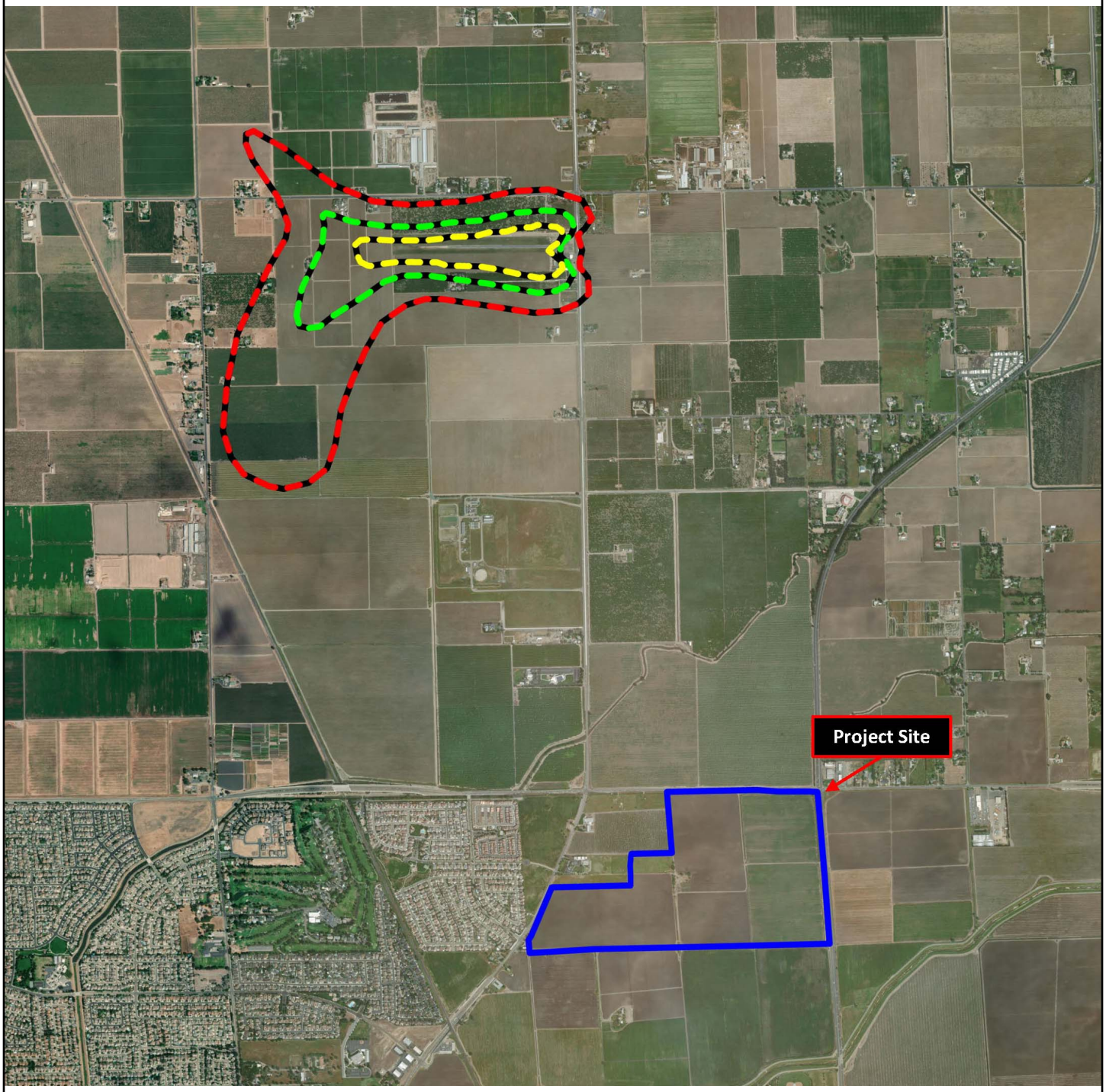
STOCKTON LEBARON RANCH

Figure 3.11-1. Noise Measurement Locations

Sources: Saxelby Acoustics. Map date: November 28, 2023.

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LEGEND

- Project Site
- Noise Contour - 55 dBA
- Noise Contour - 60 dBA
- Noise Contour - 65 dBA

STOCKTON LEBARON RANCH

Figure 3.11-2. Lodi Airpark Noise Level Contours

Sources: Saxelby Acoustics. Map date: November 28, 2023.

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LEGEND

45 <		<=	46
46 <		<=	47
47 <		<=	48
48 <		<=	49
49 <		<=	50
50 <			

Project Site

STOCKTON LEBARON RANCH

Figure 3.11-3 Stationary Noise Grid Map

Sources: Saxelby Acoustics. Map date: November 28, 2023.

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This section describes and evaluates potential impacts associated with the provision of police protection, fire protection and emergency services, parks and recreation, schools, and other public facilities for the proposed Project. The information in this section is primarily derived from the following:

- *Envision Stockton 2040 General Plan* (City of Stockton, 2018);
- *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* (City of Stockton, 2018); and
- *City of Stockton Sphere of Influence Plan/Municipal Service Review, San Joaquin Local Agency Formation Commission Final Draft* (City of Stockton, 2020).

No comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic.

3.12.1 ENVIRONMENTAL SETTING

SAN JOAQUIN COUNTY SERVICES

San Joaquin County Sheriff Department

The San Joaquin County Sheriff's Department provides law enforcement services to the unincorporated areas within Stockton's SOI. The primary divisions and services within the Sheriff's Department include:

- Custody Division;
- Patrol Division;
- Investigation Division;
- Unified Court Services Division; and
- Professional Standards Division (City of Stockton, 2020).

The San Joaquin County Sheriff's Department serves over 750,000 residents in San Joaquin County and has a staff of over 800 personnel (San Joaquin County Sheriff, 2023). The San Joaquin County Sheriff facility is located at 7000 Michael Canlis Boulevard in French Camp, approximately 11 miles south of the Project site. This location houses all the Sheriff divisions. The Sheriff's Department holds an average response time of 22 minutes per service call overall. The San Joaquin County Sheriff's Department maintains patrol staffing levels of one to two officers in the general Project area at all times.

San Joaquin County Parks and Recreational Facilities

San Joaquin County owns and operates nine parks in the City of Stockton and SOI area. The nearest regional park to the Project site is Oak Grove Regional Park, located approximately 2.6 miles west of the Project site. The 180-acre park is designed to serve the City's entire population and the greater Stockton region. includes a wide variety of recreation opportunities and amenities, centered around

a 10-acre lake and open fields. The park has a nature center that offers education programs and exhibits that detail the flora and fauna native to the San Joaquin Valley. There are two nature trails within the park, a 1.5-mile walk among old grove trees and another quarter-mile handicapped-accessible trail. Recreational amenities such as an 18-hole disc golf course, children's playgrounds, a boat house, and a youth camping ground are available for residents to use. Additionally, outdoor picnic shelters, barbeque grills, and horseshoe pits are available for passive use of the park. The County has no plans for construction of additional regional parks or other parks in the vicinity of the Project site. The County General Plan shows no new regional parks are planned in the Stockton vicinity.

CITY OF STOCKTON SERVICES

The City of Stockton receives funds for the provision of public services through development fees, property taxes, and connection and usage fees. As land is developed within the City, these fees apply. The City of Stockton reviews these fee structures on an annual basis to ensure that they provide adequate financing to cover the provision of city services. The City undertakes long-range planning programs to better plan and budget for needed improvements to services and facilities. The City also conducts a visioning process, in which departments identify staffing, technology, and facility needs for a three-year period, as well as savings and efficiency ideas. The City maintains a comprehensive and long-term forecast for the City's General Fund, referred to as the Long-Range Financial Plan (L-RFP). The L-RFP provides a 20-year forecast for planning and budgeting.

The following public services are expected to be provided to the Project:

- General Government Services: City of Stockton
- Animal Control: City of Stockton
- Road Maintenance: City of Stockton
- Police Protection: Stockton Police Department
- Fire Protection: Stockton Fire Department (SFD)
- Parks and Recreation: City of Stockton
- Schools: Lodi Unified School District (LUSD)
- Libraries: City of Stockton

City of Stockton Police Department

Law enforcement services for the City of Stockton are provided by the Stockton Police Department. The Stockton Police Department service area covers over 65 square miles. The average response time to in-progress life threatening emergencies is between three (3) and five (5) minutes. Depending on the nature of the call, the time of day, the location, and the number of on-duty personnel, response times to non-emergency calls can exceed 25 minutes. The Stockton Police Department serves the area of the City limits, while the San Joaquin County Sheriff's Department serves all adjacent unincorporated areas within the Stockton Sphere of Influence (City of Stockton,

2020). Through a mutual aid agreement, each of these Departments can call upon the other jurisdiction to provide service when requested.

Stockton's Police Department consists of 485 sworn police officers and 227 civilian staff. Stockton's 2019 population was approximately 316,400, which resulted in a ratio of 1.533 sworn staff per 1,000 residents (City of Stockton, 2020). This ratio exceeds the City's General Plan Safety Element minimum standard of 1.5 sworn officers per 1,000 residents. Although the Stockton General Plan states that the City strives to achieve a ratio of 1.5 sworn officers per 1,000 population, staffing levels in the City of Stockton ultimately are determined each year by the City Council in consultation with the City Manager and Chief of Police based on the needs of the City. The City's goal is to respond to all priority one emergency calls within an average of five (5) -minutes or less.

The Police Department has both traditional and specialized transportation equipment that it uses to conduct patrols, respond to emergencies, and provide programs. The transportation types include bicycle (16 units), marked vehicles (217 units), unmarked vehicles (208 units), motorcycles (27 units), animal control (8 units), and miscellaneous (9 units) (City of Stockton, 2020).

The Stockton Police Department is organized into two bureaus, Logistics and Operations, and five divisions, including Administrative Services, Field Operations Investigations, Special Operations, and Technical Services. Divisions are coordinated out of two (2) facilities: the Headquarters, located at 22 E. Weber Avenue, and Operations, located at 22 E. Market Street (City of Stockton, 2020).

The Police Department management team consists of the Chief of Police, who oversees Professional Standards, Fiscal Affairs and Planning, and Public Information Sections, an Assistant Chief of Police (currently vacant), and two Deputy Chiefs of Police, each overseeing a bureau, and five Police Captains, each overseeing a division (City of Stockton, 2020).

Table 3.12-1 shows the recent crime statistics for the City of Stockton between 2016 and 2019.

TABLE 3.12-1: STOCKTON CRIME STATISTICS (2016-2019)

CATEGORY/CRIME	*2016*	*2017*	*2018*	*2019*
Total Violent Crimes	4,316	4,379	4,383	4,380
Homicide	50	55	33	34
Rape	114	154	193	181
Robbery	1,156	1,208	1,205	1,158
Assault	2,996	2,962	2,952	3,007
Total Property Crimes	11,824	11,229	11,800	12,367
Burglary	2260	2,140	2,329	2,209
Motor Vehicle Theft	1,666	2,049	2,054	1,678
Larceny	7898	7,040	7,417	8,480
Arson	84	208	191	128

SOURCE: FBI CRIME STATISTICS, TABLE 8, 2016, 2017, 2018 AND 2019.

Stockton Fire Department

The SFD serves the City of Stockton and its surrounding unincorporated area. The SFD provides service to a 91-square-mile area serving a population of approximately 336,000 people within the City of Stockton and the Boggs Tract, Lincoln, Eastside, and Tuxedo-Country Club Fire Protection Districts. The SFD is comprised of 187 sworn fire personnel and 46 civilian personnel (City of Stockton, 2023).

The SFD consists of six operational divisions: Administration, Operations, Fire Prevention, Training, Communications/Dispatch, and Emergency Medical Services. The Department is led by a Fire Chief, who reports to the City Manager's Office (City of Stockton, 2022A). Each division is managed by a Deputy Chief or Division Chief (City of Stockton, 2022B).

The City of Stockton provides contractual fire services to the Boggs, Tract Eastside, Lincoln, and Tuxedo-Country Club Fire Protection Districts. These districts cover unincorporated areas in Stockton's SOI, and Boggs tract and Country Club are entirely within Stockton's SOI. These districts pay for services based on the proportion of the cost for fire service as calculated by the ratio of assessed property value in the districts to the total assessed property value in the City (City of Stockton, 2020). In addition, The SFD provides emergency response services within the City limits and to four adjoining county fire districts (Boggs, Tract, Tuxedo-Country Club, Eastside, and Lincoln Fire Protections Districts). In 2022, SFD received 168,000 calls for services and responded to 44,665 emergency incidents including 17,935 EMS emergencies and 4,658 fire (City of Stockton, 2023). The Project site is located within the Lincoln Rural County Fire Protection District, which provides fire service to several unincorporated islands within the City, and to the area north of Eight Mile Road. The total service area of the District is approximately 8,083 acres (San Joaquin County LAFCO, 2023).

The SFD has 13 fire stations located throughout the City with daily staffing levels of three-person fire engine companies, three four-person truck companies, two battalion chiefs and one chief's operator (City of Stockton, 2023). In addition, the SFD has access to 7,000 hydrants located in key places to provide adequate water for the surrounding development (City of Stockton, 2020). Each fire station has one fire engine and the truck companies are located at Stations 2, 3, and 4. Training Division and Communications Division are located at Station 2, the central fire station. Hazardous Material Team is staffed by Station 3, and Urban Search and Rescue Team is staffed by Station 2 (City of Stockton, 2022B). Table 3.12-2 lists the location and equipment/division for each fire station.

TABLE 3.12-2: FIRE STATIONS, EQUIPMENT, AND SERVICES

STATION	*LOCATION*	*DIVISIONS*
1	1818 S. Fresno Avenue	1 Engine
2	110 West Sonora Street	1 Engine; 1 Truck; Training Division; Communications Division; Urban Search and Rescue Team
3	1116 East First Street	1 Engine; 1 Truck; Hazardous Materials Response Unit
4	5525 Pacific Avenue	1 Engine; 1 Truck; Battalion Chief
5	3499 Manthey Road	1 Engine
6	1501 Picardy Lane	1 Engine; Water Rescue Unit; Swift Water & Dive Rescue Team

STATION	LOCATION	DIVISIONS
7	1767 West Hammer Lane	1 Engine
9	550 East Harding Way	1 Engine
10	2903 West March Lane	1 Engine
11	1211 East Swain Road	1 Engine
12	4010 East Main Street	1 Engine
13	3606 Hendrix Drive	1 Engine
14	3019 McNabb Place	1 Engine

SOURCE: CITY OF STOCKTON, 2022B.

The average total response times for all types of calls to the SFD are presented in Table 3.12-3, SFD Call Assignments. The average response time for all types of calls between the years 2015 and 2016 (the most recent data available), was five (5) minutes and 47 seconds. (City of Stockton, 2020).

TABLE 3.12-3: STOCKTON FIRE DEPARTMENT CALL ASSIGNMENTS

EMERGENCY	TYPICAL RESPONSE TEAM	AVERAGE RESPONSE TIME
Standard Structure Fire	4 Engines, 2 Trucks, 2 Battalion Chiefs, 1 Chief's Operator (One of the responding engines serves as a Rapid Intervention Team)	3-4 minutes
Still Alarms; vehicles, dumpsters, off-season grass, fire, etc.	1 engine	3-4 minutes
Fire season; grass fires	2 engines, 1 off-road grass rig	3-4 minutes
Hazardous materials incidences	1 engine, engine 3, truck 3, 1 battalion Chief, 1 Chief's Operator	4-10 minutes
Emergency Medical Services	Typically 1 engine or 1 truck 1, ambulance	4 minutes
Urban Search and Rescue	1 engine, engine 2, truck 2, 1 battalion chief, 1 Chief's Operator	4-6 minutes
Urban Search and Rescue (Confined Space)	1 engine, engine 2, truck 2, rescue 2, 1 battalion chief, 1 chief's operator, 1 ambulance, hazmat team	4-6 minutes
Water rescue	1 engine, water rescue 6, 1 battalion chief, truck 2, 1 ambulance 1 Emergency Medical Service Unit	5-10 minutes 10-20 outer districts
Auto accidents on high-speed streets and freeways	2 engines, 1 truck, 1 battalion chief, 1 ambulance, 1 emergency medical service unit	6 minutes

SOURCE: CITY OF STOCKTON, 2020; TABLE 5-5.

Fire protection services would be provided to the Project site by the SFD. The existing Fire Station 13, located on Hendrix Drive, would be the first response team for emergency calls within the Project site. Fire Station 13 is approximately 1.5 miles east of the Project site.

It is noted that fire service is currently provided by the Lincoln Rural Fire District. The proposed Project includes a detachment from that district during the annexation process.

ISO RATING

The Insurance Services Office (ISO) Public Protection Classification Program currently rates the Fire Department as 2 on a scale of 1 to 10, with 1 being the highest possible protection rating and 10 being the lowest. The ISO rating measures individual fire protection agencies against a Fire Suppression Rating Schedule, which includes such criteria as facilities and support for handling and dispatching fire alarms, first-alarm response and initial attack, and adequacy of local water supply for fire-suppression purposes. As of 2019, the Stockton's Fire Department ISO rating is a level 2 (City of Stockton, 2020).

City of Stockton Parks and Recreation Department

Parks and recreation services in the City of Stockton are provided by the Community Service Department, which operates 66 park facilities throughout the City that range in size from 2 to 64 acres, totaling to 625 developed park acres. These parks include both neighborhood and community parks, with each facility providing a range of recreational opportunities that includes picnic areas and sports facilities such as baseball, softball, tennis, handball, horseshoe, soccer, and multi-use courts (City of Stockton, 2022C).

Neighborhood parks are designed to serve as both the recreational and social focus of the neighborhood. Neighborhood parks are a minimum of five acres in size and serve up to a ½-mile radius. Neighborhood parks may include, but are not limited to, open grassy areas, basketball courts, tennis courts, playground and tot lot, picnic tables and small group picnic shelters, walking/jogging paths, and ornamental security lighting. Community parks are designed to meet the recreational needs of large sections of the community. Community parks are a minimum of 15 acres in size and serve up to a 1-mile radius. Community parks may include in addition to the features of neighborhood parks, but are not limited to, sports fields, handball courts, restroom facilities, and sports lighting.

The City of Stockton has a total of five community centers which all provide a variety of programs and services for residents of all ages. They include:

- Arnold Rue Community Center, 5758 Lorraine Avenue
- Stribley Community Center, 1760 E. Sonora Street,
- Van Buskirk Community Center, 734 Houston Avenue
- Seifert Community Center, 128 W. Benjamin Holt Drive (shared with Stockton Unified School District)
- Oak Park Senior Community Center, 730 E. Fulton Street

The City of Stockton General Plan establishes a service standard of one City-owned community center per 50,000 residents and one combined City-/School District-owned community center per 30,000 residents. The City is currently deficient in meeting its community center standard by about two (2) centers.

Recreational facilities include community centers, soccer and ball field complexes, swimming pools, and special event venues such as the Civic Auditorium, Weber Point Events Center, and Pixie Woods children's theme park. Some facilities and programs are operated by the City directly, some are jointly used with other agencies and others are contracted out to private and non-profit agencies for full or partial management. The Community Services Department oversees the City's golf course operations. Golf is offered to residents at the City's Swenson Golf Course (City of Stockton, 2022C).

Under the park standards outlined in the City's General Plan, the City aims to provide 2 acres of neighborhood parkland, 3 acres of community parkland, and 3 acres of regional parkland per 1,000 residents. With the existing population of 319,731 residents, the City is currently deficient in meeting its park service standards in all categories (DOF, 2023).

OTHER AGENCY SERVICES

Lodi Unified School District

The Project site is located within the Lodi Unified School District (LUSD). The LUSD enrolled 26,966 k-12 non-charter students for the 2022-2023 school year. The LUSD operates 48 school sites, including 33 elementary schools, six middle schools, four comprehensive high schools, and two continuation schools. The district boundary encompasses 350 square miles and spans the City of Lodi, the community of north Stockton, and the communities of Acampo, Clements, Lockeford, Victor, and Woodbridge.

The LUSD maintains an average teacher-to-student ratio of 1:20 for kindergarten grades, 1:24 for first to third grades, 1:30 for fourth to sixth grades, and 1:31 for seventh to twelve grades. The LUSD uses the following student generation rates: 0.281 for kindergarten to sixth grade, 0.080 for seventh to eighth grade, 0.162 for ninth to twelve grades, and 0.523 for all grades.

The development impact fee is the source of school capital improvement funding provided by new development. The LUSD is eligible to levy Level 1 development impact fees on new residential and commercial development. Development impact fees for LUSD are $3.48 per square foot of single-family residential development, and $0.56 per square foot of commercial development.

Table 3.13-4 shows the public schools and enrollment for the schools which serve the Project site.

TABLE 3.13-4: PUBLIC SCHOOLS SERVING THE PROJECT SITE

SCHOOL	*GRADES SERVED*	*ADDRESS*	*ENROLLMENT 2021-2022 SCHOOL YEAR*
Podesta Ranch Elementary	K-6	1301 S. Crescent Avenue, Lodi	380
Christa McAuliffe Middle	7-9	3880 Iron Canyon Circle, Stockton	618
Ronald E McNair High	9-12	9550 Ronald E. McNair Way, Stockton	1,846

SOURCE: CALIFORNIA DEPARTMENT OF EDUCATION. CALIFORNIA SCHOOL DASHBOARD, 2022.

Library Services

The Stockton-San Joaquin County Public Library system is operated by the City of Stockton and funded jointly by both the City and San Joaquin County. The system includes 13 branches, and a Mobile Library that aim to serve and enhance the lives of the nearly 700,000 residents of San Joaquin County. There are a total of eight libraries within City limits, three of which are in the downtown area. Capital costs of new library development are met through the City's Public Facilities Fee program (SSJCPL, 2023).

3.12.2 REGULATORY SETTING

STATE

Police Protection

There are no federal or state regulations related to police protection services applicable to the proposed Project.

Fire Protection and Emergency Response

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

In accordance with California Code of Regulations Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment" the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

EMERGENCY RESPONSE/EVACUATION PLANS

The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

CALIFORNIA BUILDING CODE & CALIFORNIA FIRE CODE

The California Building Code is a compilation of building standards, including fire safety standards for new buildings, which are provided in the California Fire Code. The California Fire Code is Chapter 9 of Title 24 of the California Code of Regulations. The California Fire Code provides regulations for safeguarding life and property from fire and explosion hazards derived from the storage, handling, and use of hazardous substances, materials, and devices. The provisions of this code apply to construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure or any appurtenance connected or attached to such building structures throughout the State.

CALIFORNIA HEALTH AND SAFETY CODE

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code. This includes regulations for building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 1710

The purpose of the National Fire Protection Association (NFPA) 1710 – Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments is to: contain minimum requirements relating to the organization and deployment of fire suppression operations, emergency medical operations, and special operations to the public by substantially all career fire departments; address functions and objectives of fire department emergency service delivery, response capabilities, and resources; contain general requirements for managing resources and systems, such as health and safety, incident management, training, communications, and pre-incident planning; and address the strategic and system issues involving the organization, operation, and deployment of a fire department and does not address tactical operations at a specific emergency incident. According to these guidelines, a career fire department needs to respond within six minutes, 90 percent of the time with a response time measured from the 911 call to the time of arrival of the first responder.

The standards are divided as follows:

- Dispatch time of one (1) minute or less for at least 90 percent of the alarms
- Turnout time of one (1) minute or less for EMS calls (80 seconds for fire and special operations response)
- Fire response travel time of four (4) minutes or less for the arrival of the first arriving engine company at a fire incident and eight (8) minutes or less travel time for the deployment of an initial full alarm assignment at a fire incident
- Eight (8) minutes or less travel time for the arrival of an advanced life support (ALS) (4 minutes or less if provided by the fire department

Parks/Recreation

QUIMBY ACT

The Quimby Act (California Government Code Section 66477) states that "the legislative body of a city or county may, by ordinance, require the dedication of land or impose a requirement of the payment of fees in lieu thereof, or a combination of both, for park or recreational purposes as a condition to the approval of a tentative or parcel map." Requirements of the Quimby Act apply only to the acquisition of new parkland and do not apply to the physical development of new park facilities or associated operations and maintenance costs. The Quimby Act seeks to preserve open space needed to develop parkland and recreational facilities; however, the actual development of parks and other recreational facilities is subject to discretionary approval and is evaluated on a case-by-case basis with new residential development. Refer to the *City of Stockton Municipal Code* discussion, below, regarding park land dedications and fees imposed by the City.

MITIGATION FEE ACT

The California Mitigation Fee Act, Government Code Sections 66000, et seq., allows cities to establish fees which would be imposed upon development projects for the purpose of mitigating the impact that the development projects have upon the city's ability to provide specified public facilities. In order to comply with the Mitigation Fee Act, the city must follow four primary requirements: 1) Make certain determinations regarding the purpose and use of a fee and establish a nexus or connection between a development project or class of project and the public improvement being financed with the fee; 2) Segregate fee revenue from the General Fund in order to avoid commingling of capital facilities fees and general funds; 3) For fees that have been in the possession of the city for five years or more and for which the dollars have not been spent or committed to a project, the city must make findings each fiscal year describing the continuing need for the money; and 4) Refund any fees with interest for developer deposits for which the findings noted above cannot be made.

Schools

CALIFORNIA CODE OF REGULATIONS

The California Code of Regulations, Title 5 Education Code, governs all aspects of education within the State.

CALIFORNIA DEPARTMENT OF EDUCATION

The California Department of Education (CDE) School Facilities Planning Division (SFPD) prepared a School Site Selection and Approval Guide that provides criteria for locating appropriate school sites in the State of California. School site and size recommendations were changed by the CDE in 2000 to reflect various changes in educational conditions, such as lowering of class sizes and use of advanced technology. The expanded use of school buildings and grounds for community and agency

joint use and concern for the safety of the students and staff members also influenced the modification of the CDE recommendations.

Specific recommendations for school size are provided in the School Site Analysis and Development Guide. This document suggests a ratio of 1:2 between buildings and land. CDE is aware that in several cases, primarily in urban settings, smaller sites cannot accommodate this ratio. In such cases, the SFPD may approve an amount of acreage less than the recommended gross site size and building-to-ground ratio.

Certain health and safety requirements for school site selection are governed by state regulations and the policies of the SFPD relating to:

- Proximity to airports, high-voltage power transmission lines, railroads, and major roadways;
- Presence of toxic and hazardous substances;
- Hazardous facilities and hazardous air emissions within one-quarter mile;
- Proximity to high-pressure natural gas lines, propane storage facilities, gasoline lines, pressurized sewer lines, or high-pressure water pipelines;
- Noise;
- Results of geological studies or soil analyses;
- Traffic and school bus safety issues.

LEROY F. GREENE SCHOOL FACILITIES ACT OF 1998 (SB 50)

The "Leroy F. Greene School Facilities Act of 1998," also known as Senate Bill No. 50 or SB 50 (Chapter 407, Statutes of 1998), governs a school district's authority to levy school impact fees. This comprehensive legislation, together with the $9.2 billion education bond act approved by the voters in November 1998 known as "Proposition 1A", reformed methods of school construction financing in California. SB 50 instituted a new school facility program by which school districts can apply for state construction and modernization funds. It imposed limitations on the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development and provided the authority for school districts to levy fees at three different levels:

- **Level I** fees are the current statutory fees allowed under Education Code 17620. This code section provides the basic authority for school districts to levy a fee against residential and commercial construction for the purpose of funding school construction or reconstruction of facilities. These fees vary by district for residential construction and commercial construction and are increased biannually.
- **Level II** fees are outlined in Government Code Section 65995.5, allowing school districts to impose a higher fee on residential construction if certain conditions are met. These conditions include having a substantial percentage of students on multi-track year-round scheduling, having an assumed debt equal to 15–30 percent of the district's bonding capacity (percentage is based on revenue sources for repayment), having at least 20 percent of the district's teaching stations housed in relocatable classrooms, and having placed a local bond on the ballot in the past four years which received at least 50 percent plus one of the votes cast. A Facility Needs Assessment must demonstrate the need for new school facilities

for unhoused pupils is attributable to projected enrollment growth from the construction of new residential units over the next five years.

- **Level III** fees are outlined in Government Code Section 655995.7. If State funding becomes unavailable, this code section authorizes a school district that has been approved to collect Level II fees to collect a higher fee on residential construction. This fee is equal to twice the amount of Level II fees. However, if a district eventually receives State funding, this excess fee may be reimbursed to the developers or subtracted from the amount of state funding.

LOCAL

San Joaquin Local Agency Formation Commission (LAFCo)

The San Joaquin LAFCo is responsible for coordinating orderly reorganization to local jurisdictional boundaries, including annexations. Annexation of the Project site to the City of Stockton is subject to LAFCo approval, and LAFCo will review the proposed annexation for consistency with LAFCo's Annexation Policies and Procedures. An annexation can only be approved if the applicable Municipal Services Review (MSR) and Plan for Services demonstrate that adequate services can be provided to the annexed area. An MSR, produced as part of a LAFCo's regular review of municipal services, consists of a written statement of its determinations regarding infrastructure, growth and population projections, financing, cost avoidance, rate restructuring, shared facilities, government structure options, management efficiency, and local accountability and governance. An annexation proposal must include a Plan for Services consistent with the applicable MSR and must demonstrate that the City can provide the required services. The City must pre-zone the lands to be annexed and subsequent changes to the General Plan land use designation and zoning are prohibited for two (2) years.

San Joaquin LAFCo has adopted Policies and Procedures for Annexation and Detachment to and from all agencies within their jurisdiction. LAFCo has also adopted Procedures for the California Environmental Quality Act in accordance with the California Code of Regulations (Chapter 3, Title 14 Section 15022), which requires that each public agency adopt objectives, criteria, and specific procedures for administering its responsibilities under CEQA.

City of Stockton Municipal Code

Article XVI of the Charter of the City of Stockton contains provisions that lay out the organizational structure, powers, and duties of the SFD. Under Section 1601, the SFD is responsible for the enforcement of ordinances and laws related to the prevention, control, and extinguishment of fires and fire hazards. Section 1602 establishes the authority of the Fire Chief over the control, management, and direction of the SFD. In addition, per Section 1602, the Fire Chief is held accountable to the City Manager.

Municipal Code Chapter 2.78, Stockton Fire Department, establishes the organization, duties, and fire prevention division of the SFD. Section 2.78.030, Powers of the Fire Chief, delegate power, authorities, and duties of the standing fire chief.

Municipal Code Chapter 2.82, Emergency Organization and Functions, outlines the City's emergency services and responsibilities for the City's emergency plan. The main purpose of Chapter 2.82, Emergency Organization and Functions, are to provide for the preparation and carrying out of plans for the protection of persons and property within this City in the event of an emergency; strengthen the direction of the emergency organization; and arrange the coordination of the emergency functions of this City with all other public agencies, corporations, organizations, and affected private persons.

Municipal Code Chapter 2.86, Reserve Police Corps, establishes the Stockton Police Reserve. In addition to the duties assigned by the Chief, the Reserve is assigned the duty of preparing against any manmade or natural disaster that may pose a risk to Stockton civilians or property.

Municipal Code Chapter 3.40, Emergency Communication System Access Fee, establishes an emergency communication system access fee.

Municipal Code Chapter 3.52, Funding for Police and Fire Protection Services, institutes steady funding sources for police and fire protection services. Chapter 3.52 was adopted to authorize the City of Stockton to impose a transaction and use tax per Bond Measure W, which was approved by Stockton voters on November 2, 2004. Per Section 3.52.010(e), revenue from the tax increase will provide funding to maintain the City's current level of police and fire protection services and undertake necessary capital projects to support these services. Section 3.52.040 imposes a ¼-cent (0.25 percent) retail tax upon all retail sales within the City.

Municipal Code Chapter 9.40, Public Libraries- Community Centers- Recreation Facilities- School Property, governs the conduct of all persons who use, frequent, loiter about or participate in the program of any public library, community center, recreation facility or school property operated by or under the jurisdiction of the City, the Metropolitan Park and Recreation Commission or the Stockton Unified School District. This Chapter establishes prohibited acts from smoking to possessing explosives on a public site.

Title 15, Buildings and Construction, contains several chapters dedicated to specific development and maintenance codes, including but not limited to building, plumbing, electrical, residential, and mechanical codes. Chapter 15.12, Fire Code, is also included in this Title. Chapter 15.12 adopts the 2022 Edition of the California Fire Code.

Municipal Code Section 16.72.060(C), Park Land Dedications and Fees, provides for the dedication of land and/or the payment of fees to the City for park and recreational purposes and/or the construction of park and recreational facilities.

Additionally, Municipal Code Section 16.72.260, Public Facilities Fee, includes development impact fees to fund municipally owned public facilities, including but not limited to City office space, fire stations, libraries, police stations, community recreation centers, street improvements, and water and sewage facilities, and to pay for acquisition, enhancement, restoration, maintenance, and/or operation of habitat/open space conservation lands.

Envision Stockton 2040 General Plan

The Envision Stockton 2040 General Plan contains the following goals and policies related to public services and recreation are applicable to the proposed Project.

POLICIES: LAND USE ELEMENT

- LU-3.3. Maintain or expand the currently available amount of public park and open space area in each neighborhood.
- LU-6.1. Carefully plan for future development and proactively mitigate potential impacts.
- LU-6.3. Ensure that all neighborhoods have access to well-maintained public facilities and utilities that meet community service needs.

ACTIONS: LAND USE ELEMENT

- LU-3.3.A. Continue to improve and maintain park facilities and fields to address deficiencies and improve park sustainability, including lighting improvements, conversion to solar lighting, drinking fountain maintenance, and natural stormwater management.
- LU-3.3.B. Pursue joint use recreational facilities where possible, including on school grounds and utility easements.
- LU-3.3.C. Establish a citywide park maintenance assessment district.
- LU-3.3.D. Periodically review the City's Development Impact Fee requirements to determine whether they should be adjusted to reflect the City's priorities for parks, community centers, and libraries that serve the surrounding neighborhoods.
- LU-3.3E. Require new development to improve utility easement property as usable public open space, where feasible.
- LU-3.3.F. Allow developers to develop pocket parks that function as social gathering places and/or children's play areas, and which can count towards the park standard requirements for new development.
- LU-6.1.B. Monitor the rate of growth to ensure that it does not overburden the City's infrastructure and services and does not exceed the amounts analyzed in the General Plan EIR.
- LU-6.1.G. Maintain adequate staffing levels to support achieving the City's service level goals for police and fire protection.
- LU-6.3.A. Require development to mitigate any impacts to existing sewer, water, stormwater, street, fire station, park, or library infrastructure that would reduce service levels.
- LU-6.3.B. Ensure that public facilities, infrastructure, and related land area and other elements are designed and right-of-way is acquired to meet 2040 planned development requirements to avoid the need for future upsizing or expansion, unless planned as phased construction.

ACTIONS: SAFETY ELEMENT

- SAF-1.2.A. Update the City's Design Guidelines and Development Code to require new and retrofitted development to support effective police and fire protection response and services by using the following principles of crime prevention through environmental design (CPTED):
    - Delineate private and public spaces
    - Enhance visibility
    - Control property access
    - Ensure adequate property maintenance.
- SAF-2.2.A. Require new development to provide adequate access for emergency vehicles and evacuation routes, including by designing roadway systems to provide multiple escape routes in the event of a levee failure.

POLICIES: COMMUNITY HEALTH ELEMENT

- CH-1.1. Maintain walking and wheeling facilities and parks that are safe and accessible in all areas of Stockton.
- CH-3.4. Foster innovation through access to quality community education and library services.

ACTIONS: COMMUNITY HEALTH ELEMENT

- CH-1.1.B. Prepare a parks master plan through an open and engaging process inclusive of community residents that assesses the quality and distribution of existing parks, facilities, and community centers throughout the city relative to the population served (i.e., within a set walking distance) and their needs (i.e., considering age, income, and abilities), and, based on this information, identifies and prioritizes new, renovation, and expansion park and community center projects and describes funding means and timelines.
- CH-3.4.A. Work with school districts to prioritize the expansion or renovation of existing schools in infill areas and evaluate various approaches to infill area school expansions, such as smaller school sizes (e.g., lower capacity campuses spread through an area) or smaller campus land areas (e.g., multi-story facilities).

3.12.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project would result in a significant impact on public services and recreation if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order

to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
    - Fire Protection;
    - Police Protection;
    - Schools;
    - Parks; and
    - Other public facilities.
- Increase in the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; and/or
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

IMPACTS AND MITIGATION MEASURES

Impact 3.12-1: The proposed Project would not require the construction of police department facilities which may cause substantial adverse physical environmental impacts (Less than Significant)

The City of Stockton General Plan includes policies and actions to ensure that the Stockton Police Department continues to provide adequate facilities and staffing levels. Below is a list of relevant policies and actions:

- Carefully plan for future development and proactively mitigate potential impacts (Policy LU-6.1).
- Maintain adequate staffing levels to support achieving the City's service level goals for police and fire protection (Action LU-6.1.G).
- Ensure that all neighborhoods have access to well-maintained public facilities and utilities that meet community service needs (Policy LU-6.3).
- Require development to mitigate any impacts to existing sewer, water, stormwater, street, fire station, park, or library infrastructure that would reduce service levels (Action LU-6.3.A).

As noted previously, the Police Department's sworn staff totals 485, a ratio of about 1.533 sworn officers per 1,000 population. This ratio currently exceeds the City's General Plan minimum standard of 1.5 sworn officers per 1,000 residents.[1] However, staffing levels in the City of Stockton ultimately are determined by the City Council in consultation with the City Manager and Chief of Police.

The Project proposes the development of approximately 306 acres and includes a Development Area of 236.3 acres, Non-development Area of 56.0 acres, and Right-of-Way Annexation Area of 13.7

[1] City of Stockton General Plan, Public Facilities and Services Element, PFS-7.2.

acres. The Development Area is predominantly comprised of agricultural and undeveloped uses. The Non-development area consists of agricultural land, one (1) existing residential home in the northwestern portion, a commercial use (single building), and a church. The Right-of-Way Annexation Area includes Eight Mile Road, forming the northern border of the Project site. The proposed Project would include the development of approximately 236.3-acres of land which will include: 1,332 to 1,411 residential units, parks, open space, public facilities, and public roadway right-of-way land uses. Using the most recent Department of Finance data (2023) for the average number of persons residing in a dwelling unit in the City of Stockton (3.13 persons per household), the Project could result in 4,169 to 4,416 residents.

The increase in population could contribute to the standard of sworn officers to residents being exceeded. Further, development of the Project site could increase the demand for police protection services to the site when compared to existing conditions. However, as discussed in Section 3.10, Land Use, Population and Housing, development of the Project site, as proposed, would be consistent with the direct population growth beyond the City's capacity that is planned in the City's General Plan. At this time, it is unknown whether Stockton Police Department would need to expand or construct new facilities to meet the demand of the proposed Project. Development is assumed to occur over six (6) phases; thus, any increase in demand for police protection services would occur gradually as additional development and associated population growth is added to the City. The City would continue to regularly monitor police department resources to ensure that adequate facilities, staffing, and equipment are available to serve existing and future development and population increases.

The Project would be subject to Stockton Municipal Code Section 16.72.260, Public Facilities Fee (PFF), which requires payment of PFF fees on issuance of building permits for development in the City to pay for municipally owned facilities, including but not limited to police stations. Payment of the fee is required to implement the goals and objectives of the General Plan and to mitigate the impacts caused by future development in the City. The payment of fees has been identified to finance public facilities and/or compensation measures, and to pay for each development's fair share of the construction costs of these improvements, and/or the costs of the compensation measures. Payment of the public facilities fee in compliance with Municipal Code 17.72.260 would reduce potential impacts associated with the Project's contribution toward the future need for new or physically altered police department facilities. As the Project would not directly require the need for new or physically altered police facilities to maintain acceptable service ratios, response times or other performance objective which may cause substantial adverse physical environmental impacts, implementation of the proposed Project would have a ***less than significant*** relative to this topic.

Impact 3.12-2: The proposed Project would not require the construction of fire department facilities which may cause substantial adverse physical environmental impacts (Less than Significant)

The City of Stockton General Plan includes policies and actions to ensure that the SFD continues to provide adequate facilities and staffing levels. Below is a list of relevant policies and actions:

- Carefully plan for future development and proactively mitigate potential impacts (Policy LU-6.1).
- Monitor the rate of growth to ensure that it does not overburden the City's infrastructure and services and does not exceed the amounts analyzed in the General Plan EIR (Action LU-6.1.B).
- Maintain adequate staffing levels to support achieving the City's service level goals for police and fire protection (Action LU-6.1.G).
- Ensure that all neighborhoods have access to well-maintained public facilities and utilities that meet community service needs (Policy LU-6.3).
- Require development to mitigate any impacts to existing sewer, water, stormwater, street, fire station, park, or library infrastructure that would reduce service levels (Action LU-6.3.A).

Continued growth within the City will increase the overall demand on fire protection services in the City. Growth in accordance with buildout of the existing General Plan is expected to generate the typical range of service calls, including structure fires, car fires, electrical fires, emergency medical response and others. Any new facilities would require environmental review once a location and design of such facility is developed. The City's costs to maintain equipment and facilities and to train and equip personnel will also increase. Growth in rural areas and fire districts will also increase the demand for fire protection services in those areas. The Project site is located within the Lincoln Rural County Fire Protection District, which provides fire service to several unincorporated islands within the City, and to the area north of Eight Mile Road.

Development of the Project, as proposed, could increase demand for fire protection services to the site. The most effective response would be from Station 13, which is the closest to the Project site and located approximately 1.5 miles east of the Project site. At this time, it is unknown whether the SFD would need to expand or construct new facilities to meet the demand of the implementation of the Project. Development of the Project is assumed to occur over six (6) phases; thus, any increase in demand for fire protection services would occur gradually with additional development and associated population growth. The SDF, in coordination with the City, would continue to regularly monitor fire department resources to ensure that adequate facilities, staffing, and equipment are available to serve existing and future development and population increases.

The Project would be subject to Stockton Municipal Code Section 17.72.260, Public Facilities Fee (PFF), which requires payment of a PFF fee on issuance of building permits for development in the City to pay for municipally owned facilities, including but not limited to fire stations. Payment of the fee is required to implement the goals and objectives of the General Plan and to mitigate the impacts caused by future development in the City. The payment of fees has been identified to finance public facilities and/or compensation measures, and to pay for each development's fair share of the construction costs of these improvements, and/or the costs of the compensation measures. Payment of the public facilities fee in compliance with Municipal Code 16.72.260 would reduce potential impacts associated with the Project's contribution toward the future need for new or physically altered fire department facilities. As the Project would not directly require the need for

new or physically altered fire facilities to maintain acceptable service ratios, response times or other performance objective which may cause substantial adverse physical environmental impacts, implementation of the proposed Project would have a ***less than significant*** relative to this topic.

Impact 3.12-3: The proposed Project would not require the construction of school facilities which may cause substantial adverse physical environmental impacts (Less than Significant)

Students generated by implementation of the Project would attend schools in the LUSD. Development accommodated under the Project would result in additional residential uses with potential of school-aged children. The Project would include the development of 1,332 to 1,411 residential units. The proposed Project establishes a site for a 12.0-acre K-8 school to be developed by Lodi Unified School District (LUSD). The development of a K-8 school at this site is the discretionary decision of the LUSD, and while the proposed Project has planned for a school at this location, it will be determined by LUSD later through their decision-making process. If the LUSD decides to not pursue building a school at this site, then the site would be developed with 79 single family residential units. Construction of homes in this location would increase the number of units by 79 units when compared to the proposed Project with the school site. The total combined units would increase from 1,332 under the proposed Project to 1,411 units under this variation (i.e., no school).

School districts typically use student generation factors to determine the potential number of students that would be generated by the amount of residential development to accurately anticipate the needs for new/expanded facilities. Table 3.13-4, Students Generated by Proposed Project, identifies the number of potential students that would be generated from development anticipated by the Project based on LUSD student generation factors by grade.

TABLE 3.13-5: STUDENTS GENERATED BY PROPOSED PROJECT

GRADES	*STUDENT GENERATION RATE*	*PROPOSED DWELLING UNITS WITH SCHOOL*	*TOTAL STUDENTS GENERATED WITH SCHOOL*	*PROPOSED DWELLING UNITS WITHOUT SCHOOL*	*TOTAL STUDENTS GENERATED WITHOUT SCHOOL*
K-6	0.281	1,332	*375*	1,411	*397*
7-8	0.080	1,332	*107*	1,411	*113*
9-12	0.162	1,332	*216*	1,411	*229*
Total	**0.523**	**1,332**	***697***	**1,411**	***738***

SOURCE: SCHOOL FACILITY CONSULTANTS. SCHOOL FACILITY FEE JUSTIFICATION REPORT FOR RESIDENTIAL, COMMERCIAL & INDUSTRIAL DEVELOPMENT PROJECTS FOR THE LODI UNIFIED SCHOOL DISTRICT, SEPTEMBER 2016.

As identified in Table 3.13-5, the Project would result in a net increase of approximately 697 to 738 school-aged children in the LUSD. As described in Chapter 2.0, Project Description, the Project includes the potential development of a school site. The potential adverse physical environmental impacts associated with the proposed school have been addressed within this EIR. Additionally, the LUSD collects impact fees from new developments under the provisions of SB 50. The Project would be subject to payment of school impact fees in accordance with Senate Bill 50 (SB 50). Pursuant to

Government Code Section 65995(3)(h), payment of statutory fees is deemed to be full and complete mitigation of impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use or development of real property…" Developer fees collected by LUSD pursuant to SB 50 are used for the provision of additional and reconstructed or modernized school facilities. The Project Applicant would be required to pay all statutory fees in place at the time and demonstrate proof of payment to the City. With payment of the fees, the impact of the proposed Project on the need for additional school facilities is ***less than significant***.

Impact 3.12-4: The proposed Project would not have effects on other public facilities (Less than Significant)

The Project proposes the development of residential uses resulting in a direct increase in the City's population. This potential increase in population could result in an increased demand on public facilities, such as community centers and public libraries. However, as discussed in Section 3.10, Land Use, Population and Housing, development of the Project site, as proposed, would be consistent with the direct population growth beyond the City's capacity that is planned in the City's General Plan. Implementation of the Project may result in the need for additional Stockton-San Joaquin County Public Library resources (i.e., additional staffing, equipment, expanded/new facilities) and other public facilities, such as community centers. Development is assumed to occur over six phases; thus, any increase in demand for library services and other public facilities would occur gradually as additional development and associated population growth is added to the City.

The Project would be subject to Stockton Municipal Code Section 16.72.260, Public Facilities Fee (PFF), which requires payment of a PFF fee on issuance of building permits for development in the City to pay for municipally owned facilities, including but not limited to City office space, libraries, and community recreation centers. Payment of the fee is required to implement the goals and objectives of the General Plan and to mitigate the impacts caused by future development in the City. The payment of fees has been identified to finance public facilities and/or compensation measures, and to pay for each development's fair share of the construction costs of these improvements, and/or the costs of the compensation measures. Payment of the public facilities fee in compliance with Municipal Code 16.72.260 would reduce potential impacts associated with the Project's contribution toward the future need for new or physically altered public facilities. As the Project would not directly require the need for new or physically altered police facilities to maintain acceptable service ratios, response times or other performance objective which may cause substantial adverse physical environmental impacts, implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

Impact 3.12-5: The proposed Project would not require the construction of park and recreational facilities which may cause substantial adverse physical environmental impacts (Less than Significant)

Implementation of the Project would result in additional residential uses, which would increase demand for parks and recreational facilities. The proposed Project would include the development

of approximately 1,332 to 1,411 residential units. Using the most recent Department of Finance data (2023) for the average number of persons residing in a dwelling unit in the City of Stockton (3.13 persons per household), the Project could result in 4,169 to 4,416 residents.

The Project site is predominantly comprised of agricultural and undeveloped uses and is designed as Low Density (R/L), High Density (R/H), and Office Commercial (C/O) by the County's General Plan Land Use Map. As part of the proposed development, the Project proposes approximately 12 acres of parks and recreation uses within the site. The Project (under the "No School" scenario) would provide approximately 12.2 acres of traditional park space. Two (2) separate park areas are proposed, including a centrally located 8.75-acre park and a 3.47-acre park in the northern portion of the Development Area, which would meet the definition of a "Neighborhood Park." In addition, to the two parks, there will be a series of streets with an enhanced right of way to accommodate a pedestrian "wellness walk." This "wellness walk," which is comprised of 8.53 acres of open space, will tie different areas to the internal parks and encourage movement throughout the Project site. Additionally, a 4.5-acre detention basin area would be in the northern portion of the Project site, adjacent to the 3.47-acre park. One (1) acre of the basin is considered usable open space.

Under the park standards outlined in the City's General Plan, the City aims to provide 2 (2) acres of neighborhood parkland, 3 (3) acres of community parkland, and 3 (3) acres of regional parkland per 1,000 residents. With the existing population of 319,731 residents, the City is currently deficient in meeting its park service standards in all categories (DOF, 2023). Based on the City's adopted standard of 2 acres of neighborhood park per 1,000 residents, the increase in population due to implementation of the Project would require approximately 8.83 acres of additional neighborhood parks. The Project would provide approximately 12 acres of neighborhood parkland, to serve the additional residents. It should be noted that Project would be required to fund its fair share for required parkland but would not make up for existing system deficiencies. The Project would be subject to Municipal Code, Section 16.72.060(C), Park Land Dedications and Fees, which required for the dedication of land and/or the payment of fees to the City for park and recreational purposes and/or the construction of park and recreational facilities.

The potential adverse physical environmental impacts associated with the proposed parks and recreation areas have been addressed within this EIR. The proposed park and recreation use would not cause a substantial adverse physical environmental impact. Implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

Impact 3.12-6: The proposed Project would not increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated (Less than Significant)

The Project site is predominantly comprised of agricultural and undeveloped uses and is not directly located adjacent to an existing neighborhood or regional park, or other recreational facility. The Project (under the "No School" scenario) would provide approximately 12.2 acres of traditional park

space. Two (2) separate park areas are proposed, including a centrally located 8.75-acre park and a 3.47-acre park in the northern portion of the Development Area, which would meet the definition of a "Neighborhood Park." In addition to the two (2) parks, there will be a series of streets with an enhanced right of way to accommodate a pedestrian "wellness walk." This "wellness walk," which is comprised of 8.53 acres of open space, will tie different areas to the internal parks and encourage movement throughout the Project site. Additionally, a 4.5-acre detention basin area would be in the northern portion of the Project site, adjacent to the 3.47-acre park. One (1) acre of the basin is considered usable open space.

The proposed Project would include the development of approximately 1,332 to 1,411 residential units. Using the most recent Department of Finance data (2023) for the average number of persons residing in a dwelling unit in the City of Stockton (3.13 persons per household), the Project could result in 4,169 to 4,416 residents. These new residents are expected to use park and recreational facilities, and this additional use may result in greater demands on parks and recreational facilities in the City such that deterioration of these facilities could occur or be accelerated. The additional demand on existing parks and recreational facilities would increase the need for maintenance and improvements. These improvements could have environmental impacts, although the exact impacts cannot be determined at this time since the potential improvements are currently unknown. Although implementation of the Project would cause an increase in demand for parks in the future, potential impacts could be reduced to a less than significant level through the development of new park and recreational facilities as part of Project implementation and the payment of park fees, as established in Municipal Code Section 16.72.060(C), and adherence to local regulations established in the Municipal Code and General Plan policies, which support the creation of new parks and recreation facilities, including new parks and trails, to accommodate a wide range of activities for all age groups. As such, the proposed Project would have a ***less than significant*** impact relative to this topic.

This section analyzes the potential impacts of the proposed Project on the transportation system. This section identifies the potential transportation impacts of future buildout of the Project. Information in this section is derived primarily from the following (as well as other information described in this section):

- *Traffic Impact Study for the LeBaron Ranch Project* (WK Shijo Consulting, LLC, November 2023);
- *LeBaron Ranch VMT Assessment* (WK Shijo Consulting, LLC, October 2023);
- *Envision Stockton 2040 General Plan* (City of Stockton, December 2018);
- *Envision Stockton 2040 General Plan Update Draft Environmental Impact Report* (City of Stockton, June 2018).

There were no comments received during the public review period or scoping meeting for the Notice of Preparation regarding this topic.

3.13.1 ENVIRONMENTAL SETTING

PROJECT LOCATION

The Project site is in the northern portion of the City of Stockton, within the unincorporated area of San Joaquin County. The Project site is adjacent to the City of Stockton's northern city limits. The Project site is bounded on the north by Eight Mile Road, to the east by West Lane, and to the west by Lower Sacramento Road. The future Marlette Road, between Lower Sacramento Road and West Lane, would form the property's southern boundary.

ROADWAY SYSTEM

The following are descriptions of the primary roadways in the vicinity of the Project site:

Interstate 5 (I-5) is a major north-south freeway that traverses the western U.S., originating in southern California and continuing north towards Sacramento and beyond. It is aligned through the western portion of the City, providing three travel lanes in each direction in the vicinity of the Project site, and providing four travel lanes in each direction in other portions of the Stockton area. Twelve interchanges are provided along the 14-mile stretch of I-5 within and adjacent to the City limits. Current average daily traffic (ADT) volumes are approximately 74,000. The speed limit on I-5 in the vicinity of the project site is 70 miles per hour (mph).

State Route 99 (SR 99) traverses the Central Valley, connecting Sacramento and points north with numerous Central Valley cities, including Modesto, Merced, Fresno, and Bakersfield. SR 99 is approximately two (2) miles east of the Project site. Three travel lanes are provided in each direction north of Wilson Way, while segments south of Wilson Way include two (2) lanes per direction. Twelve interchanges are provided along the 12-mile length of SR 99 within and adjacent to the City limits. Average daily traffic volumes on SR 99 range between 79,000 and 80,000 in the vicinity of the Project site. The speed limit on SR 99 is 65 mph in the vicinity of the Project site.

Thornton Road is a roadway with a northern terminus at the Sacramento County line and, as Pacific Avenue, has a southern terminus in downtown Stockton. Thornton Road generally has a north-south alignment. However, a portion of Thornton Road south of Eight Mile Road has a northwest-southeast alignment. North of Eight Mile Road, Thornton Road is two (2) lanes wide. In the vicinity of the Project site, the majority of Thornton Road is four (4) lanes wide. The speed limit on Thornton Road is 55 mph north of Eight Mile Road, 45 mph between Eight Mile Road and Davis Road, and 40 mph south of Davis Road.

Davis Road is a north-south roadway with a northern terminus at the Mokelumne River, northwest of Lodi, and a southern terminus at Thornton Road. The majority of Davis Road is two (2) lanes wide, with portions north of Thornton Road being three (3) lanes wide and four (4) lanes wide. In the vicinity of the Project site, the speed limit is 45 mph south of Eight Mile Road and 55 mph north of Eight Mile Road.

Eight Mile Road is an east-west roadway along the northern edge of the Project site. In the vicinity of the Project site, the majority of Eight Mile Road is two (2) lanes wide (one (1) lane in each direction). However, some portions of Eight Mile Road are four (4) lanes wide, and limited portions have three (3) lanes in a single direction. In the vicinity of the Project site, the posted speed limit along Eight Mile Road is 55 mph. The speed limits on nearby portions are 45 mph and 50 mph. Eight Mile Road has access to SR 99 at an interchange that includes a two-lane overcrossing of SR 99. Eight Mile Road has access to I-5 at an interchange that includes a seven (7) lane undercrossing of I-5. Grade-separated crossings of railroad tracks are located approximately one (1) mile west of the Project site and one (1) mile east of the Project site.

Lower Sacramento Road is a roadway with a northern terminus at the Sacramento County line and a southern terminus at Rivara Road, south of Hammer Lane. Lower Sacramento Road generally has a north-south alignment. However, a portion immediately south of Eight Mile Road has a northeast-southwest alignment. A portion of Lower Sacramento Road southwest of the Project site was improved approximately 10 years ago, including construction of a grade-separated railroad crossing. North of Armor Drive, Lower Sacramento Road is two (2) lanes wide. South of Armor Drive, it is four (4) lanes wide. The speed limit on Lower Sacramento Road is 55 mph north of Armor Drive, 50 mph between Armor Drive and Katherine Way, and 40 mph south of Katherine Way.

West Lane/Hutchins Street/Airport Way is a north-south arterial roadway along the eastern frontage of the Project site. The northern terminus is in the City of Lodi as Hutchins Street and the southern terminus is south of Manteca as Airport Way. Portions of West Lane are divided by a raised median. In the vicinity of the Project site, some portions of West Lane are four (4) lanes wide, other portions are six-lanes wide. West Lane is controlled by signalization at major intersections.

Ham Lane is a north-south two (2) lane roadway. The northern terminus of a portion of Ham Lane is at Armstrong Road, and the southern terminus is at Eight Mile Road. Another discontinuous portion of Ham Lane is present in Lodi, north of Harney Lane. Ham Lane has a signalized intersection with West Lane, and an unsignalized intersection with Eight Mile Road.

Leach Road is a discontinuous two (2) lane north-south roadway. In the vicinity of the Project site, the southern terminus is at Eight Mile Road, and the northern terminus is at Morse Road. The speed limit is unsigned.

Micke Grove Road is a two (2) lane north-south roadway with a northern terminus at Armstrong Road, and a current southern terminus at a "T" intersection at Eight Mile Road. Holman Road is planned to be extended north to Eight Mile Road and form the southern leg of the intersection of Eight Mile Road & Micke Grove Road. The speed limit on Micke Grove Road is 35 mph.

Holman Road is a north-south arterial roadway with a northern terminus at PFC Jesse Mizener Street. Holman Road is planned to be extended north across Bear Creek to the intersection of Eight Mile Road & Micke Grove Road. Portions of Holman Road are four (4) lanes and six (6) lanes wide. However, portions of Holman Road south of Hammer Lane are two lanes wide. The speed limit on Holman Road is 40 mph.

SR 99 East Frontage Road and ***SR 99 West Frontage Road*** are undivided two (2) lane frontage roads located immediately east and west of SR 99. The northern termini of the frontage roads are north of Eight Mile Road. The southern termini are at an overcrossing of SR 99, approximately one (1) mile south of Hammer Lane. The frontage roadways are designed to intercept, collect, and distribute traffic crossing, entering, or leaving the freeway, and to furnish access to property that otherwise would be isolated because of the controlled access freeway. SR 99 East Frontage Road and SR 99 West Frontage Road provide direct access to light industrial, commercial, and residential development. SR 99 on-ramps and off-ramps form "hook ramp" intersections with the frontage roads at the SR 99 interchanges at Eight Mile Road and Morada Lane. The speed limit on SR 99 East Frontage Road is 45 mph. The curved portions of SR 99 West Frontage Road are signed for 30 mph and 40 mph; the speed limit on other portions is unsigned.

Morada Lane is a discontinuous east-west roadway. A portion of Morada Lane has a western terminus at Lower Sacramento Road and an eastern terminus at the Union Pacific Railroad tracks. This portion of Morada Lane has a 25-mph speed limit. Another portion of Morada Lane has a western terminus at a signalized intersection with McNair Lane, west of West Lane, and an eastern terminus approximately one mile east of SR 99. This portion of Morada Lane has 30-mph, 35-mph, and 45-mph speed limits. Portions of Morada Lane are two (2)-lanes wide while other portions are four (4) to six (6) lanes wide. Morada Lane has access to SR 99 at an interchange that includes a two (2) lane overcrossing of SR 99.

Marlette Road is a discontinuous roadway on both sides of Lower Sacramento Road. A short, two (2) lane substandard roadway is present east of Lower Sacramento Road. To the northwest of Lower Sacramento Road, Marlette Road is also known as Destination Drive and has an intersection with Eight Mile Road. The portion of the roadway to the northwest intersects Lower Sacramento Road approximately 200 feet north of the intersection with the portion of the roadway to the east. The Tra Vigne Development Project (City of Stockton 2018a), which is located southeast of the intersection of Eight Mile Road and West Lane, includes a roadway connection with West Lane at the planned location of the intersection of West Lane & Marlette Road.

Villa Point Drive is a short east-west collector roadway south of Eight Mile Road and west of Lower Sacramento Road. The eastern terminus of the roadway is currently a cul-de-sac approximately 450 feet east of Lower Sacramento Road. A paved area connects the eastern terminus of Villa Point Drive with Lower Sacramento Road; but barricades block access to the paved area. At the location where the barricaded paved area connects with Lower Sacramento Road, a driveway on the east side also connects with Lower Sacramento Road. The driveway serves a religious facility. A raised concrete island at the driveway connection prevents left-turn movements.

Grider Way/Whistler Way is a two (2) lane east-west roadway with a western terminus at a "T" intersection at A.G. Spanos Boulevard, and an eastern terminus at Lower Sacramento Road. East of Windmill Park Drive, the roadway is named Grider Way. West of Windmill Park Drive, the roadway is named Whistler Way. The roadway provides surrounding land use with access to Thornton Road, Davis Road, and Lower Sacramento Road. At the location where Grider Way connects with Lower Sacramento Road, a driveway on the east side also connects with Lower Sacramento Road. The driveway serves a retail commercial center.

Royal Oaks Drive is an east-west two (2) lane roadway with a western terminus at Davis Road, and an eastern terminus at Lower Sacramento Road. The speed limit on Royal Oaks Drive is 25-mph.

Ponce De Leon Avenue is an east-west two (2) lane roadway with a western terminus at Davis Road, and an eastern terminus east of El Dorado Street. The speed limit on Ponce De Leon Avenue is 25-mph.

Hammer Lane is a major east-west arterial in the vicinity of the Project site. It has a western terminus west of I-5, and an eastern terminus east of SR 99. Hammer Lane has access to both freeways via interchanges. West of Thornton Road, Hammer Lane is four (4) lanes wide. Between Thornton Road and SR 99, portions of Hammer Lane are six-, seven-, and eight-lanes wide. West of Holman Road, Hammer Lane has a 35-mph speed limit. East of Holman Road, it has a 45-mph speed limit.

PEDESTRIAN AND BICYCLE FACILITIES

This section describes the existing pedestrian and bicycle facilities in the vicinity of the Project site. The generally level terrain and mild weather make bicycling and walking viable forms of transportation in Stockton. The City of Stockton has an extensive network of bicycle facilities, including off-street trails and paths, as well as on-street bicycle lanes and routes. Many of these facilities also support pedestrian travel. The Project site is in an area with currently sparse land use development. Neither sidewalks nor bicycle facilities are present along Eight Mile Road, Lower Sacramento Road, or West Lane in the immediate vicinity of the Project site.

Bicycle Facilities

Bicycle facilities in Stockton include the following general types:

- **Class I Bikeway (Bike Path).** A separate facility designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian cross-flow minimized.

- **Class II Bikeway (Bike Lane).** A striped lane designated for the use of bicycles on a street or highway. Vehicle parking and vehicle/pedestrian cross-flow are permitted at designated locations.
- **Class III Bikeway (Bike Route).** A route designated by signs or pavement markings for bicyclists within the vehicular travel lane (i.e., shared use) of a roadway.
- **Class IV Bikeway (Separated Bikeway).** A bikeway for the exclusive use of bicycles and includes a separation required between the separated bikeway and the through vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible posts, inflexible barriers, or on-street parking.

There are further distinctions made in the City of Stockton Municipal Code regarding bicycle facilities. A Bicycle Path is a shared bicycle and pedestrian facility parallel to a public street or roadway, a minimum of 75-feet away from the public street/roadway. Additionally, the City of Stockton permits bicyclists to share the sidewalk with pedestrians.

The City of Stockton General Plan presents a map showing existing and planned bicycle facilities in the Stockton area, shown on Figure 3.13-1. In the immediate vicinity of the Project site, Figure 3.13-1 shows:

- A planned Class IV (separated bikeway) on Eight Mile Road from west of I-5 to east of SR 99;
- A planned Class IV (separated bikeway) on Lower Sacramento Road from Eight Mile Road to Thornton Road;
- A planned Class IV (separated bikeway) on West Lane from Eight Mile Road to downtown Stockton; and
- A planned Class I (bike path) on Bear Creek from Eight Mile Road to west of I-5.

TRANSIT SERVICE

The San Joaquin Regional Transit District (SJRTD) is the primary provider of public transportation service in San Joaquin County, providing services to the Stockton metropolitan area, as well as inter-city, inter-regional, and rural transit service. SJRTD provides fixed-route, flexible fixed-route, and dial-a-ride services in Stockton. Each service is described in more detail below.

- Local fixed route service is provided by 26 routes.
- Bus Rapid Transit (BRT) service is provided by five routes.
- Interregional Commuter Route service is a subscription commuter bus service. A total of three routes connect San Joaquin County to Sacramento, the San Francisco Bay Area, and the Bay Area Rapid Transit (BART) system.
- SJRTD operates a Dial-a-Ride service for those individuals who, due to their disability, are functionally unable to use fixed-route services. Stockton Metro Area Dial-A-Ride (SMA-ADA) is a curb-to-curb service operating within the Stockton metropolitan area for passengers with an Americans with Disabilities Act (ADA) certification.
- Metro Hopper is a deviated fixed-route service for areas within the Stockton city limits. SJRTD operates 12 Hopper routes.

- Van Go! is an on-demand rideshare service for areas within San Joaquin County. Trips are booked up to 48 hours in advance. Payment is on a per-trip basis.

SJRTD operates County Hopper Route 93 along West Lane along the eastern edge of the Project site. This route travels between the Stockton Downtown Transit Center and the Lodi Transit Station. The route operates eight (8) times a day in the northbound direction, and 10 times a day in the southbound direction.

Park and Ride Facilities

Park and Ride lots are free parking facilities for commuters to use as a convenient meeting place for carpools, transit, and vanpools. SJRTD lists Park and Ride lots in the Stockton area at the following locations:

- The Calvary First Church on Kelley Drive north of Hammer Lane lot provides a transit connection to the SJRTD Route 163.
- The Hammer Crossing Shopping Center at Hammer Lane and Sampson Road lot provides a transit connection to the SJRTD Route 163.
- The Lifesong Church, 3034 Michigan Avenue lot provides a transit connection to the SJRTD Route 150.

ACCIDENTS

The City of Stockton *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* presents information on the number and location of traffic accidents, bicycle accidents, and pedestrian accidents.

The *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* presents a list of 21 locations in the City with the highest number of reported traffic accidents during six (6) years between 2009 and 2014. Among these 21 locations, the location with the highest number of reported accidents had 81 accidents. The location with the lowest number of accidents had 16 accidents.

The *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* presents a list of seven locations in the City with the highest number of reported bicycle accidents during six years between 2009 and 2014. Among these seven locations, the location with the highest number of reported accidents had seven (7) accidents. The location with the lowest number of accidents had four (4) accidents.

The *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* presents a list of nine street corridors in the City with the highest number of vehicle-pedestrian injury collisions reported during six (6) years between 2009 and 2014. Among these nine (9) locations, the location with the highest number of reported accidents had 26 accidents. The location with the lowest number of accidents had nine (9) accidents.

3.13.2 REGULATORY SETTING

Existing transportation polices, laws, and regulations that would apply to the Project are summarized below. This information provides a context for the impact discussion related to the Project's consistency with applicable regulatory conditions and development of significance criteria for evaluating Project impacts.

FEDERAL

Americans with Disabilities Act

The Americans with Disabilities Act of 1990 (ADA) provides comprehensive rights and protections to individuals with disabilities. The goal of the ADA is to assure equality of opportunity, full participation, independent living, and economic self-sufficiency. To implement this goal, the United States Access Board has created accessibility guidelines for public rights-of-way. The guidelines address various issues, including roadway design practices, slope and terrain issues, pedestrian access to streets, sidewalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way.

Federal Highway Administration

The Federal Highway Administration (FHWA) is a federal agency that focuses on national highway programs. FHWA administers and manages Federal highway programs and establishes national standards. The FHWA publishes the Manual on Uniform Traffic Control Devices (MUTCD) which specifies the standards for street markings, traffic signals, and street signs in the United States. The California Department of Transportation (Caltrans) developed the 2014 California MUTCD (Rev. 6) based on the FHWA MUTCD.

STATE

The State of California has enacted several pieces of legislation that outline the State's commitment to encourage land use and transportation planning decisions and investments that reduce vehicles miles travelled (VMT) and contribute to reductions in greenhouse gas (GHG) emissions in line with State climate goals. The legislation with applicability to the analysis of the Project includes:

- Assembly Bill (AB) 32 (2006);
- SB 375 (2008); and
- SB 743 (2013).

Each are discussed below, in addition to Caltrans responsibilities and VMT guidance.

Assembly Bill 32

AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 also requires that "(a) the statewide GHG emissions limit shall remain in effect unless otherwise amended or repealed; (b) it is the intent of

the Legislature that the statewide GHG emissions limit continues in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020; (c) the California Air Resources Board (CARB) shall make recommendations to the Governor and the Legislature on how to continue reductions of GHG emissions beyond 2020." Vehicle emissions are a significant source of GHGs; therefore, GHG reduction targets include reductions in vehicle emissions, providing a nexus between AB 32 and transportation analyses.

Senate Bill 375

SB 375 requires metropolitan planning organizations (MPOs) to prepare a Sustainable Communities Strategy (SCS) as part of their regional transportation plans (RTPs). The SCS demonstrates how the region will meet its GHG reduction targets through integrated land use, housing, and transportation planning. Specifically, the SCS must identify a transportation network that is integrated with the forecasted development pattern for the Project site and will reduce GHG emissions from automobiles and light trucks in accordance with targets set by the CARB.

In 2017, the State Legislature passed SB 150, which requires CARB to prepare a report beginning in 2018 and every four years thereafter analyzing the progress made by each MPO in meeting the regional GHG emission reduction targets. The San Joaquin Council of Governments (SJCOG) serves as the MPO for Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton, Tracy, and San Joaquin County. River Islands is in the City of Lathrop and therefore is within the SJCOG MPO.

SB 375 also provides streamlining (i.e., limited CEQA review) for certain transit priority projects that are consistent with the SCS.

Senate Bill 743

SB 743 creates or encourages several statewide changes to the evaluation of transportation and traffic impacts under CEQA. First, it directs OPR to amend the CEQA Guidelines to establish new metrics for determining the significance of transportation impacts of projects within transit priority areas (TPAs) and allows OPR to extend use of the new metrics beyond TPAs. The California Natural Resources Agency certified and adopted the amended CEQA Guidelines in December 2018. In the amended CEQA Guidelines, OPR selected VMT as the preferred transportation impact metric and applied their discretion to recommend its use statewide. The amended CEQA Guidelines state that "generally, VMT is the most appropriate measure of transportation impacts" and the provisions requiring the use of VMT shall apply statewide as of July 1, 2020. The amended CEQA Guidelines further state that land use "projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less-than-significant transportation impact."

Second, SB 743 establishes that aesthetic and parking impacts of a residential, mixed-use residential, or employment center projects on an infill site within a TPA shall not be considered significant impacts on the environment.

Third, SB 743 added section 21099 to the Public Resources Code, which states that automobile delay, as described by LOS or similar measures of vehicular capacity or traffic congestion, shall not be

considered a significant impact on the environment upon certification of the CEQA Guidelines by the Natural Resources Agency. Since the amended CEQA Guidelines were certified in December 2018, LOS or similar measures of vehicular capacity or traffic congestion are not considered a significant impact on the environment under CEQA.

Lastly, SB 743 establishes a new CEQA exemption for a residential, mixed-use, and employment center project a) within a TPA, b) consistent with a Project for which an EIR has been certified, and c) consistent with an SCS. This exemption requires further review if the project or circumstances changes significantly.

TECHNICAL ADVISORY ON EVALUATING TRANSPORTATION IMPACTS IN CEQA

To aid in SB 743 implementation, OPR released a *Technical Advisory on Evaluating Transportation Impacts in CEQA* (Technical Advisory) in December 2018. The Technical Advisory provides advice and recommendations to CEQA lead agencies on how to implement the SB 743 changes. This includes technical recommendations regarding the assessment of VMT, thresholds of significance, VMT mitigation measures, and screening thresholds for certain land use projects. Lead agencies may consider and use these recommendations at their discretion and with the provision of substantial evidence to support alternative approaches.

The Technical Advisory identifies "screening thresholds" to quickly identify when a project should be expected to cause a less-than-significant impact without conducting a detailed study. The Technical Advisory suggests that projects meeting one or more of the following criteria should be expected to have a less-than-significant impact on VMT:

- **Small projects** – projects consistent with a SCS and local general plan that generate or attract fewer than 110 trips per day.
- **Projects near major transit stops** – certain projects (residential, retail, office, or a mix of these uses) proposed within ½ mile of an existing major transit stop or an existing stop along a high-quality transit corridor.
- **Affordable residential development** – a project consisting of a high percentage of affordable housing may be a basis to find a less-than-significant impact on VMT.
- **Local-serving retail** – local-serving retail development tends to shorten trips and reduce VMT. The Technical Advisory encourages lead agencies to decide when a project will likely be local-serving, but generally acknowledges that retail development including stores larger than 50,000 square feet might be considered regional-serving. The Technical Advisory suggests lead agencies analyze whether regional-serving retail would increase or decrease VMT (i.e., not presume a less-than-significant).
- **Projects in low VMT areas** – residential and office projects that incorporate similar features (i.e., density, mix of uses, transit accessibility) as existing development in areas with low VMT will tend to exhibit similarly low VMT.

The Technical Advisory also identifies the following recommended numeric VMT thresholds for residential, office, and retail projects:

- **Residential** development that would generate vehicle travel exceeding 15 percent below existing (baseline) residential VMT per capita may indicate a significant transportation impact. Existing VMT per capita may be measured as a regional VMT per capita or as city VMT per capita.
- **Office** projects that would generate vehicle travel exceeding 15 percent below existing regional VMT per employee may indicate a significant transportation impact.
- **Retail** projects (and other non-residential/non-office projects) that results in a net increase in total VMT may indicate a significant transportation impact.

For mixed-use projects, the Technical Advisory suggests evaluating each component independently and applying the significance threshold for each project type included. Alternatively, the lead agency may consider only the project's dominant use.

The Technical Advisory also provides guidance on impacts to transit. Specifically, the Technical Advisory suggests that lead agencies generally should not treat the addition of new transit users as an adverse impact. As an example, the Technical Advisory suggests that "an infill development may add riders to transit systems and the additional boarding and alighting may slow transit vehicles, but it also adds destinations, improving proximity and accessibility. Such development also improves regional vehicle flow by adding less vehicle travel onto the regional network."

California Department of Transportation

Caltrans is responsible for planning, designing, constructing, operating, and maintaining the State Highway System (SHS). Federal highway standards are implemented in California by Caltrans. Any improvements or modifications to the SHS within the study area would need to be approved by Caltrans.

The following Caltrans planning documents emphasize the State of California's focus on transportation infrastructure that supports mobility choice through multimodal options, smart growth, and efficient development:

- Smart Mobility Framework (Caltrans February 2010);
- Complete Streets Implementation Action Plan (Caltrans February 1, 2010);
- California Transportation Plan 2040 (Caltrans June 2016);
- Strategic Management Plan 2015-2020 – 2019 Update (Caltrans 2019); and
- State Highway System Management Plan (Caltrans May 2019).

VMT-Focused Transportation Impact Study Guide

On May 20, 2020, the VMT-Focused Transportation Impact Study Guide (TISG) was adopted. The TISG provides guidance on how Caltrans will review land use projects, with focus on VMT analysis and supporting state land use goals, state planning priorities, and GHG emission reduction goals. The TISG also identifies land use projects' possible transportation impacts to the SHS and potential non-capacity increasing mitigation measures.

The TISG emphasizes that VMT analysis is Caltrans' primary review focus, and references OPR's Technical Advisory as a basis for the guidance in the TISG. Notably, the TISG recommends the use of the recommended thresholds in the Technical Advisory for land use projects. The TISG also references the Technical Advisory for screening thresholds that would identify projects and areas presumed to have a less-than-significant transportation impact. Caltrans supports streamlining for projects that meet these screening thresholds because they help achieve VMT reduction and mode shift goals.

INTERIM LAND DEVELOPMENT AND INTERGOVERNMENTAL REVIEW SAFETY REVIEW PRACTITIONERS GUIDANCE

On July 2, 2020, Caltrans released the Interim Land Development and Intergovernmental Review (LDIGR) Safety Review Practitioners Guidance. The purpose of the interim guidance is to provide instructions for conducting safety impact analysis for proposed land use projects and plans in compliance with CEQA. The guidance is focused on potential safety impacts affecting the SHS and sets expectations for Caltrans staff and lead agencies about what information and factors to consider in safety impact analysis. Caltrans recommends lead agencies use a similar approach, specifically Local Roadway Safety Plans (LRSPs) and Systemic Safety Analysis Reports (SSARs), as a model for safety analysis of the local transportation network. This guidance supports implementation of SB 743 and complements the "VMT-Focused TISG" dated May 20, 2020. The new guidance has two main parts:

- Reactive: a review of Caltrans safety monitoring program data to see what known safety issues may be affected by the project; and
- Systemic: a review of LRSPs, SSARPs, Vision Zero plans, and other plans and assessments to see what safety patterns and improvements may be applicable to Caltrans facilities in the study area.

LOCAL

Envision Stockton 2040 General Plan

The Envision Stockton 2040 General Plan includes several policies and actions that are relevant to transportation and circulation. General Plan policies and actions applicable to the Project are identified below:

POLICIES: TRANSPORTATION ELEMENT

- TR-1.1. Ensure that roadways safely and efficiently accommodate all modes and users, including private, commercial, and transit vehicles, as well as bicycles and pedestrians and vehicles for disabled travelers.
- TR-2.1. Develop safe and interconnected bicycle and pedestrian facilities, including along "complete" streets that target multiple travel modes.
- TR-2.2. Connect housing and employment development in areas with good transit access through open and inclusive processes where appropriate.

- TR-3.2. Require new development and transportation projects to reduce travel demand and greenhouse gas emissions, support electric vehicle charging, and accommodate multi-passenger autonomous vehicle travel as much as feasible.
- TR-4.2. Replace LOS with: (1) vehicle-miles traveled (VMT) per capita; and (2) impacts to non-automobile travel modes, as the metrics to analyze impacts related to land use proposals under the California Environmental Quality Act, in accordance with SB 743.
- TR-4.3. Use the threshold recommended by the California Office of Planning and Research for determining whether VMT impacts associated with land uses are considered significant under State environmental analysis requirements.

ACTIONS: TRANSPORTATION ELEMENT

- TR-1.1B. Maintain and periodically update a schedule for synchronizing traffic signals along arterial streets and freeway interchanges to facilitate the safe and efficient movement of people and goods and to provide signal priority for transit vehicles at intersections.
- TR-1.1C. Require roadways in new development areas to be designed with multiple points of access and to address barriers, including waterways and railroads, in order to maximize connectivity for all modes of transportation.
- TR-2.1A. Require safe and secure bicycle parking facilities to be provided at major activity centers such as public facilities, employment sites, and shopping and office centers, along with showers and lockers for major employment sites.
- TR-2.2A. Require major new development to incorporate and fund design features to promote safe and comfortable access to transit, such as a circulation network that facilitates efficient and connected bus travel, clear pedestrian and bicycle routes connecting origins and destinations to transit stops, sheltered bus stops, park-and-ride facilities, and highly visible transit information and maps.
- TR-3.2B. Require commercial, retail, office, industrial, and multifamily residential development to provide charging stations and prioritized parking for electric and alternative fuel vehicles.
- TR-4.2A. To evaluate the effects of new development and determine mitigation measures and impact fees, require projects to evaluate per capita VMT and impacts to transit, bicycle, and pedestrian modes.
- TR-4.3A. Amend the City's Transportation Impact Analysis Guidelines to:
    - Establish a threshold of 15 percent below baseline VMT per capita to determine a significant transportation impact under the California Environmental Quality Act
    - Identify screening criteria that will streamline certain types of development and/or development in certain areas by not requiring a VMT analysis.

POLICY: LAND USE ELEMENT

- LU-6.4. Ensure that land use decisions balance travel origins and destinations in as close proximity as possible, and reduce vehicle miles traveled (VMT).

ACTIONS: LAND USE ELEMENT

- LU-6.4A. Maintain a reasonable balance between potential job generation and local workforce availability with a goal of one job for each employed resident.
- LU-6.4B. Maintain a reasonable proximity and balance (i.e., magnitude) between job-generating uses, housing opportunities, and resident services and amenities, including transit and active transportation.
- LU-6.4C. Reduce Vehicle Miles Traveled (VMT) per household by planning new housing in closest proximity to employment centers, improving and funding public transportation and ridesharing, and facilitating more direct routes for pedestrians and bicyclists.

3.13.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on transportation and circulation if it would result in:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); and/or
- Result in inadequate emergency access.

VMT Significance Criteria

For residential projects, the *City of Stockton Traffic Impact Analysis Guidelines* specify a project-generated significance threshold of 15 percent below the citywide average for home-based VMT per resident. The guidelines state the citywide average is 17.46 home-based VMT per resident. 85 percent of the citywide average (i.e., 15 percent below the average) is 14.84 home-based VMT per resident. Therefore, a residential project that would generate more than 14.84 home-based VMT per resident would be considered to have a significant impact on VMT.

The Project effect on total VMT considers the project's influence on the VMT generation of surrounding land uses. The guidelines specify,

> "The cumulative project effect on VMT shall be estimated using the City limit boundary and extracting the total link-level VMT for both the no project and with project conditions."

As specified by the guidelines, the Project effect on VMT is evaluated by comparing citywide total VMT for the no project and with project conditions. Any single land use development project could not reduce citywide total VMT by 15 percent. Therefore, the significance of Project impacts on total VMT are evaluated by determining whether VMT with the project is greater than no-project VMT.

Other Impacts

Evaluation of potential transportation impacts related to conflict with existing and planned facilities, transportation hazards, emergency access, and construction activity are based on a review of Project changes to the transportation network and a qualitative assessment of whether those changes would conflict with applicable standards or result in detrimental conditions based on the thresholds of significance.

ANALYSIS METHODS

Project Description

Land uses included in the proposed Project include a mix of low-density residential, medium-density residential, and high-density residential, infrastructure, public facilities, and open space. The proposed Project includes:

- 421 low-density residential dwelling units,
- 796 medium-density residential dwelling units, and
- 194 high-density residential dwelling units.

The Project establishes a site for a 12-acre K-8 school to be developed by Lodi Unified School District (LUSD). The development of a K-8 school at this site is the discretionary decision of the LUSD, and while the proposed Project has planned for a school at this location, it will be determined by LUSD later through their decision-making process. If the LUSD decides to not pursue building a school at this site, then the site would be developed with 79 single family residential dwelling units with a medium-density residential designation.

Development of the potential school site with 79 single family dwelling units would result in greater impacts on VMT, compared to development as a K-8 school. Therefore, applying a conservatively high-impact approach, the VMT analysis assumes the site would be developed with 79 single family dwelling units.

Proposed Circulation Improvements

The proposed Project would connect with, expand, and tie directly to the existing circulation system in the City of Stockton. Additionally, the proposed Project would provide both standard sidewalks, and as part of specific project roadways, enhanced sidewalks (also referred to as “wellness walks”) throughout the development, along with bike lanes along the major arterials that the proposed Project fronts to offer additional bicycling and walking facilities for all of Stockton’s residents.

The Project includes an extension of the west-east trending Marlette Road that would provide several access points to the proposed development, and connect to West Lane and Lower Sacramento Road. Project traffic would be directed to Marlette Road, except for one (1) direct access point to West Lane, and then directed east or west along Marlette Road to West Lane and Lower Sacramento Road.

The neighborhoods within the Project site would include a network of minor collectors and residential streets. Additionally, sidewalks would be included per the City standards, along with enhanced sidewalks (also referred to as "wellness walks") throughout portions of the development to provide access to the two (2) parks and the trail system along Eight Mile Road.

Class IV bikeways (separated bikeways) would be provided along the major arterials that border the Project site, which includes Lower Sacramento Road, West Lane, and Eight Mile Road. A Class IV bikeway on Eight Mile Road and a Class I bike path between the proposed Project and the Woodbridge Irrigation Ditch would be provided.

The "wellness walk" network throughout the proposed Project, would provide bicyclists and walkers with a wider pathway to share a pedestrian-friendly option for traveling throughout the Project area. A connection would be provided from the "wellness walk" to the Class IV bikeway along West Lane and to the Class I bike path along the Project's northern boundary. Figure 2.0-8-A and Figure 2.0-8-B in the Project Description of this EIR shows the wellness walk network.

METHODOLOGY

This section describes the analysis methods used to determine impacts associated with transportation and circulation as defined by CEQA and SB 743 that would result from implementation of the Project.

VMT CEQA Guidelines

Recent changes to CEQA have changed how lead agencies use LOS in determining whether a project has a significant impact on transportation. As noted in the California Governor's Office of Planning and Research (OPR) document *Technical Advisory on Evaluating Transportation Impacts in CEQA* (California Governor's Office of Planning and Research 2018),

> "Senate Bill 743 (Steinberg, 2013), which was codified in Public Resources Code section 21099, required changes to the guidelines implementing CEQA (CEQA Guidelines) (Cal. Code Regs., Title 14, Div. 6, Ch. 3, § 15000 et seq.) regarding the analysis of transportation impacts. . . OPR has proposed, and the California Natural Resources Agency (Agency) has certified and adopted, changes to the CEQA Guidelines that identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts. With the California Natural Resources Agency's certification and adoption of the changes to the CEQA Guidelines, automobile delay, as measured by "level of service" and other similar metrics, generally no longer constitutes a significant environmental effect under CEQA. (Pub. Resources Code, § 21099, subd. (b)(3).)"

The *Envision Stockton 2040 General Plan* Policy TR-4.3 addresses the topic of VMT as an impact in CEQA documents. The policy states,

> "Use the threshold recommended by the California Office of Planning and Research for determining whether VMT impacts associated with land uses are considered significant under State environmental analysis requirements."

The OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA* provides recommended thresholds for determining the significance of VMT impacts associated with land use development projects. Specific thresholds are provided for residential, office, and retail commercial types of development.

The City of Stockton General Plan Action TR-4.3A states,

> "Establish a threshold of 15 percent below baseline VMT per capita to determine a significant transportation impact under the California Environmental Quality Act."

The 15 percent threshold in General Plan Action TR-4.3A is like thresholds for residential and office land use types recommended by OPR in the *Technical Advisory on Evaluating Transportation Impacts in CEQA*.

Notably, the *City of Stockton Traffic Impact Analysis Guidelines* was prepared before the recent changes to CEQA due to Senate Bill 743 (Steinberg 2013). As a result, the City guidelines specify use of LOS in determining whether a project has a significant impact. Consistent with the approach described in the OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA*, LOS will not be used in this traffic impact study as a basis for identifying significant impacts. Rather, the methods, assumptions and significance thresholds presented in the City guidelines will be used to determine whether the project is consistent or inconsistent with General Plan policies on LOS, and whether the magnitude of project-related inconsistency should be considered substantial. In this traffic impact study then, LOS is not used to identify a significant impact under CEQA; LOS is used to identify consistency with General Plan policies.

As noted above, the *City of Stockton Traffic Impact Analysis Guidelines* (adopted May 2, 2023) was prepared the requirements outlined in Senate Bill 743, and were used to determine if the proposed Project has a significant impact on VMT.

As discussed previously, LOS can no longer be used for evaluating project traffic impacts under CEQA with the passage of SB 743 and adoption of the amended CEQA Guidelines implementing SB 743 (see CEQA Guidelines Section 15064.3). Per CEQA Guidelines Section 15064.3, subdivision (c), the provisions in Section 15064.3 recommending VMT as the primary metric for analyzing traffic impacts shall apply on July 1, 2020.

This analysis relies on guidance provided in the OPR Technical Advisory (December 2018) to assess the Project's VMT impact. Specifically, this analysis considers the following:

- Does the Project meet one or more of the "screening thresholds" identified in the Technical Advisory, such that a detailed analysis is not necessary?
- If so, what information or data is available to support the conclusion that the Project meets the screening threshold and should be considered to have a less-than-significant transportation impact?

If the Project does not meet one or more of the "screening thresholds," this analysis would proceed to a detailed analysis of the Project's VMT impact. This includes quantifying the Project's VMT

generation and determining whether this VMT generation would not meet the recommended thresholds of significance in the OPR Technical Advisory or Envision Stockton 2040 General Plan policies.

VMT SCREENING ANALYSIS

Screen criteria specified in the *City of Stockton Traffic Impact Analysis Guidelines* were applied to the proposed Project, including:

- Transit Priority Areas (TPA);
- Affordable residential development;
- Small projects;
- Locally serving public facility;
- Local-serving retail; or
- Projects in low VMT areas.

Of these project types, only the criterion for projects located near major transit stops are codified in the updated CEQA Guidelines. The remaining criteria for small projects, affordable residential development, local-serving retail, or projects in low VMT areas are not codified in the CEQA Guidelines but are suggested by OPR based on research cited in the Technical Advisory.

CEQA Guidelines Section 15064.3, subdivision (b)(1), states that lead agencies should generally presume projects within ½-mile of an existing major transit stop or a stop along an existing high quality transit corridor will have a less-than-significant transportation impact. As the proposed Project is not located within an area that is served by transit or rail, a VMT analysis and project impacts must be identified.

IMPACTS AND MITIGATION MEASURES

Impact 3.13-1: Project implementation would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) (Significant and Unavoidable)

The proposed Project does not meet the screening criteria described in the *City of Stockton Traffic Impact Analysis Guidelines*; therefore, a detailed VMT analysis was conducted for the proposed Project. The City of Stockton General Plan travel demand model was used to determine if there would be significant VMT impact. As specified in the *City of Stockton Traffic Impact Analysis Guidelines*, the model was applied to the Project to identify two types of VMT, project-generated VMT and project effect on total VMT.

PROJECT GENERATED VMT

Table 3.13-1 presents the results of analysis of project-generated VMT under both Baseline Year and Cumulative Year conditions. As noted earlier, the significance threshold for project-generated VMT is 14.84 home-based VMT per resident.

TABLE 3.13-1: VMT ANALYSIS – HOME-BASED VMT

TYPE OF VMT	*BASELINE YEAR*	*CUMULATIVE YEAR*	*SIGNIFICANT IMPACT?*
Citywide Average (VMT per Resident)	17.46	--	--
85 Percent of Citywide Average (VMT per Resident	14.84	--	--
Project-Only VMT	93,252	81,385	--
Project-Only VMT per Resident (before Mitigation)	20.10	17.54	**Yes**
Project-Only VMT Per Resident (with Mitigation)	19.12	16.68	**Yes**

SOURCE: WK SHIJO CONSULTING, LLC, 2023.

As shown in Table 3.13-1, under Baseline Year conditions, the proposed Project would generate 20.10 home-based VMT per resident. This would be 35 percent above the significance threshold. As a result, the Project is considered to have a significant impact on VMT. Under Cumulative Year conditions, the Project would generate 17.54 home-based VMT per resident. This would be 18 percent above the significance threshold. As a result, the Project is considered to have a significant impact on VMT.

Mitigation measures implemented as Project Design Features, which are part of the Project as proposed, to reduce the impact of the Project on VMT were considered in compliance with the *City of Stockton Traffic Impact Analysis Guidelines*. The guidelines note:

> "A list of mitigation measures applicable for consideration at the project-site level can be found in the *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (GHG Handbook)."

The measures are described as mitigation measures to account for them in the quantitative analysis of VMT; however, as noted above, they are implemented as Project Design Features. The General Plan travel demand model, used to estimate VMT for the Project, does not adjust VMT estimates in response to pedestrian and bicycle measures like those described below. As a result, the VMT estimates presented in Table 3.13-1 and Table 3.13-2 for the "Before Mitigation" condition do not account for these project design features. Implementation of the following measures would reduce VMT from the "Before Mitigation" levels presented in Table 3.13-1 and Table 3.13-2. Reduced VMT estimates which include the effects of the following measures are described in Table 3.13-1 and Table 3.13-2 as the "With Mitigation" condition.

TABLE 3.13-2: VMT ANALYSIS – CITYWIDE TOTAL VMT

SCENARIO	*NO PROJECT*	*WITH PROJECT*	*WITH PROJECT VMT GREATER THAN NO PROJECT VMT?*
Baseline Year Before Mitigation	5,184,549	5,220,298	Yes
Baseline Year With Mitigation	--	5,215,729	Yes
Cumulative Year Before Mitigation	6,597,410	6,636,505	Yes
Cumulative Year With Mitigation	--	6,632,517	Yes

SOURCE: WK SHIJO CONSULTING, LLC, 2023.

PROJECT EFFECT ON TOTAL VMT

Table 3.13-2 above presents the results of analysis of the Project effect on total VMT under both Baseline Year and Cumulative Year conditions. As noted earlier, a project is considered to have a significant effect if total VMT with the project is greater than total VMT without the project.

As shown in Table 3.13-2, under Baseline Year conditions, citywide VMT under the no-project condition would be 5,184,549. VMT under the with-project condition would be 5,220,298. Because VMT with the Project would be greater than VMT under the no-project condition, the Project is considered to have a significant impact on total VMT.

Under Cumulative Year conditions, citywide VMT under the no-project condition would be 6,597,410. VMT under the with-project condition would be 6,636,505. Because VMT with the Project would be greater than VMT under the no-project condition, the Project is considered to have a significant impact on total VMT.

VMT REDUCTION MEASURES

T-18 Provide Pedestrian Network Improvement. The GHG Handbook notes:

> "This measure will increase the sidewalk coverage to improve pedestrian access. Providing sidewalks and an enhanced pedestrian network encourages people to walk instead of drive. This mode shift results in a reduction in VMT and GHG emissions."

As described above, the proposed Project would provide both standard sidewalks, and as part of specific project roadways, enhanced sidewalks (also referred to as "wellness walks") throughout the development, along with bike lanes along the major arterials that the proposed Project fronts to offer additional bicycling and walking facilities for all of Stockton's residents. The extent of the wellness walks is shown on the Project site plan in Figure 2.0-8-A and Figure 2.0-8-B in the Project Description of this EIR. The GHG Handbook notes the maximum reduction in GHG emissions and, therefore VMT, from this measure would be 3.4 percent.

T-19-A Construct or Improve Bike Facility. This measure is related to, and complementary to, the following measure: T-19-B. Construct or Improve Bike Boulevard. For measure T-19-A - Construct or Improve Bike Facility, the GHG Handbook notes:

> "This measure will construct or improve a single bicycle lane facility (only Class I, II, or IV) that connects to a larger existing bikeway network. Providing bicycle infrastructure helps to improve biking conditions within an area. This encourages a mode shift on the roadway parallel to the bicycle facility from vehicles to bicycles, displacing VMT and thus reducing GHG emissions. When constructing or improving a bicycle facility, a best practice is to consider local or state bike lane width standards. A variation of this measure is provided as T-19-B, Construct or Improve Bike Boulevard."

As applied to the Project, this measure is considered to focus on bicycle facilities that connect the Project site to community-wide facilities external to the Project site. As described above, bikeways would be provided along the major arterials that border the Project site; which includes Lower Sacramento Road, West Lane, and Eight Mile Road. A bikeway on Eight Mile Road and a bike path between the proposed Project and the Woodbridge Irrigation Ditch would be provided. The GHG Handbook notes the maximum reduction in GHG emissions and, therefore, VMT from this measure would be 0.8 percent.

T-19-B Construct or Improve Bike Boulevard. This measure is related to, and complementary to, the above measure: T-19-A. Construct or Improve Bike Facility. For measure T-19-B. Construct or Improve Bike Boulevard, the GHG Handbook notes:

> "Bicycle boulevards are a designation within Class III Bikeway that create safe, low-stress connections for people biking and walking on streets. This encourages a mode shift from vehicles to bicycles, displacing VMT and thus reducing GHG emissions. A variation of this measure is provided as T-19-A, Construct or Improve Bike Facility."

As applied to the proposed Project, this measure is considered to focus on bicycle facilities within the Project site that provide safe, low-stress facilities to encourage people biking and walking on streets. As described above, the proposed Project includes a "wellness walk" network, which would provide bicyclists and walkers with a wider pathway to share a pedestrian-friendly option for traveling throughout the Project area. A connection would be provided from the "wellness walk" to the bikeway along West Lane and to the bike path along the Project's northern boundary. The GHG Handbook notes the maximum reduction in GHG emissions and, therefore VMT, from this measure would be 0.2 percent.

T-20 Expand Bikeway Network. The GHG Handbook notes:

> "This measure will increase the length of a city or community bikeway network. A bicycle network is an interconnected system of bike lanes, bike paths, bike routes, and cycle tracks. Providing bicycle infrastructure with markings and signage on appropriately sized roads with vehicle traffic traveling at safe speeds helps to improve biking conditions (e.g., safety and convenience)."

As applied to the proposed Project, this measure is considered to focus on expansion of bicycle facilities beyond those described in adopted plan networks. Figure 4-1.B, North Stockton Citywide Backbone Network Map by Facility Type, of the *City of Stockton Bicycle Master Plan* and Figure 4-3, *Existing and Planned Bicycle Network*, of the *Envision Stockton 2040 General Plan*, show planned bicycle facilities along the proposed Project site frontages on:

- Eight Mile Road,
- Lower Sacramento Road, and
- West Lane.

In addition, the Bicycle Master Plan and the General Plan show a planned bicycle path along Bear Creek, located south of the Project site. The planned facilities along Lower Sacramento Road and West Lane would provide access to the Bear Creek bicycle path.

As described above, the proposed Project includes separated bikeways along the major arterials that border the Project site; which includes Lower Sacramento Road, West Lane, and Eight Mile Road. A Class IV bikeway on Eight Mile Road and a Class I bike path between the proposed Project and the Woodbridge Irrigation Ditch would be provided.

In addition, the proposed Project would provide the "wellness walk" network throughout the Project site. The "wellness walk" network is an expansion of bicycle facilities beyond those shown in the Bicycle Master Plan and the General Plan. The GHG Handbook notes the maximum reduction in GHG emissions and, therefore VMT, from this measure would be 0.5 percent.

Based on estimates presented in the GHG Handbook, implementation of the Project Design Features recommended above could result in a maximum reduction in VMT of 4.9 percent. It would be reasonable to expect implementation of the measures to result in a reduction somewhat less than 4.9 percent. As a result, implementation of the recommended Project Design Features would not reduce the Project impact on VMT to a less than significant level.

Mitigation Measure 3.13-1, which requires travel demand management (TDM) strategies, would be required. Implementation of Mitigation Measure 3.13-1 is feasible because it is within the applicant's purview to implement and has been found effective in previous academic studies. However, the precise effectiveness of specific TDM strategies can be difficult to accurately measure due to several external factors such as types of tenants, employee responses to strategies, and changes to technology. Additionally, it is noted that with the current planned growth and development in the City of Stockton, the City's jobs-housing ratio is expected to increase in 2040, and city-wide home-based work VMT per worker is projected to increase. TDM strategies alone cannot eliminate VMT increases caused by land use imbalance in the rest of the City and greater San Joaquin County geographic area.

Within the City of Stockton and San Joaquin County, there is no requirement to prepare a TDM plan for residential uses. Additionally, specific vehicle trip reduction targets or monitoring of the effectiveness of the Project-specific TDM Plan are not required by San Joaquin County as of January 2024.

The City of Stockton adopted their Transportation Impact Analysis Guidelines (TIAG) in May 2023 which includes strategies that are intended to reduce vehicular travel to meet the requirements of SB 743. The TIAG includes provisions for TDM strategies to reduce the amount of vehicle traffic generated by new employment development by creating measures, strategies, incentives, and policies to shift employees from driving alone and have these employees be aware of and look into the ability of using other travel modes including carpooling, transit (bus and commuter tail), cycling, and walking. In addition, employees who initially arrive in a vehicle would also be encouraged to use

alternative travel modes (walking and bicycling). It is possible that the Project would result in schools employees, should the LUSD develop the proposed school site.

As part of this on-going effort to reduce VMT and associated greenhouse gas emissions in the City and region, a TDM Plan will be developed based on California Air Pollution Control Officers Association (CAPCOA) strategies that evaluate any project against mode split targets and other elements outlined by the City of Stockton.

To monitor the effectiveness of the TDM Plan, there are several viable options that may be required by the City of Stockton as part of the TIAG, including annual surveys to determine employee travel mode split and travel distance for home-based work trips, and/or the implementation of technology to determine the amount of traffic generated by and home-based work miles traveled by employees.

As part of Mitigation Measure 3:13-1, the proposed Project would be required to monitor and evaluate the effectiveness of the Project's TDM Plan and provide the results to the City of Stockton. Based on the results of the evaluation, modifications to the TDM Plan may be required by the City to improve effectiveness toward achieving the home-based work VMT per worker target identified in the City's TIAG.

Based on the status of the City of Stockton's TIAG, even with the implementation of Mitigation Measure 3.13-1, the impact would remain ***significant and unavoidable*** when compared to the City of Stockton's VMT goal of reducing average home-based work VMT per worker from 18.56 miles to 15.66 miles.

MITIGATION MEASURE(S)

Mitigation Measure 3.13-1: *The Project applicant shall work with the City of Stockton to implement feasible Transportation Demand Management (TDM) strategies, which would decrease the VMT generated by the Project. Specific potential TDM strategies include, but are not limited to, the following:*

- *Provide public transit service, including improving San Joaquin Rapid Transit District (RTD) transit service connecting workers with existing and future residential developments;*
- *Implement a fair value commuting program or other pricing of vehicle travel and parking;*
- *TDM coordinator for large employers, such as the LUSD, should the school site be developed;*
- *Provide carpool and/or vanpool incentive programs;*
- *Provide on-site lockers and showers for workers who take alternative transportation, such as those employed by the LUSD, should the school site be developed;*
- *Promote walking and bicycling for employees who live and/or work in the area through the preparation of an Active Transportation Plan;*
- *Incentivize the use of alternative travel modes for travel within the project site through shared use of e-bikes and e-scooters;*

- *Allow flexible work hours and schedule classes to reduce arrivals/departures during peak hours; and*
- *Employer coordination to SJCOG's DIBs program for workers.*

The TDM Plan shall be submitted to the City for review, and the effectiveness of the TDM Plan shall be evaluated, monitored, and revised, if necessary. The TDM Plan shall include the TDM strategies which will be implemented during the lifetime of the proposed Project and shall outline the anticipated effectiveness of the strategies. The effectiveness of the TDM Plan may be monitored through annual surveys to determine employee travel mode split and travel distance for home-based work trips, and/or the implementation of technology to determine the amount of traffic generated by and home-based work miles traveled by employees, which shall be determined in coordination with the City.

Impact 3.13-2: Project implementation would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities (Less than Significant)

Implementation of the proposed Project would result in an increase in demand for public transit service in the vicinity of the Project site. However, the proposed Project would not disrupt an existing transit facility or service, and would not interfere with the implementation of future transit service. Therefore, the impact of the Project on public transit service is considered ***less than significant***.

Implementation of the Project would result in the construction of a network of bicycle and pedestrian facilities. These facilities would include:

- Enhanced sidewalks (also referred to as "wellness walks") throughout the Project site;
- Class IV bikeways (separated bikeways) along Lower Sacramento Road, West Lane, and Eight Mile Road; and
- A Class I bike path between the proposed Project and the Woodbridge Irrigation Ditch.

Implementation of the proposed Project would not disrupt existing bicycle or pedestrian facilities, interfere with planned bicycle or pedestrian facilities; or cause other changes to bicycle or pedestrian systems that would be inconsistent with performance expectations established in adopted bicycle or pedestrian system plans, guidelines, policies, or standards. Therefore, the impact of the proposed Project on bicycle and pedestrian facilities is considered ***less than significant***.

Impact 3.13-3: Project implementation would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (Less than Significant)

Implementation of the proposed Project would not result in a geometric design feature that is inconsistent with applicable design standards for the City of Stockton. The Project would not

result in a significant change to the vehicle mix or speed of traffic that is not compatible with the design of existing or planned facility design.

As described above, the City of Stockton *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* presents information on the number and location of traffic accidents, bicycle accidents, and pedestrian accidents. The *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* identifies for the six years between 2009 and 2014:

- The 21 locations in the City with the highest number of reported accidents;
- The seven locations in the City with the highest number of reported bicycle accidents; and
- The nine street corridors in the City with the highest number of vehicle-pedestrian injury collisions.

One intersection and one roadway corridor identified with high numbers of accidents are within the Project site vicinity. The intersection of West Lane and Hammer Lane is listed as a location with a high number of bicycle accidents. The Hammer Lane corridor is listed as a street corridor with a high number of pedestrian accidents. The proposed Project is expected to result in project-related traffic through the intersection and along the street corridor. However, the Project would not result in a significant change to the vehicle mix or speed of traffic that is not compatible with the design of existing or planned facility design.

Implementation of the proposed Project would provide site access via collector roadway connections with West Lane and Marlette Road. The roadway connections would be designed and constructed per local design standards and requirements, consistent with accepted design guidelines for safety. The internal Project streets would be designed to meet the City's geometric design standards to avoid creating hazardous driving conditions. The internal Project streets would provide ADA compliant sidewalk along each side of the roadways so that pedestrians would be separated from vehicle traffic per city standards. Proposed roadway geometries/cross-sections and design features would be reviewed as part of final maps and improvement plan review to confirm that proposed designs are consistent with the local code and design standards and confirm that design features do not limit sight distance. As a result, implementation of the proposed Project would not be anticipated to introduce hazardous geometric design features.

Because the proposed Project would not substantially exacerbate an existing safety problem and is not anticipated to introduce new hazardous geometric design features, the Project is considered to have a ***less than significant*** impact on traffic, bicycle, and pedestrian accidents.

Impact 3.13-4: Project implementation would not result in inadequate emergency access (Less than Significant)

Implementation of the proposed Project would not create roadway and transportation facilities that impede access for emergency response vehicles.

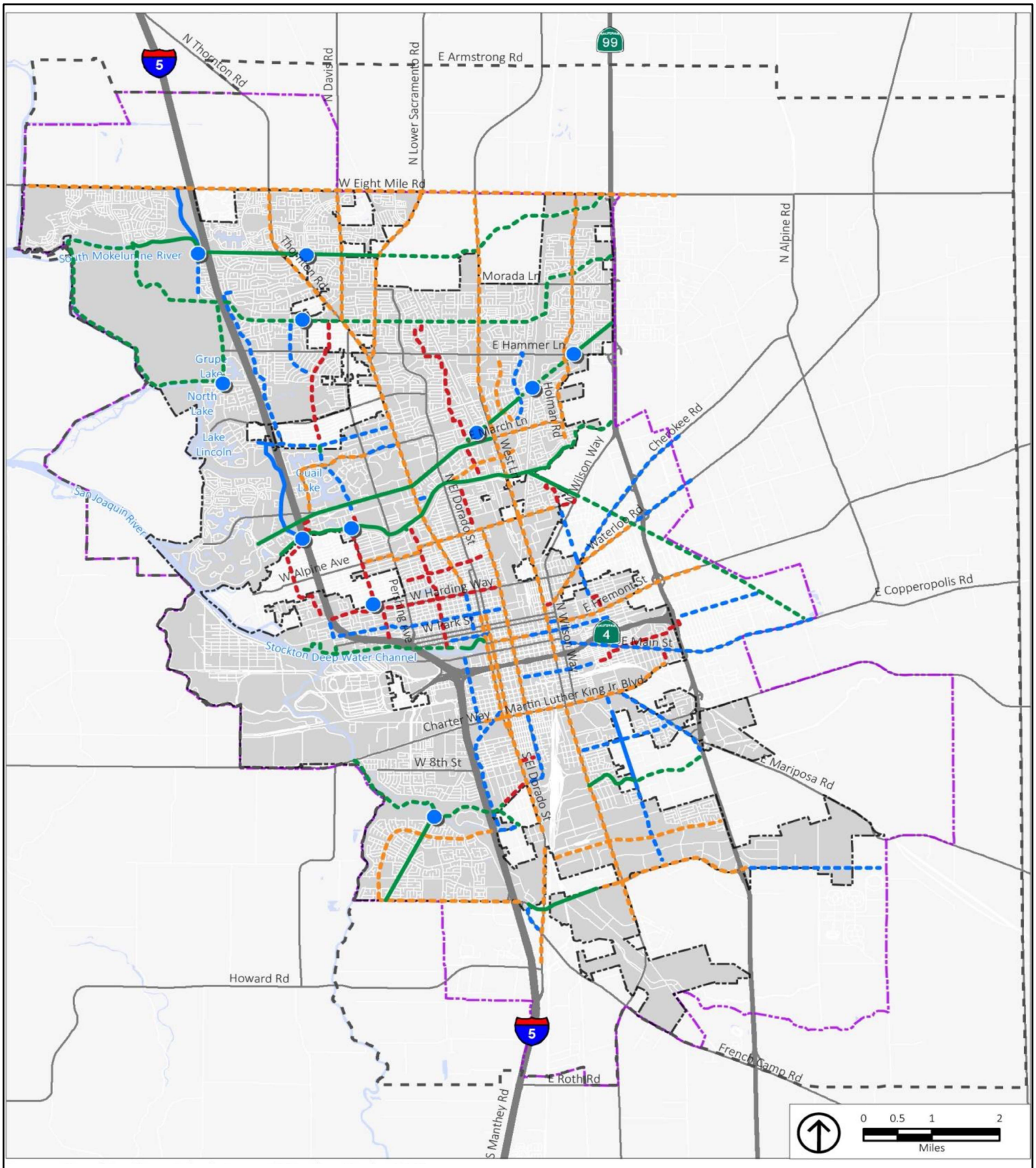
Several emergency (police and fire) services are located within the Project site vicinity, including Fire Station 13, which is the closest to the Project site and located approximately 1.5 miles east of the Project site. As described above, the Project includes an extension of the west-east trending Marlette Road that would provide several access points to the proposed development, and connect to West Lane and Lower Sacramento Road. Project traffic would be directed to Marlette Road, except for one direct access point to West Lane, and then directed east or west along Marlette Road to West Lane and Lower Sacramento Road. Access to the proposed Project would not occur from Eight Mile Road, thus eliminating any conflicts with the flow of traffic on Eight Mile Road. In addition, the internal transportation network is designed to maintain high levels of emergency vehicle accessibility and mobility, which ensures vehicles have the necessary access when responding to an emergency. Emergency vehicles arriving from Lower Sacramento Road or from the secondary access point from West Lane will have unimpeded access to the Project site. Therefore, this impact would be ***less than significant***.

Impact 3.13-5: Project implementation would not cause impacts due to construction (Less than Significant)

Implementation of the proposed Project would involve construction activities that could cause temporary impacts to transportation facilities, including temporary roadway closures and degrading roadway pavement conditions. Most of the construction activity would occur on the Project site, including the construction of the internal transportation system.

The Project would be developed in six (6) phases. A portion of the Central Park would be developed in Phase 1. The sequence of phasing would generally be from the future Marlette Road, to the north, toward Eight Mile Road. During construction, there may be periods of active construction in one (1) or more areas of the Project site, depending on the location of each phase and the individual timelines for Project components. Most of the construction activity would occur on the Project site. Therefore, this impact would be ***less than significant***.

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LEGEND

Existing Bicycle Network
- Class I (Bike Path)
- Class II (Bike Lane)

Planned Bicycle Network
- Class I (Bike Path)
- Class II (Bike Lane)
- Class III (Bike Route)
- Class IV (Separated Bikeway)

- New Bridge
- General Plan Planning Area
- City Limit
- Sphere of influence

STOCKTON LEBARON RANCH

Figure 3.13-1 Existing and Planned Bicycle Network

Sources: City of Stockton; Fehr & Peers, 2016; PlaceWorks, 2017. Map date: December 11, 2023.

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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This section describes the regulatory setting, impacts associated with wastewater services, water services, storm drainage, and solid waste disposal that are likely to result from Project implementation, and measures to reduce potential impacts to wastewater, water supplies, storm drainage, and solid waste facilities. This section is based in part on the following documents, reports and studies:

- *Envision Stockton 2040 General Plan* (City of Stockton, 2018);
- *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* (City of Stockton, 2018);
- *City of Stockton Sphere of Influence Plan/Municipal Service Review, San Joaquin Local Agency Formation Commission Final Draft* (City of Stockton, 2020);
- *California's Groundwater,* CalRecycle *Solid Waste Information System,* CalRecycle *Jurisdiction Diversion/Disposal Rate Summary*;
- *City of Stockton 2020 Urban Water Management Plan* (City of Stockton, 2021);
- *City of Stockton, Water Master Plan Update* (City of Stockton, 2021);
- *City of Stockton, Wastewater Master Plan Update* (City of Stockton, 2022);
- *City of Stockton NPDES Municipal Stormwater Program Stormwater Management Plan* (2009); and
- *LeBaron Ranch Project Water Supply Assessment* (West Yost, 2023).

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: Central Valley Regional Water Quality Control Board (CVRWQCB). Each of the comments related to this topic are addressed within this section. Full comments received are included in Appendix A.

3.14.1 WASTEWATER SERVICES

ENVIRONMENTAL SETTING

Wastewater service is provided by the City of Stockton via their network of collection infrastructure and the Stockton Regional Wastewater Control Facility (RWCF), which is located on Navy Drive in southwest Stockton. The RWCF provides secondary and tertiary treatment of municipal wastewater throughout the City. The remainder of the City is served by on-site private septic systems, or lie outside the urban service area. The existing wastewater collection system service area includes residential, commercial, industrial, municipal and mixed-use areas within the City, as well as 17 unincorporated areas.

Wastewater Conveyance

Municipal wastewater treatment and collection services in the Stockton city limits are provided by the City of Stockton Municipal Utilities Department (COSMUD). The existing City of Stockton wastewater collection system is divided into 10 designated sub-areas or "systems." The City's wastewater collection system comprises of just over 1,000 miles of gravity mains ranging from 4-inch diameter to 84-inch diameter, as well as 35 pump stations and approximately 37 miles of active

force mains ranging from 2-inch diameter to 42-inch diameter. The Project site is located within Collection Service Area No. 10 (City of Stockton, 2022).

GRAVITY SEWERS

Current City standards call for all gravity sewers to be designed for full-pipe gravity flow. Surcharging results in sewers that do not meet this criterion under a given flow condition. For planning purposes, the available capacity is zero (0) in gravity sewers with a predicted peak flow equal to or greater than the full-pipe gravity flow capacity. The following standards are used in the design of gravity sewers. Pipes must be sloped to produce a minimum of two (2) feet per second (fps) at peak flow. Flatter slopes (as low as 0.0006 ft/ft) have been allowed for some designs in Stockton to accommodate project-specific constraints. It can be difficult to maintain the desired grade during construction of pipelines at slopes less than 0.001 ft/ft. Initial flows during the early years will be lower than the design flows, causing velocities to be lower. During design, steeper slopes should be considered where feasible. Additional maintenance or other measures may be required to control odors in sewers with initially low velocities.

FORCE MAINS

Force mains convey flow from pump stations to a downstream gravity sewer. There are approximately 158,000 lineal feet of force mains in the City's model, representing all city-owned force mains of significant length as well as some private pumping and force main systems. City design standards recommend that force main velocities should be limited to "around seven (7) fps" for lengths up to 300 ft, and "around five (5) fps" for lengths in excess of 1,000 ft.

EXISTING PUMP STATIONS

Wastewater pumping stations are located throughout the City and are integral to the wastewater collection system. Most of the pump stations discharge to pressure sewers (force mains) that convey flow under pressure either directly to the RWCF or to a downstream gravity sewer. An existing sewer pump station is located to the south of the Project site at Thorton & Davis.

Wastewater Treatment

Wastewater from the City is currently treated at the City of Stockton RWCF. The City owns and operates the RWCF. The City's *Wastewater Master Plan Update* (City of Stockton, 2022), *City of Stockton Sphere of Influence Plan/Municipal Service Review, San Joaquin Local Agency Formation Commission Final Draft* (City of Stockton, 2020), and *CRWQCB Central Valley Waste Discharge Requirements for the City of Stockton Regional Wastewater Control Facility* are the primary documents that outline the City's long term strategy for meeting future discharge and capacity requirements for a planning horizon that extends to build-out of the General Plan. The RWCF effluent is currently regulated by CVRWQCB Order No. R5-2020-007, NPDES CA0079138. Currently, the Facility is designed to treat and provide a discharge of up to 55 million gallons per day of tertiary treated wastewater to the San Joaquin River, within the Sacramento-San Joaquin Delta. The facility collects and treats an average of 33 million gallons of wastewater daily, from approximately 116,000 sewer connections in the City and nearby San Joaquin County areas. The City of Stockton RWCF

sewer treatment plan is undergoing the Modifications Project to modernize the facility, and to accommodate growth initially through 2035 with the ability to expand through 2045 and beyond. All existing and planned development areas and the unincorporated islands are expected to be served by the RWCF under the Envision Stockton 2040 General Plan buildout development conditions, regardless of water source, as a prudent planning assumption for the purposes of the City's Wastewater Master Plan Update (City of Stockton, 2023).

The Facility consists of tertiary level wastewater treatment. After primary and secondly treatment, the wastewater undergoes tertiary treatment in facultative lagoons, constructed wetlands, two (2) nitrifying biotowers, dissolved air floatation, mixed-media filters, and is disinfected using chlorination/dechlorination facilities. It should be noted that an amendment to the Facility's waste discharge requirements was provided in 2014, under Order R5-2020-007. Under this order, effluent limitations for electrical conductivity are removed.

WASTEWATER QUALITY

The RWCF provides primary treatment consisting of screening, grit removal, and primary sedimentation, and secondary treatment consisting of high-rate trickling filters and secondary clarifiers. The secondary treated effluent is piped under the San Joaquin River to the tertiary level treatment facility, which consists of facultative ponds, engineered wetlands, two (2) nitrifying biotowers, dissolved air flotation, mixed-media filters, and chlorination/dechlorination facilities. Several of the ponds are operated in a stand-by mode of operation as necessary, to achieve improved effluent quality by decreasing solids loading on the downstream treatment process, and by maintaining stable ammonia loading to the nitrifying biotowers.

Sludge is removed from the primary and secondary sedimentation processes to gravity thickeners for preliminary water removal, and then pumped to anaerobic digesters. After digestion, the treated sludge is pumped to a lagoon where anaerobic digestion continues. A dredge is used to pump the concentrated material from the bottom of the lagoon to a belt filter press and dewatered biosolids are removed by a private contractor for off-site agricultural reuse. Wastewater is discharged from Discharge Point No. 001 to the San Joaquin River, within the Sacramento-San Joaquin Delta.

The RWCF discharges directly into the southern portion and just upstream of the Stockton Deep Water Ship Channel (DWSC). There are two (2) Water Quality Limited Segments (WQLSs) in this Channel, which are 303(d)-listed for: chloropyrifos, DDT, Diazinon, Dioxin, EC, exotic species, furan compounds, group A pesticides, mercury, pathogens, PCBs, and unknown toxicity. Effluent limitations for EC, mercury, pathogens, and toxicity are included in the CVRWQCB Order No. R5-2020-007, NPDES CA0079138.

The Waste Discharge Requirements, under Order No. R5-2020-007, NPDES CA0079138, specify that effluent from the RWCF shall not exceed the quantities presented in Table 3.14-1 (Effluent Limitations).

TABLE 3.14-1: EFFLUENT LIMITATIONS

CONSTITUENT	*UNITS*	*AVERAGE MONTHLY*	*AVERAGE WEEKLY*	*MAXIMUM DAILY*
Total Suspended Solids (TSS)	mg/L	10	15	--
5-Day CBOD @ 20 degree C	mg/L	10	15	--
Bromoform	Micrograms per liter (µg/L)	38	--	110
Chlorodibromomethane	µg/L	29	--	75
Dichlorobromomethane	µg/L	17	--	34
Ammonia Nitrogen, Total (as N) 1 April through 31 October	mg/L	1.2	3.2	--
Ammonia Nitrogen, Total (as N) 1 November through 30 November	mg/L	2.3	7.5	--
Ammonia Nitrogen, Total (as N) 1 December through 31 March	mg/L	2.4	7.6	--
Ammonia Nitrogen, Total (as N) 1 April through 31 October	lbs/day	550	1,500	--
Ammonia Nitrogen, Total (as N) 1 November through 30 November	lbs/day	1,100	3,400	--
Ammonia Nitrogen, Total (as N) 1 December through 31 March	lbs/day	1,100	3,500	--
Nitrate Plus Nitrite, Total (as N) Effective 1 June 2024	mg/L	10	14	--

SOURCE: CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, CENTRAL VALLEY REGION. NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CA 0079138 ORDER R5-2020-0007.

REGULATORY SETTING

Clean Water Act (CWA) / National Pollutant Discharge Elimination System (NPDES) Permits

The CWA is the cornerstone of water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

The CWA regulates discharges from "non-point source" and traditional "point source" facilities, such as municipal sewage plants and industrial facilities. Section 402 of the Act creates the NPDES regulatory program which makes it illegal to discharge pollutants from a point source to the waters of the United States without a permit. Point sources must obtain a discharge permit from the proper authority (usually a state, sometimes EPA, a tribe, or a territory). NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, storm water associated with numerous kinds of industrial activity, runoff from construction sites disturbing more than one acre, mining operations, and animal feedlots and aquaculture facilities above certain thresholds.

Permit requirements for treatment are expressed as end-of-pipe conditions. This set of numbers reflects levels of three (3) key parameters: (1) biochemical oxygen demand (BOD), (2) total suspended solids (TSS), and (3) pH acid/base balance. These levels can be achieved by well-operated sewage plants employing "secondary" treatment. Primary treatment involves screening and settling, while secondary treatment uses biological treatment in the form of "activated sludge."

All so-called "indirect" dischargers are not required to obtain NPDES permits. An indirect discharger is one that sends its wastewater into a city sewer system, so it eventually goes to a sewage treatment plant. Although not regulated under NPDES, "indirect" discharges are covered by another CWA program called pretreatment. "Indirect" dischargers send their wastewater into a city sewer system, which carries it to the municipal sewage treatment plant, through which it passes before entering surface water.

The City's current NPDES Permit, which regulates the wastewater effluent quantity and quality upon discharge, was issued by the Central Valley Regional Water Quality Control Board, Central Valley Region, and is Order R5-2020-007 and Order CA0079138.

The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the United States from construction sites that disturb one (1) or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The Construction General Permit requires the development and implementation of a SWPPP that includes specific BMPs designed to prevent pollutants from contacting stormwater and keep all products of erosion from moving off-site into receiving waters. The SWPPP BMPs are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area.

Porter-Cologne Water Quality Control Act

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the Regional Water Quality Control Boards (RWQCBs) power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites, and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a Water Quality Control Plan (Basin Plan) for its region. The regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

State Water Resources Control Board/Regional Water Quality Control Board

In California, all wastewater treatment and disposal systems fall under the overall regulatory authority of the State Water Resources Control Board (SWRCB) and the nine (9) California Regional Water Quality Control Boards (RWQCBs), who are charged with the responsibility of protecting beneficial uses of State waters (ground and surface) from a variety of waste discharges, including wastewater from individual and municipal systems. The Project site falls within the jurisdiction of the Central Valley RWQCB.

The RWQCB's regulatory role often involves the formation and implementation of basic water protection policies. These are reflected in the individual RWQCB's Basin Plan, generally in the form of guidelines, criteria and/or prohibitions related to the siting, design, construction, and maintenance of on-site sewage disposal systems. The SWRCB's role has historically been one of providing overall direction, organizational and technical assistance, and a communications link to the State legislature.

The RWQCBs may waive or delegate regulatory authority for on-site sewage disposal systems to counties, cities or special districts. Although not mandatory, it is commonly done and has proven to be administratively efficient. In some cases, this is accomplished through a Memorandum of Understanding (MOU), whereby the local agency commits to enforcing the Basin Plan requirements or other specified standards that may be more restrictive. The RWQCBs generally elect to retain permitting authority over large and/or commercial or industrial on-site sewage disposal systems, depending on the volume and character of the wastewater.

Envision Stockton 2040 General Plan

The Envision Stockton 2040 General Plan contains the policies related to wastewater that are applicable to the proposed Project.

POLICY: LAND USE ELEMENT

- LU-6.3. Ensure that all neighborhoods have access to well-maintained public facilities and utilities that meet community service needs.

ACTION: LAND USE ELEMENT

- LU-6.3.A. Require development to mitigate any impacts to existing sewer, water, stormwater, street, fire station, park, or library infrastructure that would reduce service levels.

POLICY: SAFETY ELEMENT

- SAF-3.4: Ensure adequate collection, treatment, and safe disposal of wastewater.

ACTION: SAFETY ELEMENT

- SAF-3.4.A.: Require all new urban development to be served by an adequate wastewater collection system to avoid possible contamination of groundwater from onsite wastewater disposal systems.

City of Stockton Municipal Code

The City of Stockton Municipal Code, Title 13 (Public Services), Chapter 13.12 (Wastewater User Charges and Fees) contain regulations associated with sewer management. Title 13 (Public Services), Chapter 13.12 (Wastewater User Charges and Fees), Section 13.12.190 (Payment of Fees – Responsible Party – Responsibilities of Property Owner) requires developers of property to pay a sewer facility development fee.

Limits for concentrations of pollutants discharged into City sewers are set forth in City of Stockton Municipal Code Sections 13.08.230, -240, and -250.

Utility Master Plans

The City of Stockton maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the City limits. These include: *2020 City of Stockton Urban Water Management Plan* (Stockton, 2021), *Wastewater Master Plan Update* (Stockton, 2022), and *Water Master Plan Update* (Stockton, 2021).

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on the environment associated with Utilities *if* it will:

1. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

2. Require or result in the construction of new wastewater treatment and/or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

3. Result in a determination by the wastewater treatment and/or collection provider which serves or may serve the Project that is does not have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-1: The proposed Project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (Less than Significant)

WASTE DISCHARGE REQUIREMENTS (WDRS) CVRWQCB ORDER NO. R5-2020-007, NPDES CA0079138.

The City of Stockton owns and operates a wastewater collection, treatment, and disposal system, and provides sanitary sewerage service to the City of Stockton. On April 1, 2020, the RWQCB adopted Waste Discharge Requirements (WDRs) Board Order Number R5-2020-0007, NPDES CA0079138, prescribing waste discharge requirements for the City of Stockton RWCF.

The RWCF provides secondary and tertiary treatment of municipal wastewater from throughout the City. The remainder of the City is served by on-site septic systems, or lie outside the urban service area. The RWCF processes an average of 33 million gallons per day (mgd). The treated wastewater is discharged into the San Joaquin River. Additionally, the RWCF sewer treatment plan is undergoing the Modifications Project to modernize the facility, and to accommodate growth initially through 2035 with the ability to expand through 2045 and beyond.

As described previously, the RWCF provides primary treatment consisting of screening, grit removal, and primary sedimentation, and secondary treatment consisting of high rate trickling filters and secondary clarifiers. The secondary treated effluent is piped under the San Joaquin River to the tertiary level treatment facility, which consists of facultative ponds, engineered wetlands, two nitrifying biotowers, dissolved air flotation, mixed-media filters, and chlorination/dechlorination facilities. Several of the ponds are operated in a stand-by mode of operation as necessary, to achieve improved effluent quality by decreasing solids loading on the downstream treatment process, and by maintaining stable ammonia loading to the nitrifying biotowers.

Sludge is removed from the primary and secondary sedimentation processes to gravity thickeners for preliminary water removal, and then pumped to anaerobic digesters. After digestion, the treated sludge is pumped to a lagoon where anaerobic digestion continues. A dredge is used to pump the concentrated material from the bottom of the lagoon to a belt filter press and dewatered biosolids are removed by a private contractor for off-site agricultural reuse. Wastewater is discharged from Discharge Point No. 001 to the San Joaquin River, within the Sacramento-San Joaquin Delta.

To account for the additional wastewater flows in the Project area after the construction of the proposed Project, additions to the existing wastewater infrastructure will be needed. The sanitary sewer collection will be by an underground collection system installed as per the City of Stockton standards and specifications. Sanitary sewer disposal will flow to the City's RWCF for treatment. Improvements include connection to existing sanitary sewer lines.

The City of Stockton's wastewater treatment system is currently in compliance with the waste discharge requirements of Order Number R5-2020-0007, NPDES CA0079138. The wastewater

treatment system options covered under this Order include: City of Stockton RWCF, including discharge to the San Joaquin River. The development of the proposed Project under this permitted option would not exceed the wastewater discharge requirements in this Order. The proposed Project is anticipated to have a ***less than significant*** impact relative to this topic. The allocation of wastewater service capacity is discussed in the following impact topic.

Impact 3.14-2: The proposed Project would not result in a determination by the wastewater treatment and/or collection provider which serves or may serve the Project that is does not have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments (Less than Significant with Mitigation)

The City's *Wastewater Master Plan Update* includes projected wastewater generation factors for General Plan land uses. The *Water Master Plan Update* also provides overall projected water demand for the COSMUD service area. The facility collects and treats an average of 33 mgd, and is designed to treat and provide a discharge of up to 55 mgd. Future capacity improvements are planned as part of the City's ongoing commitment to provide adequate wastewater capacity for all users within its service area. All existing and planned development areas and the unincorporated islands are expected to be served by the RWCF under the Envision Stockton 2040 General Plan buildout development conditions, regardless of water source, as a prudent planning assumption for the purposes of the City's Wastewater Master Plan Update. The Project, which is consistent with the 2040 General Plan, is included in the buildout estimations and planned capacity of the RWCF.

As shown in Table 3.14-2, based on the generation factors for residential and parks and recreational lands uses in the City of Stockton, the proposed Project is estimated to generate approximately 613,040 gallons per day (gpd) of wastewater or approximately 1.9 percent of the City's current 33 mgd current average flow. The table assumes the proposed Project without the school, since it would be the highest level of wastewater produced.

TABLE 3.14-2: ESTIMATED WASTEWATER FLOW GENERATION RATES BY GENERAL PLAN LAND USE CATEGORY

LAND USE	*PROPOSED ACRES WITHOUT SCHOOL*	*PROPOSED FLOW FACTOR FOR FUTURE GROWTH, GDP/ACRE*	*WASTEWATER FLOW GENERATED, GDP/ACRE*
Low Density Residential	78.0	2,000	156,000
Medium Density Residential	113.6	3,500	397,600
High Density Residential	9.5	6,000	57,000
Institutional	0	1,500	0
Open Space/Agricultural	22.7	0	0
Parks and Recreation	12.2	200	2,440
Total	236.3	-	613,040

SOURCE: CITY OF STOCKTON WASTEWATER MASTER PLAN UPDATE, PG ES-5.

Municipal wastewater collection and treatment will be provided by the City of Stockton. The site is within the City Urban Service Area and has been included in the City's Wastewater Collection System Master Plan. The proposed Project would be located within System 10 sub-area of the City of Stockton wastewater collection system. This plan has anticipated the extension of municipal wastewater collection and treatment service for the Project site. Certain unit processes within the

City's wastewater treatment facility are approaching their functional capacity, and expansion of the treatment facility to meet anticipated demands resulting from growth in Stockton is the subject of an ongoing planning and engineering effort. The treatment plant has adequate capacity to serve anticipated short-term development within the City, and expansion plans provide for creation of additional capacity over time to meet anticipated demands generated from the annexation area and other growth areas of the City.

Occupancy of the proposed Project would be prohibited without sewer allocation, as required by section 13.12.100, Mandatory Sanitary Service Required, of the City's Municipal Code. An issuance of sewer allocation from the City's available capacity would ensure that there would be a final determination by the wastewater treatment and/or collection provider that there is adequate capacity to serve the proposed Project's projected demand in addition to the provider's existing commitments. Additionally, any planned expansion to the RWCF with a subsequent allocation of capacity to the proposed Project would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the proposed Project's projected demand in addition to the provider's existing commitments. Mitigation Measure 3.14-1 requires the Project proponent to secure adequate wastewater treatment capacity/allocation prior to occupancy of any building which would require wastewater treatment services. Implementation of Mitigation Measure 3.14-1 would reduce this potential impact to a ***less than significant*** level.

MITIGATION MEASURE(S)

Mitigation Measure 3.14-1: *Prior to occupancy of any building that would require wastewater treatment services, the Project proponent shall secure adequate wastewater treatment capacity/allocation.*

Impact 3.14-3: The proposed Project would not require or result in the construction of new wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (Less than Significant)

The wastewater collection and conveyance system that will serve the proposed Project will consist of engineered infrastructure consistent with the City's existing infrastructure requirements. Wastewater services would be provided by existing and planned City of Stockton collection and treatment system. Wastewater treatment would be provided at the City's existing RWCF. Wastewater collection would be provided by the City's existing Wastewater Collection System No. 10 (System 10). The Project proposes an 18-inch sewer line in Marlette Road that would connect with a sewer trunk main in West Lane that will be constructed as part of the Tra Vigne project (located east of the proposed Project site). The existing facilities, including the Stockton RWCF, have undergone environmental review and have waste discharge permits from the State.

New wastewater collection and conveyance infrastructure needed for the proposed Project will require trenching/excavation of earth, and placement of pipe within the trenches at specific locations, elevations, and gradients. The applicant will refine the wastewater collection/conveyance

infrastructure design through the development of improvements plans which undergo a review by the Public Works Department to ensure consistency with the City's engineering standards. This improvement plan process will include full engineering design (i.e. location, depth, slope, etc.) of all conveyance infrastructure as well as a review of new sewer pump stations and new force mains if needed. Ultimately, the sanitary sewer collection system will be an underground collection system installed as per the City of Stockton standards and specifications. Sanitary sewer disposal and treatment will be to the RWCF.

Wastewater from the Project site will be collected and conveyed via a network of gravity flow sewer main lines serving the development. An internal pipe collection system having various diameters will be installed within the Project site and associated off-site improvement areas. These future on-site effluent collection facilities will discharge into the City system.

The wastewater treatment plant would not require upgrades or improvements in order to serve the proposed Project. While the Project would require construction of new wastewater collection and distribution facilities, the construction of these facilities would not result in significant environmental effects. The location of the facilities is contained within the boundary of the Project site and associated off-site improvement areas, and the environmental impacts of the new facilities are analyzed throughout this EIR. Implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

3.14.2 WATER SUPPLIES

ENVIRONMENTAL SETTING

The Project site is located in the northern portion of the City of Stockton Metropolitan area, within the unincorporated area of San Joaquin County. The City of Stockton will be the water purveyor for the proposed Project.

The City's 2020 Urban Water Management Plan (UWMP) included existing and projected water demands for existing and projected future land uses to be developed within the City's Sphere of Influence through 2040. The water demand projections in the City's 2020 UWMP included existing City water demands and future water demands within the service area.

City of Stockton Water Service

CITY OF STOCKTON WATER SERVICE AREA

As described in the City's 2020 UWMP, the City is located in the heart of the fertile central valley of California. The climate ranges from summer temperatures routinely exceeding 100°F with low humidity, and winter temperatures dipping into the 30s. Average annual rainfall is approximately 10 inches.

The City of Stockton Metropolitan Area (COSMA) is comprised of the three (3) City of Stockton water retailers (COSMUD, California Water Service Company [Cal-Water], and San Joaquin County) and their respective service areas. The term COSMA is used only for convenience when grouping the water retailers and should not be construed as a legal entity.

The City has provided water service to North Stockton since 1954 and South Stockton since 1984. In general, the North Stockton water service area is primarily residential and is bonded by Eight Mile Road to the north, Cascade and Columbia Railroad to the east, the Calaveras River to the south and the City limits to the west. Residential development adjacent to Eight Mile Road have continued to develop since the completion of the 2015 UWMP. Through COSMUD, the City owns and operates the Delta Water Treatment Plan (DWTP), under the City's in-direct potable reuse program, which is located in the northern region of the City, and associated facilities including an intake pumping station on the southern tip of Empire Tract on the San Joaquin River and other conveyance infrastructure. The DWTP commenced operation in 2012 and has the capacity to treat up to 30 mgd [33,600 acre-feet per year (AFY)].

The City created COSMUD in the late 1970's for purposes of constructing, operating, and maintaining water, wastewater, and drainage facilities within the City service areas. The central Stockton water service area is owned and operated by Cal Water, which is an investor-owned public utility company regulated by the California Public Utilities Commission (CPUC). In addition, there are smaller developed areas served by San Joaquin County as two (2) small maintenance districts within the City boundaries. Through the COSMUD water system, the City delivers water from Stockton East Water District (SEWD)to the San Joaquin County water systems under water service agreements. Under

these water service agreements, COSMUD wheels water from SEWD to the San Joaquin County water systems.

COSMUD currently serves 184,402 residents through approximately 41,920 single-family connections and 5,068 multi-family connections.

City of Stockton Water Supplies

EXISTING POTABLE WATER SUPPLIES

The City's 2020 UWMP describes the City's available water supplies. COSMUD provides potable water to its customers from a combination of surface water and groundwater supplies. The City currently receives treated water from SEWD. In addition, a purchase agreement with the Woodbridge Irrigation District (WID) for water supply from the Mokelumne River was executed in 2008. A summary of the actual supply sources and quantities in 2020 is provided in Table 3.14-3.

TABLE 3.14-3: ACTUAL 2020 WATER SUPPLY FOR THE CITY OF STOCKTON (AF)

WATER SUPPLY	*ACTUAL VOLUME*	*WATER QUALITY*
Purchased water (SEWD)	6,939	Drinking water
Purchased water (WID)	8,657	Drinking water
Surface water (San Joaquin River Diversion)	9,970	Drinking water
Groundwater (City-owned wells)	8,662	Drinking Water
Total	34,228	--

SOURCE: STOCKTON 2020 UWMP (2021), TABLE 6.13.

PURCHASED WATER

The City purchases water from SEWD and WID as described in the following section.

Stockton East Water District

SEWD is a wholesale water supplier that provides treated potable water to the urban water retailers within the Stockton Metropolitan Area, including COSMUD, Cal Water, and two (2) small maintenance districts in San Joaquin County (Urban Contractors). Since 1978, SEWD has provided treated water to the City. The SEWD supply is made up of surface water from New Melones and New Hogan Reservoirs as well as some groundwater during droughts. The SEWD Dr. Joe Waidhofer Water Treatment Plant (DJWWTP) has a current capacity of 62 mgd and is located just east of Central Stockton. In addition to providing treated water supply, SEWD provides water supply to agricultural users in its service area.

Since the commencement of operations of the DWTP, COSMUD has reduced its use of treated potable water from SEWD. COSMUD receives treated water through a metered connection point at SEWD's water treatment facility at the intersection of East Main Street and New Water Road in the central area of Stockton.

COSMUD supplies SEWD treated water to its South Stockton water service area. At the time of preparation of the 2020 UWMP, the COSMUD has commenced construction of the North Stockton Pipeline Hypochlorite Project that would allow SEWD water supplies to also be conveyed to the North Stockton system and combined with the DWTP-produced water supply.

Woodbridge Irrigation District

WID provides supplemental raw water supply to the City. Under a 2008 agreement between the City and WID, COSMUD may receive up to 6,500 AFY from WID to augment water supply to the DWTP when San Joaquin River water is not available due to environmental restrictions. WID conveys water to the DWTP through a metered connection at the entrance of the DWTP. WID supply is transported through its Wilkinson Canal and Pixley Lateral Pipeline to the DWTP. Because it is treated at DWTP, this water supply is currently distributed only in the North Stockton water service area.

GROUNDWATER

COSMUD operates groundwater wells in both the North and South Stockton water service areas. Both water service areas generally rely on treated surface water year-round for their primary supply, but it is supplemented with groundwater to meet increased water demands primarily in the summer months or during dry years when available surface water supplies may be limited. Wells are also depended on for emergency supply in the event of surface water supply interruptions.

SURFACE WATER

The City's surface water supply is from three (3) primary sources: surface water diverted from the San Joaquin River treated at the City's DWTP, surface water from the Mokelumne River diverted and conveyed by the WID and treated at the City's DWTP, and treated surfaces water from SEWD.

The City exercises its water rights to the Delta, using an intake facility on the San Joaquin River. Under the in-direct potable reuse program, the City may take as much water from the San Joaquin River as the City's wastewater treatment plant discharges into the San Joaquin River. When water pumping is curtailed from the Delta due to environmental restrictions, the City purchases raw water from WID. Raw water is treated at the City's DWTP. The City also purchases treated water from SEWD and pumps groundwater to supplement its supplies.

Due to differing disinfection processes that present water quality issues related to low chlorine residual and the potential for formation of disinfection byproducts, COSMUD provides water from the DWTP only in its North Stockton water distribution system. Water from SEWD can be conveyed to both the North Stockton and South Stockton distribution systems. SEWD also supplies the City's Walnut Plant service area in Central Stockton. Cal Water conveys SEWD supply to the Walnut Plant service area via a wheeling agreement with COSMUD. Water supplies from local groundwater wells are used to supply both the COSMUD North Stockton and South Stockton water service areas.

At time of preparation of this 2020 UWMP, COSMUD is in the process of implementing the North Stockton Pipeline Hypochlorite Facility that will allow SEWD supplies to be conveyed to the North Stockton system and combined with the DWTP-produced water supply.

The San Joaquin River provides the largest portion of the City's potable water supply. When the City received its water right permit in 2006, the City implemented the Delta Water Supply Project to construct its DWTP north of Stockton, the Intake Pump Station (IPS) at the southwest tip of Empire Tract, and associated water supply infrastructure. The DWTP was completed in 2012. Since that

time, the COSMUD has diverted water from the San Joaquin River via the IPS and treats the water at the DWTP for an increasing portion of its water supply.

The DWTP has a current treatment capacity of 30 mgd. In 2020, it produced approximately 55 percent of the COSMUD water supply. The treatment process includes ozone oxidation and disinfection and membrane filtration with free chlorine added as a residual disinfectant. Treated water is stored in a 4-million-gallon (mg) storage tank before being pumped to the North Stockton water service area.

The City's water supply from the San Joaquin River is curtailed annually from February 15th to June 15th due to U.S. Department of Fish and Wildlife Service, California Department of Fish and Wildlife, and National Marine Fisheries Service (NMFS) environmental restrictions. During that period, the City obtains raw water from WID to supplement its water supply.

The DWTP, located just north of Stockton was completed in 2012. This facility currently has the capacity to treat up to 33,600 AFY of raw water from the Delta and WID. The facility is planned to be expanded as needed by the City, and as permitted by the State Water Board. Water from DWTP is provided primarily to the COSMUD North Stockton water system and supplemented by groundwater.

City of Stockton Water System Description

The COSMUD operates a water distribution system that contains two (2) water service areas: North Stockton and South Stockton. The two (2) water service areas are connected to one another by the Stockton Aqueduct; however, water supplies in the two water service areas do not currently comingle due to the higher pressure from SEWD in South Stockton which prevents water from North Stockton from flowing into the South Stockton area. The lowest ground surface elevation (at mean sea level) is on the western side of the system and the highest elevation (36 feet above mean sea level) is on the eastern side of the system.

GROUNDWATER WELLS

COSMUD has 12 operational (i.e., active or standby) groundwater wells in North Stockton with design capacities ranging from 800 to 3,200 gpm. The 10 active wells have a total production capacity of 29.1 mgd and the two (2) standby wells have a total production capacity of 4.5 mgd, for a total available capacity of approximately 33.6 mgd. Inactive wells are currently not permitted by the Division of Drinking Water (DDW). Although the total active well capacity is 29.1 mgd, actual groundwater production is less due the fact that the DWTP provides the majority of the supply in North Stockton.

COSMUD also has four operational (i.e., active or standby) groundwater wells in South Stockton. The design capacities range from 1,010 to 2,800 gpm. The two active wells have a total production capacity of 6.9 mgd, and the two standby wells have a production capacity of 3.3 mgd. Similar to North Stockton, although the total active well capacity is 6.9 mgd, actual groundwater production is less due to the fact that the SEWD DJWWTP provides the majority of the supply in South Stockton.

STORAGE RESERVOIRS AND RESERVOIR PUMP STATIONS

The North Stockton water system has a total available storage capacity of 16.2 mg. Three 3.4 mg storage reservoirs are located at the Northwest (NW) Reservoir site and two 3 mg storage reservoirs are located near Fourteen-Mile Slough (FMS). The South Stockton water system has a total available storage capacity of 6 mg, with two 3 mg storage reservoirs located at Weston Ranch (WR). Each reservoir has an altitude valve which opens to fill the reservoir when the pressure in the distribution system exceeds a set-point and closes when the reservoir level exceeds a set-point.

A pump station is located at each of the reservoir sites to pump the stored water from the at-grade reservoirs into the distribution system during higher system demands. The North Stockton area has a total and firm pumping capacity of 39,750 gpm (57.2 mgd) and 31,450 gpm (45.3 mgd), respectively. The South Stockton area has a total and firm pumping capacity of 12,000 gpm (17.3 mgd) and 9,000 gpm (13.0 mgd), respectively.

TRANSMISSION AND DISTRIBUTION PIPELINES

The COSMUD water transmission system consists of 16- to 48-inch diameter pipelines. The North Stockton water service area is connected to the SEWD DJWWTP via a 48-inch diameter pipeline and connected to the DWTP via a 42-inch diameter pipeline. The South Stockton water service area is connected to the SEWD DJWWTP via the 42-inch diameter pipeline. The COSMUD water distribution system consists of pipelines with diameters less than 16 inches. Most of the service laterals branch off of 8-inch and 12-inch diameter pipelines.

City of Stockton Water Demand

CITY PROJECTED WATER DEMAND

The City's 2020 UWMP describes the projected City water demand through 2045. The City has developed potable water demand projections, shown in Table 3.14-4. Projected future water demands are based on water demand projections developed for the City's Water Master Plan Update and have been estimated based on the anticipated growth within the COSMUD water service area as defined by the Envision Stockton 2040 General Plan. Projected water demands for 2045 are assumed to be the same as the projected water demands in 2040 since the status of future planned developments is uncertain past 2040.

TABLE 3.14-4: CITY OF STOCKTON TOTAL WATER DEMAND PROJECTION

YEAR	*HISTORICAL DEMAND*	*PROJECTED DEMAND*
2005	34,680	--
2010	33,496	--
2015	26,320	--
2020	34,404	--
2025	--	34,789
2030	--	37,878
2035	--	43,161
2040	--	48,444
2045	--	48,444

NOTES: UNITS ARE IN ACRE-FEET (AF)
SOURCE: STOCKTON 2020 UWMP (2021).

GROUNDWATER BASIN

COSMUD uses groundwater wells conjunctively to meet peak summer demands or during dry years when available surface water supplies may be limited. The City has partnered with other users through the Eastern San Joaquin Groundwater Authority (GWA) to manage the groundwater basin. The groundwater basin underlying the City is the San Joaquin Valley Basin, Eastern San Joaquin Subbasin (DWR Basin No. 5-22.01). The Subbasin is not adjudicated, The Subbasin is defined by the areal extent of unconsolidated to semi consolidated sedimentary deposits that are bounded by the Mokelumne River on the north and northwest; San Joaquin River on the west; Stanislaus River on the south; and consolidated bedrock on the east.

In 2014, the California legislature enacted the Sustainable Groundwater Management Act (SGMA) in response to continued overdraft of California's groundwater resources. The Subbasin is one of 21 basins and subbasins identified by DWR as being in a state of critical overdraft and is classified by DWR to be a high-priority subbasin. The City has partnered with other users through the GWA to manage the groundwater basin. The City, along with fifteen other groundwater users and groundwater sustainability agencies, formed the GWA in 2017 in response to SGMA. In 2019, GWA completed the Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan (GSP) to achieve groundwater sustainability in the Subbasin by 2040. The GSP outlined the need to reduce overdraft conditions and identified 23 projects for potential development, along with management actions, that either replace groundwater use or supplement groundwater supplies to meet current and future water demands. The GSP determined an estimated pumping offset and/or recharge need of 78,000 AFY Subbasin-wide to achieve sustainability.

In the GSP project list, COSMUD may potentially implement advanced metering infrastructure (AMI) to reduce groundwater demand. COSMUD also manages its groundwater demands by implementing demand management measures. The demand management measures include: water waste prevention ordinance, metering, conservation pricing, public education and outreach, programs to assess and manage distribution system real loss, water conservation program coordination and staffing support, water survey programs for residential customers, residential plumbing retrofit, conservation programs for commercial, industrial, and institutional accounts; and landscape conservation programs and incentives. The City has determined that the sustainable groundwater yield is 0.75 AFY/acre, equivalent to a groundwater yield of approximately 50,000 AFY. To establish the projected groundwater supply that is reasonably available, COSMUD assumes that the reasonably available groundwater for the current water service area (approximately 38,500 acres) is pumped at 0.6 AFY/acre, equivalent to an annual groundwater supply of 23,100 AFY.

COSMUD uses groundwater conjunctively with its surface water supply sources, with groundwater generally used to meet increased water demands primarily in the summer months or during dry years when available surface water supplies may be limited. Groundwater supply provided an average of 4,320 AF, 14 percent of the City's water supply between 2016 and 2020. In 2020, COSMUD pumped 8,661 AF from the groundwater basin, about 25 percent of the COSMUD total water supply.

Water Reliability

This section provides a comparison of normal, single dry, and multiple dry water year supplies and demands for the City. Water supply reliability is an important component of the water management planning process. Factors contributing to inconsistency in the City's water supplies include legal limitations due to water rights and contracts limiting the quality of water available to the City, environmental constraints, and reductions in availability due to climatic factors.

The City's primary water sources during base years are surface water from the San Joaquin River and WID, and purchased water from SEWD. These water supply sources complement each other. When water diversion from the San Joaquin River is curtailed due to environmental restrictions, COSMUD obtains supplemental water supply from WID. Groundwater supply is used conjunctively with the surface water supplies to meet increased water demands primarily in the summer months. COSMUD plans to continue to optimize each of its water supply sources to meet projected water demands.

DRY YEAR WATER SUPPLY AVAILABILITY AND RELIABILITY

The City Council adopted a Water Conservation Ordinance in 1988. Stockton Municipal Code, Sections 13.28 and 13.32 include both voluntary and mandatory conservation stages. From 1990 to 1992, mandatory water reduction stages were in force due to the prolonged years of drought. The City initiated a voluntary reduction stage in 1993 and has maintained a voluntary reduction stage since that time.

A comparison of the City's projected water supplies and demands is shown in Table 3.14-5 for Normal, Single Dry, and Multiple Dry Years. As can be seen on Table 3.14-5, there is no projected supply deficit under the projected hydrologic conditions through 2040.

TABLE 3.14-5: SUMMARY OF PROJECTED WATER SUPPLY DURING HYDROLOGIC NORMAL, SINGLE-DRY, AND MULTI-DRY YEARS FOR CITY OF STOCKTON AT 2040 (AF)

	NORMAL YEAR	*SINGLE DRY YEAR*	*MULTIPLE DRY YEARS – YEAR 1*	*MULTIPLE DRY YEARS – YEAR 3*	*MULTIPLE DRY YEARS – YEAR 5*
SEWD	24,300	6,700	24,300	6,700	24,300
WID	13,000	9,000	13,000	9,000	13,000
San Joaquin River	25,000	23,300	22,300	23,300	26,100
Groundwater	23,100	23,100	23,100	23,100	23,100
TOTAL SUPPLY	85,400	62,100	82,700	62,100	86,500
DEMAND TOTAL	*48,444*	*48,444*	*48,444*	*48,444*	*48,444*
DIFFERENCE	*36,956*	*13,656*	*34,256*	*13,656*	*38,056*

SOURCE: STOCKTON 2020 UWMP (2021), TABLES 7-6, 7-7, AND 7-9.

WATER SUPPLY AND DEMAND COMPARISON

Based on the analysis described above, the City's existing and projected potable water supplies are sufficient to meet the City's existing and projected future potable water demands, including those future water demands associated with the Project, to the year 2040 under all hydrologic conditions.

REGULATORY SETTING

Safe Drinking Water Act

The federal Safe Drinking Water Act, as passed in 1947 and amended in 1986 and 1996, is the Country's primary law regulating drinking water quality and is implemented by the United States Environmental Protection Agency (US EPA). The Safe Drinking Water Act authorizes the US EPA to set national health-based standards for drinking water and requires actions to protect drinking water and its sources. Additionally, it provides for treatment, monitoring, sampling, analytical methods, reporting, and public information requirements. Implementation of the Act, in California, is under the jurisdiction of the California Department of Public Health (CDPH), Division of Drinking Water and Environmental Management. Drinking Water regulations are set forth in the California Code of Regulations (CCR), Titles 7 and 22.

Water Conservation Projects Act

California's requirements for water conservation are codified in the Water Conservation Projects Act of 1985 (Water Code Sections 11950 – 11954).

Consistent with California Water Code Sections 11950 – 11954, the City has implemented various water conservation efforts, as well as Water Shortage Contingency Plan that identifies actions that can be taken to respond to catastrophic interruption of water supply.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (Water Code Section 10720 et seq.) was enacted in 2014. The Act, and related amendments to California law, require that all groundwater basins designated as high- or medium-priority in the California Department of Water Resources' (DWR) California Statewide Groundwater Elevation Monitoring (CASGEM) program and that are subject to critical overdraft conditions must be managed under a new Groundwater Sustainability Plan (GSP), or a coordinated set of GSPs, by January 31, 2020. High- and medium-priority basins that are not subject to critical overdraft conditions must be managed under a GSP by January 31, 2022. Where GSPs are required, one or more local groundwater sustainability agencies (GSAs) must be formed to cover the basin and prepare and implement applicable GSPs. The Act does not apply to basins that are managed under a court-approved adjudication, or to low-or very-low-priority basins.

A GSA has the authority to require registration of groundwater wells, measure and manage extractions, require reports and assess fees, and to request revisions of basin boundaries, including establishing new subbasins. The preparation of a GSP by a GSA is exempt from the California Environmental Quality Act (CEQA). Each GSP must include a physical description of the covered basin, such as groundwater levels, groundwater quality, subsidence, information on groundwater-surface water interaction, data on historical and projected water demands and supplies, monitoring and management provisions, and a description of how the plan would affect other plans, including city and county general plans.

The Act defines groundwater as "water beneath the surface of the earth within the zone below the water table in which the soil is completely saturated with water but does not include water that flows in known and definite channels." A groundwater extraction facility is defined as "a device or method for extracting groundwater from within a basin" Water Code Section 10721(g-h). GSPs are reviewed by the DWR to ensure that, over a period of 20 years, "sustainable groundwater management" is achieved. As defined by the Act, sustainable groundwater management means that groundwater uses within basins managed by a GSP would not cause any of the following "undesirable results":

- Chronic lowering of groundwater levels (not including overdraft during a drought, if a basin is otherwise managed);
- Significant and unreasonable reductions in groundwater storage;
- Significant and unreasonable seawater intrusion;
- Significant and unreasonable degradation of water quality;
- Significant and unreasonable land subsidence; and
- Surface water depletions that have significant and unreasonable adverse impacts on beneficial uses (Water Code Section 10721(w)).

Urban Water Management Planning Act

The Urban Water Management Planning Act has as its objectives the management of urban water demands and the efficient use of urban water. Under its provisions, every urban water supplier is required to prepare and adopt an urban water management plan. An "urban water supplier" is a public or private water supplier that provides water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 AF of water annually. The plan must identify and quantify the existing and planned sources of water available to the supplier, quantify the projected water use for a period of 20 years, and describe the supplier's water demand management measures. The urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The Department of Water Resources must receive a copy of an adopted urban water management plan.

California Water Code

Water Code section 10910 states:

> *10910(c)(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f) and (g).*
>
> *10910(d)(1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or*

the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.

10910(d)(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:

(A) Written contracts or other proof of entitlement to an identified water supply.

(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.

(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.

(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

10910(e) If no water has been received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts, the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall also include in its water supply assessment pursuant to subdivision (c), an identification of the other public water systems or water service contract-holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has identified as a source of water supply within its water supply assessments.

Additionally, Water Code section 10910 states:

10910(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment.

10910(f)(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

10910(f)(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with

this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long term overdraft condition.

10910(f)(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historical use records.

A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historical use records.

10910(f)(4) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project.

A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

Senate Bill (SB) 610

Senate Bill (SB) 610 was adopted in 2001 and reflects the growing awareness of the need to incorporate water supply and demand analysis at the earliest possible stage in the land use planning process. SB 610 amended the statutes of the Urban Water Management Planning Act, as well as the California Water Code Section 10910 et seq. The foundation document for compliance with SB 610 is the Urban Water Management Plan (UWMP), which provides an important source of information for cities and counties as they update their general plans. Likewise, planning documents such as general plans and specific plans form the basis for the demand information contained in an UWMP, as well as a Water Supply Assessment required under SB 610.

Water Code Section 10910 (c)(4) states "If the city or county is required to comply with this part pursuant to subdivision (b), the water assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses."

Water supply planning under SB 610 requires reviewing and identifying adequate available water supplies necessary to meet the demand generated by a project, as well as the cumulative demand for the general region over the next 20 years, under a broad range of water conditions. This information is typically found in the current UWMP for the project area. SB 610 requires the identification of the public water supplier for a project.

In addition, SB 610 requires the preparation of a Water Supply Assessment if a project meets the definition of a "Project" under Water Code Section 10912 (a). The code defines a "Project" as meeting any of the following criteria:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A commercial building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A hotel or motel with more than 500 rooms;
- A proposed industrial, manufacturing, or processing plant, or industrial park, planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- A mixed-use project that includes one or more of these elements; or
- A project creating the equivalent demand of 500 residential units.

Alternately, if a public water system has less than 5,000 service connections, the definition of a "Project" includes any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of service connections for the public water system.

Based on the following assumption, SB 610 does apply to the proposed Project:

1. A project creating the equivalent demand of 500 residential units.

The proposed Project has not been the subject of a previously adopted Water Supply Assessment (WSA) and has not been included in an adopted WSA for a larger project. Thus, a WSA, as required by these criteria under SB 610, has been prepared for the Project. The Water Supply Assessment is included in Appendix F of this EIR.

Envision Stockton 2040 General Plan

The Envision Stockton 2040 General Plan contains the policies related to water supply that are applicable to the proposed Project.

POLICIES: LAND USE ELEMENT

- LU-5.4. Require water and energy conservation and efficiency in both new construction and retrofits.
- LU-6.3. Ensure that all neighborhoods have access to well-maintained public facilities and utilities that meet community service needs.

ACTION: LAND USE ELEMENT

- LU-5.1.C. Require landscape plans to incorporate native and drought-tolerant plants in order to preserve the visual integrity of the landscape, conserve water, provide habitat conditions suitable for native vegetation, and ensure that maximum number and variety of well-adapted plants are maintained.
- LU-5.2.H. Comply with applicable water conservation measures.
- LU-5.2.I. Coordinate with water agencies and non-profit organizations to promote public awareness on water quality and conservation issues and consistency in water quality impacts analyses.
- LU-5.4.A. Require all new development, including major rehabilitation, renovation, and redevelopment, to adopt best management practices for water use efficiency and demonstrate specific water conservation measures.
- LU-6.3.A. Require development to mitigate any impacts to existing sewer, water, stormwater, street, fire station, park, or library infrastructure that would reduce service levels.

POLICIES: SAFETY ELEMENT

- SAF-3.1. Secure long-term renewable contracts and related agreements to ensure that surface water rights will be available to meet projected demand.
- SAF-3.2. Project the availability of clean potable water from groundwater sources.
- SAF-3.3. Encourage use of recycled ("gray") water for landscape irrigation to reduce demand on potable supplies.

ACTIONS: SAFETY ELEMENT

- SAF-3.1.A. Actively participate in appropriate forums designed to discuss and solve regional water supply and quality issues.
- SAF-3.2.B. Require new development to employ low impact development (LID) approaches, including:
    - Conserving natural areas and reducing imperviousness
    - Runoff storage
    - Hydro-modification (to mimic pre-development runoff volume and flow rate)

  - Reducing trash accumulation
  - Public education and outreach
- SAF-3.3.A. Require new development to install non-potable water infrastructure for irrigation of large landscaped areas where feasible.

Utility Master Plans

The City of Stockton maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: *2020 City of Stockton Urban Water Management Plan* (Stockton, 2021), and the *Water Master Plan Update* (Stockton, 2021).

City of Stockton Municipal Code

The City of Stockton Municipal Code, Title 13 (Public Services), Chapter 13.04 (City Water System) contain regulations associated with the City's water system.

Title 3 (Revenue and Finance), Chapter 3.24 (Telecommunication, Gas, Electricity, Water, Video Services User Tax), Section 3.24.060 (Water user tax) requires a tax on every person in the City which the City water is delivered.

Water conservation requirements—including restrictions on outdoor watering—are set forth in Stockton. Municipal Code Chapter 13.28, *Water Conservation*. Water shortage emergency regulations are set forth in Chapter 13.32, *Water Shortage Emergencies*.

Title 16 (Development Code), Division 3 (Site Planning and General Development Regulations), Chapter 16.56 (Landscaping Standards), Section 16.56.050 (Water waste prohibited), requires that landscape areas be maintained to ensure water efficiency and prohibits water waste.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project may have a significant impact on the environment associated with Utilities if it would:

1. Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or
2. Have insufficient water supplies available to serve the Project from existing entitlements and resources, or if new or expanded entitlements are needed.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-4: The proposed Project would not require construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (Less than Significant)

The provision of public services and the construction of onsite infrastructure improvements will be required to accommodate the development of the proposed Project. Water distribution will be by an underground distribution system to be installed as per the City of Stockton standards and specifications.

The Development Area would be served by a new potable water distribution system. The Project proposes two (2) 18-inch lines along Marlette Road and Lower Sacramento Road. The proposed 18-inch water line along Marlette Road will connect to a water main in West Lane that will be constructed as part of the Tra Vigne project and travel west along the proposed Marlette Road, connecting to the existing City of Stockton water main on Lower Sacramento Road. The Project would extend the existing City of Stockton water main on Lower Sacramento Road north, by constructing a second 18-inch line along Lower Sacramento Road to connect with the existing water main in Eight Mile Road. The Project proposes a network of 12-inch lines located within the Project site to connect to the proposed 18-inch water line along Marlette Road and the 24-inch water line along West Lane.

The proposed Project would require extension of offsite water conveyance infrastructure to the Project site for potable water and irrigation water. All offsite water utility improvements would be in or adjacent to existing roadways along the perimeter of the Project site in right-of-way, thereby limiting any potential impact to areas that were not already disturbed. Water supply would be provided by the City of Stockton, which includes surface and ground water supplies. Water distribution would be by an underground distribution system installed as per the City of Stockton standards and specifications. The proposed Project would also require the construction of new onsite water conveyance infrastructure for potable water and irrigation water.

The proposed Project would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for water service. While the Project would require construction of new water collection and distribution facilities, both onsite and offsite, the construction of these facilities would not result in significant environmental effects. The environmental impacts of the new facilities are analyzed throughout this EIR. Implementation of the proposed Project would have a ***less than significant*** impact relative to this topic.

Impact 3.14-5: The proposed Project would not have insufficient water supplies available to serve the Project from existing entitlements and resources (Less than Significant)

PROJECT WATER DEMAND

The Development Area of the Project will include 421 low density residential dwelling units, 796 medium density residential dwelling units, and 194 high density residential dwelling units, for a total of 1,411 residential dwelling units. Approximately 12.2 acres of parklands will also be included.

There is a second Project scenario where a portion of the Development Area that is currently scoped for 79 of the proposed medium density residential dwelling units would instead be used for a new K-8 school to be developed by Lodi Unified School District (LUSD). This would result in 717 medium density residential dwelling units, for a reduction in units to a total of 1,332 residential dwelling units. This scenario is dependent on whether LUSD decides they would like to build a school in that area. However, for the purposes of this analysis, the 79 medium density residential units are assumed to be built instead of the school, since that results in the greatest water demand for the Project, thus representing the worst-case scenario.

To determine the projected water demand for the Project, the updated water use factors from the City's 2021 Water Master Plan Update were used. These water use factors are based on recent water consumption trends within the COSMUD service area. The total projected water demand for the Project is 424 acre-feet/year (AFY) as shown in Table 3.14-6. All the water demands from the Proposed Project are anticipated to be served by the COSMUD North Stockton water system.

TABLE 3.14-6: TOTAL PROJECTED WATER DEMAND

LAND USE TYPE	*DWELLING UNITS (DU)*	*GROSS AREA, ACRES*	*WATER USE FACTOR (A)*	*NON-REVENUE WATER(B)*	*PROJECTED WATER DEMAND(C), AFY*
Low Density Residential	421	-	242 gdp/DU 0.27 AFY/DU	8%	124
Medium Density Residential	796	-	242 gdp/DU 0.27 AFY/DU	8%	235
High Density Residential	194	-	175 gdp/DU 0.20 AFY/DU	8%	41
Parks	-	12.2	1.85 AFY/acre	8%	25
TOTALS	1,411	12.2	-	-	242

(A) WATER USE FACTORS ARE FROM THE CITY OF STOCKTON 2021 WATER MASTER PLAN UPDATE.

(B) NON-REVENUE WATER IS 8 PERCENT OF THE TOTAL WATER DEMAND, WITH THE TOTAL WATER DEMAND INCLUDING THE NON-REVENUE WATER ITSELF. THIS ASSUMPTION IS BASED ON THE CITY OF STOCKTON 2021 WATER MASTER PLAN UPDATE.

(C) THE PROJECTED WATER DEMAND WAS DETERMINED BY MULTIPLYING THE DWELLING UNITS OR GROSS ACRES BY THE WATER USE FACTOR FOR EACH LAND USE TYPE AND THEN ADDING 8 PERCENT OF THE NON-REVENUE WATER.

SOURCE: LEBARON RANCH PROJECT WATER SUPPLY ASSESSMENT (2023).

The most recent COSMUD UWMP (2020 UWMP) was adopted by City Council in June 2021. The 2020 UWMP included water demand projections for current water demands within the COSMUD water service area (baseline demand) and anticipated water demands associated with future development

projects and planning areas within the COSMUD water service area through 2045, including projected water demand for the Project.

As shown in Table 3.14-4, projected future water demands presented in the 2020 UWMP used land-use based water demand projections developed for the City's 2021 Water Master Plan Update. Water demand projections were based on the anticipated growth within the COSMUD water service area as defined by Envision Stockton 2040 General Plan; the Project, which is consistent with the 2040 General Plan, is included in these projections. Projected water demands for 2045 are assumed to be the same as projected water demands in 2040 since the development of future planned developments beyond 2040 is not defined in the Envision Stockton 2040 General Plan.

The Project is anticipated to be served from the COSMUD's existing and future portfolio of water supplies. The water supply for the Project would have the same water supply reliability and water quality as the water supply available to the other COSMUD existing and future water customers. Proponents of the Project would provide their proportionate share of required funding to the COSMUD for the acquisition and delivery of treated potable water supplies to the Project site.

Table 3.14-5 summarizes the projected availability of the COSMUD existing and planned future potable water supplies compared with projected water demands in normal, single dry and multiple dry years through buildout. As stated above, the Project's water demands were included in future water demand projections presented in the 2020 UWMP and in Table 3.14-5. As can be seen on Table 3.14-5, there is no projected supply deficit under the projected hydrologic conditions through 2045.

CONCLUSION

The Water Supply Assessment completed for the proposed Project demonstrates that the total projected water supplies determined to be available for the Project during normal, single dry, and multiple dry years during a 20-year projection would meet the projected water demand associated with Project, in addition to existing and planned future uses, including, but not limited to, agriculture and industrial uses.

As identified above, the proposed Project would not result in insufficient water supplies available to serve the project from existing entitlements and resources. Therefore, the proposed Project would result in a ***less than significant*** impact to water supplies.

3.14.3 STORM WATER

ENVIRONMENTAL SETTING

Existing City Facilities

The City of Stockton provides and maintains a system of storm drains, detention basins, and pumping facilities as well as monitoring and control of the operations of the storm drain system. Additionally, the City enforces storm drain regulations established by the US EPA and the State of California.

Urban stormwater drainage in the City of Stockton is provided by a storm drain system that is separate from the municipal sewer system. The City of Stockton Municipal Utility Department operates and maintains approximately 620 miles of pipe, 72 pump stations, and more than 100 discharge pipes. The local storm drain facilities collect and route runoff from the streets and gutters through surface canals and stormwater retention basins, as well as a through a network of underground gravity and force mains (pipelines), pump stations, and outfalls into rivers, creeks, and the Delta, including outfalls to the San Joaquin River, Bear Creek, Pixley Slough, Mosher Slough, Five Mile Slough, Fourteen Mile Slough, Calaveras River and Stockton Diverting Canal, Smith Canal, French Camp Slough, Walker Slough, Weber Slough, North Littlejohns Creek, and Duck Creek (City of Stockton, 2018).

Currently, the City operates two (2) small basins located near Eight Mile Road and Highway 99 (Cannery Park Northeast and Northwest basins), in cooperation with WID, as dual function facilities for stormwater detention and groundwater recharge. Water from WID is supplied to the basins during the summer months. In addition, the City is planning to complete feasibility analysis and preliminary design plans to upgrade the La Morada stormwater detention basin #2 in northeast Stockton into a dual function facility for groundwater recharge using recovered stormwater during the winter and WID supply in the summer months (City of Stockton, 2021).

The City of Stockton operates under Municipal Stormwater Permit Requirements Order No. R5-2016-0040. The Stormwater Utility Division also manages the City's National Pollutant Discharge Elimination Permit (NPDES) and all the monitoring, testing, education, and programs required under the permit.

The NPDES Stormwater Program regulates stormwater discharges from three potential sources:

- Construction activities,
- Industrial activities, and
- Municipal stormwater system.

CITY OF STOCKTON MUNICIPAL STORMWATER SYSTEM

The City of Stockton Sphere of Influence (SOI) is situated just east of the Sacramento-San Joaquin Delta, a low-lying region of sloughs and channels connecting local waterways with the Suisun Bay and the San Francisco Bay. The City and surrounding areas within the SOI depend on creeks, rivers,

and sloughs to collect and convey storm runoff to the San Joaquin River and the Delta. The primary watercourses that drain the SOI include: San Joaquin River, Bear Creek, Mosher Slough, Five Mile Slough, Fourteen Mile Slough, Calaveras River and Stockton Diverting Canal, Smith Canal, and French Camp and Walker Sloughs. Most storm drains and pump stations within the service area have adequate capacity to collection stormwater drainage (City of Stockton, 2020).

Stormwater runoff occurs when precipitation from rain and snow melts and does not absorb into the ground. As the runoff flows over the land or impervious surfaces (paved streets, parking lots, and building rooftops), it accumulates debris, chemicals, sediment, and other pollutants that could adversely affect water quality. Stockton's stormwater is collected in catch basins and transported, untreated, directly into our local rivers, creeks, and sloughs, and eventually to the Delta. Best management practices (BMPs) are the primary method to stop contaminants from entering the system.

Municipal Separate Storm Sewer System (MS4) permits are required under the Clean Water Act and require the discharger to develop and implement a Storm Water Management Plan to reduce the discharge of pollutants to the Maximum Extent Practicable (MEP). The management plans specify what BMPs will be used to address certain program areas: such as public education and outreach, illicit discharge detection and elimination, construction and post-construction, and good housekeeping for municipal operations.

Each year, the City is required to provide an Annual Report to the State on their Stormwater Program and BMPs.

CONSTRUCTION ACTIVITIES

Operators of construction sites that are one (1) acre or larger, including smaller sites part of a larger common plan of development, are monitored under the State's Construction General Permit. The Stormwater Program also requires specific control measures for post-construction runoff from new developments and redeveloped areas.

The Stormwater Quality Control Criteria Plan (SWQCCP) provides development standards on these controls, including general site control measures, site-specific source control measures, and treatment control measures for the following:

- Home subdivisions with 10 or more housing units,
- Commercial developments with impervious areas greater than 5,000 sq. ft.,
- Automotive repair shops with impervious areas greater than 5,000 sq. ft.,
- Restaurants,
- Parking lots greater than 5,000 sq. ft. or with 25 or more parking spaces,
- Streets and roads with one acre or more of impervious area, and
- Retail gas outlets with 5,000 or more sq. ft. of impervious area.

INDUSTRIAL ACTIVITIES

The Stormwater Program works with local industries to prevent stormwater pollution using:

- Inspections of industrial sites,
- Record review of Stormwater Pollution Prevention Plans (SWPPPs) annual reports, and conditions of acceptance,
- Wet and dry weather sampling, and
- Complaint investigation.

Industrial companies may require authorization under an NPDES industrial stormwater permit for stormwater discharges.

Local Waterways and Water Systems

Bear Creek, located approximately 0.25-0.5 miles south-southeast of the Project site, is a modified natural channel that conducts base flow and storm runoff from its upstream drainage area. Bear Creek is also used to distribute irrigation water. Bear Creek is a perennial stream and serves as a terminal storm drainage facility. Outside the Stockton urban area, Bear Creek drains more than 92 square miles in eastern San Joaquin and western Calaveras counties. The San Joaquin County Water Conservation and Flood Control District maintains Bear Creek and its associated levee system.

The Project site is located within the WID. The WID system is operated seasonally to provide irrigation water to adjoining agricultural lands, including the Project area. Irrigation canals operated by the WID run along the northern, eastern, and southern borders of the Development Area.

Flooding

Flooding is the accumulation of water where none usually occurs or the overflow of excess water from a stream, river, lake, reservoir, or coastal body of water onto adjacent floodplains. Floods are natural events that are considered hazards only when people and property are affected. Flooding events can result in damage to structures, injury or loss of human and animal life, exposure of waterborne diseases, and damage to infrastructure. In addition, standing floodwater can destroy agricultural crops, undermine infrastructure and structural foundations, and contaminate groundwater.

As previously stated, the Project site lies within the larger area known as the Delta Basin, which historically was a tidal marsh formed in an overflow area of the Sacramento and San Joaquin Rivers. During the early part of the 20th century, over 80 percent of the Delta was reclaimed through construction of levees. There are over 1,100 miles of man-made levees protecting land in the Delta from flooding.

According to the Lower San Joaquin River and Delta South Regional Management Plan, flooding in the City of Stockton comes from three (3) main sources: the San Joaquin River, local creek flooding, and high tides. Flooding events from the San Joaquin River can last months and are typically caused by prolonged snow melts, rain-on-snow events, and/or prolonged duration atmospheric river rainfall events. Local creek flooding events generally last days to a week and are typically caused by very intense, short duration “cloudburst” rainfall events and/or prolonged duration atmospheric river rainfall events. Lastly, flood events from high tides generally last between a few hours and cyclical over a few days.

FLOODPLAINS

The 100-Year floodplain denotes an area that has a one percent chance of being inundated during any particular 12-month period. Floodplain zones (Special Flood Hazard Areas) are determined by the Federal Emergency Management Agency (FEMA) and used to create Flood Insurance Rate Maps (FIRMs). These tools assist communities in mitigating flood hazards through land use planning. FEMA also outlines specific regulations, intended to be adopted by the local jurisdictions, for any construction, whether residential, commercial, or industrial within 100-year floodplains.

Lands within the FEMA-designated 100-year floodplain are subject to mandatory flood insurance as required by FEMA. The insurance rating is based on the difference between the base flood elevation (BFE), the average depth of the flooding above the ground surface for a specific area, and the elevation of the lowest floor. Because the City of Stockton participates in the National Flood Insurance Program, it must require development permits to ensure that construction materials and methods will mitigate future flood damage, and to prevent encroachment of development within floodways. New construction and substantial improvements of residential structures are also required to "have the lowest habitable floor (including the basement if it is, or easily could be 'habitable') elevated to or above the base flood level." Non-residential structures must have their utility systems above the BFE or be of flood-proof construction.

According to the FEMA FIRM, the Project site is located within Zone X (areas of 0.2 percent annual chance [500-year] flood; areas of one percent annual chance [100-year] flood with average depths of less than one (1) foot or with drainage areas with less than one (1) square mile; and areas protected by levees from the one percent annual chance [100-year] flood). According to the State DWR Levee Flood Protection Zone maps, the Project site is located within a Levee Flood Protection Zone protected by Bear Creek, with an unknown flood depth. The Bear Creek stream corridor was improved with levees by the San Joaquin Area Flood Control Agency (SJAFCA) to permit discharge of storm drainage from planned urban development in the northeast Stockton area, including the Project site. As a result, the Bear Creek levee systems have been engineered to contain 100-year flood flows and provide a minimum of three (3) feet of freeboard, in accordance with FEMA standards.

The State Legislature approved SB 5 and a series of related bills intended to set a new 200-year flood protection standard for urban areas in the Central Valley. According to the County's 200-Year Flood Zone viewer and the Envision Stockton 2040 General Plan (Safety Element, Figure 5-7), there are several relatively small areas within the Project site that are potentially subject to flood depths of three feet or more during a 200-year storm event, as shown in Figure 3.9-2 in Section 3.9, Hydrology and Water Quality.

REGULATORY SETTING

Clean Water Act

The Clean Water Act (CWA), initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. Section 402(p) of the act establishes a framework for regulating

municipal and industrial stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) Program. Section 402(p) requires that stormwater associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit.

In California, the EPA has designated the SWRCB and its nine RWQCBs with the authority to identify beneficial uses and adopt applicable water quality objectives. The SWRCB is responsible for implementing the CWA and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for storm water discharges (individual permits and general permits).

National Pollutant Discharge Elimination System

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.).

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti-degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the California Water Code.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for periods of five (5) years or less and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the RWQCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

Individual construction projects that disturb more than one (1) acre would be required to obtain NPDES coverage under the California General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit). The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) describing Best Management Practices (BMP) the discharger would use to prevent and retain storm water runoff. The SWPPP must contain a visual monitoring program; a

chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a waterbody listed on the 303(d) list for sediment.

Federal Emergency Management Agency (FEMA)

San Joaquin County is a participant in the National Flood Insurance Program (NFIP), a Federal program administered by FEMA. Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations.

National Flood Insurance Program

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 mandate the Federal Emergency Management Agency (FEMA) to evaluate flood hazards. FEMA provides Flood Insurance Rate Maps (FIRM) for local and regional planners to promote sound land use and floodplain development by identifying potential flood areas based on the current conditions. To delineate a FIRM, FEMA conducts engineering studies referred to as Flood Insurance Studies (FIS). The most recent FIS and FIRMs were completed and published for the City of Stockton in 2009. Using information gathered in these studies, FEMA engineers and cartographers delineate Special Flood Hazard Areas (SFHAs) on FIRMs.

The Flood Disaster Protection Act (FDPA) requires owners of all structures in identified SFHAs to purchase and maintain flood insurance as a condition of receiving federal or federally-related financial assistance, such as mortgage loans from federally-insured lending institutions. Community members within designated areas are able to participate in the National Flood Insurance Program (NFIP) afforded by FEMA. The NFIP is required to offer federally-subsidized flood insurance to property owners in those communities that adopt and enforce floodplain management ordinances that meet minimum criteria established by FEMA. The National Flood Insurance Reform Act of 1994 further strengthened the NFIP by providing a grant program for state and community flood mitigation projects. The act also established the Community Rating System (CRS), a system for crediting communities that implement measures to protect the natural and beneficial functions of their floodplains, as well as managing erosion hazards.

The City of Stockton, under NFIP, has created standards and policies to ensure flood protection. These policies address development and redevelopment, compatibility of uses, required predevelopment drainage studies, compliance with discharge permits, enhancement of existing waterways, cooperation with the US Army Corps of Engineers (Corps) and the San Joaquin Area Flood Control Agency (SJAFCA) for updating, and method consistency with the Regional Water Quality Control Board (RWQCB) and proposed best management practices (BMPs).

Department of Water Resources

The Department of Water Resources' (DWR) major responsibilities include preparing and updating the California Water Plan to guide development and management of the State's water resources, planning, designing, constructing, operating, and maintaining the State Water Resources Development System, protecting and restoring the Sacramento-San Joaquin Delta, regulating dams, providing flood protection, assisting in emergency management to safeguard life and property, educating the public, and serving local water needs by providing technical assistance. In addition, the DWR cooperates with local agencies on water resources investigations; supports watershed and river restoration programs; encourages water conservation; explores conjunctive use of ground and surface water; facilitates voluntary water transfers; and, when needed, operates a State drought water bank.

California Water Code

The Federal Clean Water Act places the primary responsibility for the control of surface water pollution and for planning the development and use of water resources with the states, although this does establish certain guidelines for the states to follow in developing their programs and allows the Environmental Protection Agency (EPA) to withdraw control from states with inadequate implementation mechanisms.

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the RWQCBs power to protect water quality and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region and the regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

The Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

> (a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:

(1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.

(2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.

(3) A person operating, or proposing to construct, an injection well.

(b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.

(c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

Water Quality Control Plan for the Central Valley Region

The Water Quality Control Plan for the Central Valley Region (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

200-Year Flood Protection in the Central Valley

Both State policy and State legislation (Senate Bill 5) call for 200-year (0.5 percent annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. Senate Bill 5 (SB 5) requires that the 200-year protection be consistent with criteria used or developed by the Department of Water Resources. SB 5 requires all urban and urbanizing areas in the Sacramento and San Joaquin Valleys to achieve 200-year flood protection in order to approve development. The new law restricts approval of development after 2016 if "adequate progress" towards achieving this standard is not met. Urban and urbanizing areas protected by State-Federal

project levees cannot use "adequate progress" as a condition to approve development after 2025. Adequate progress is defined as meeting all of the following:

1. The project scope, cost and schedule have been developed,
2. In any given year, at least 90 percent of the revenues scheduled for that year have been appropriated and expended consistent with the schedule,
3. Construction of critical features is progressing as indicated by the actual expenditure of budget funds,
4. The city or county has not been responsible for any significant delay in completion of the system, and
5. The above information has been provided to the DWR and the Central Valley Flood Protection Board and the local flood management agency shall annually report on the efforts to complete the project.

City of Stockton and San Joaquin County Stormwater Quality Control Criteria Plan

The Stormwater Quality Control Criteria Plan (SWQCCP), originally adopted in 2009, was updated in 2020 to reflect the most recent Phase I NPDES Permit and new State requirements. The SWQCCP was prepared to accomplish the following goals:

- Protect water resources of the City and County from the adverse impacts of urban stormwater runoff,
- Ensure that the implementation of the measures in the SWQCCP is consistent with the NPDES permit and other State requirements, including trash control,
- Provide clear development standards for developers, design engineers, agency engineers, and planners to use in the selection and implementation of appropriate control measures,
- Emphasize the implementation of low impact development (LID)-based strategies, and
- Provide maintenance procedures to ensure that the selected control measures will be maintained to provide effective, long-term pollution control.

The control measures, often termed BMPs, were selected to optimize post-construction, on-site stormwater pollution control. All Priority New Development and Significant Redevelopment Projects must apply all four categories of stormwater pollution controls measures, which include site design controls, source controls, volume reduction measures, and treatment controls. In addition, all Priority Projects and Priority Land Use Projects must apply trash control measures.

Envision Stockton 2040 General Plan

The Envision Stockton 2040 General Plan contains the policies related to stormwater that are applicable to the proposed Project.

POLICY: LAND USE ELEMENT

- LU-6.3. Ensure that all neighborhoods have access to well-maintained public facilities and utilities that meet community service needs.

ACTIONS: LAND USE ELEMENT

- LU-3.3.A. Continue to improve and maintain park facilities and fields to address deficiencies and improve park sustainability, including lighting improvements, conversion to solar lighting, drinking fountain maintenance, and natural stormwater management.
- LU-6.3.A. Require development to mitigate any impacts to existing sewer, water, stormwater, street, fire station, park, or library infrastructure that would reduce service levels.

POLICIES: SAFETY ELEMENT

- SAF-2.3. Protect the community from the potential flood events.
- SAF-2.4. Minimize risks to the community from flooding through appropriate siting and protection of structures and occupants.
- SAF-3.2. Protect the availability of clean potable water from groundwater sources.

ACTIONS: SAFETY ELEMENT

- SAF-2.4A. Regulate new urban development in accordance with State requirements for 200-year level of flood protection and federal requirements for 100-year level of flood protection.
- SAF-3.2B. Require new development to employ low impact development (LID) approaches, including:
    - Conserving natural areas and reducing imperviousness;
    - Runoff storage;
    - Hydro-modification (to mimic pre-development runoff volume and flow rate);
    - Reducing trash accumulation; and
    - Public education and outreach.

City of Stockton Municipal Code

The City of Stockton's stormwater quality requirements are primarily contained in Municipal Code Chapter 13.16, Stormwater Management and Discharge Control, and 13.20, Stormwater Quality Control Criteria Plan. Chapter 3.16 establishes uniform requirements for protecting and enhancing the water quality of watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Federal Clean Water Act. This chapter establishes requirements for: operating and maintaining the municipal stormwater system; eliminating non-stormwater discharges to the municipal separate storm drain; controlling the discharge to municipal separate storm drains from spills, dumping, or disposal of materials other than stormwater; and reducing pollutants in stormwater discharges to the maximum extent practicable. Chapter 13.20 establishes uniform

requirements for the selection and incorporation of site design, controls, source controls, volume reduction measures, and treatment controls into new development and redevelopment projects in a manner consistent with the Federal Clean Water Act, the adopted NPDES permit, and the City's corresponding Stormwater Management Plan. Chapter 13.20 requires applicable projects to develop and implement a Stormwater Quality Control Plan (SWQCP), maintenance plan, and/or other materials, as required by the City of Stockton and San Joaquin County Stormwater Quality Control Criteria Plan (SWQCCP), that incorporate stormwater pollution control measures to minimize stormwater quality impacts to the maximum extent practicable.

The City of Stockton Municipal Code Title 16 (Development Code), Division 3 (Site Planning and General Development Regulations), Chapter 16.72 (Public Improvements), Section 16.72.200 (Storm drainage facilities), requires that the stormwater runoff from a development be collected and conveyed by an approved storm drain system and include conveyance to the point of terminal discharge.

Utility Master Plans

The City of Stockton maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: *2020 City of Stockton Urban Water Management Plan* (Stockton, 2021), *Wastewater Master Plan Update* (Stockton, 2022), *Water Master Plan Update* (Stockton, 2021), *City of Stockton Conceptual Storm Drain Master Plan* (Stockton, 2008), and the *City of Stockton NPDES Municipal Stormwater Program Stormwater Management Plan* (2009).

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project may have a significant impact on the environment associated with Utilities if it would:

1. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-6: The proposed Project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (Less than Significant with Mitigation)

As discussed in Section 3.9, Hydrology and Water Quality, currently, runoff from within the Project site is collected in a system of shallow agricultural and roadside ditches. Irrigation canals, operated by Woodside Irrigation District (WID), run along the northern, eastern, and southern borders of the Development Area, separating existing agricultural uses from the respective roadways. The Project would alter the existing drainage through grading and development of urban uses within the Development Area of the site. Additionally, the Project would result in increased impervious surfaces and result in an incremental reduction in the amount of natural soil surfaces available for

infiltration of rainfall and runoff, with the potential to generate additional runoff during storm events. Additional runoff could contribute to increased erosion, siltation, and pollution, and increase in flood potential, or runoff that could exceed the capacity of the City's drainage system.

The Project proposes to construct a storm drain detention basin to provide flood control. Development of the proposed Project would include construction of a new storm basin near Eight Mile Road, and two (2) options for connecting to offsite drainage facilities are being considered and evaluated. Option 1 would connect to a new outfall structure to the north of the basin and pump storm water into the WID drainage ditch that is located south of, and parallel to Eight Mile Road. Option 2 is construction of a force main to Pixley Slough to an existing outfall structure. The force main would be located south of, and parallel Eight Mile Road. It is noted that the location of the proposed basin is conceptual and will be finalized during the design of Improvement Plans.

The overall design of Project drainage infrastructure, including the proposed storm basin, would be required to comply with the City of Stockton NPDES Stormwater Management Plan, which includes existing and enhanced program control measures for controlling the discharge of pollutants to the municipal storm drain system to the maximum extent practicable. In addition, General Plan Action SAF-3.2B requires new development to employ low impact development (LID) approaches that conserve natural areas and reduce impervious areas. The term LID means a storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect predevelopment hydrologic functions. The Project would be required to integrate LID measures throughout the Project to provide stormwater quality treatment. These LID measures would likely include both volume-based best management practices (BMPs) (i.e., bioretention, infiltration features, pervious pavement, etc.) and flow-based BMPs (i.e., vegetated swales, stormwater planter, etc.). The use of these features would be dependent upon the location and setting within the Project site.

According to the City of Stockton and San Joaquin County Stormwater Quality Control Criteria Plan (SWQCCP), the Project would be considered both a Priority Project and a PLU Project, as the Project includes a residential subdivision of 10 housing units or more (Priority Project) and contains land uses with at least 10 developed dwelling units per acre (PLU Project). Priority projects are required to prepare and submit a Project Stormwater Quality Control Plan with the initial building permit submittal, that demonstrates the Project incorporates site design measures, landscape features, and engineered treatment facilities (typically bioretention facilities) that will minimize imperviousness, retain or detain stormwater, slow runoff rates, and reduce pollutants in post-development runoff. In particular, the Project Stormwater Quality Control Plan would specify BMPs required to be implemented by the Project and design specifications for selected BMPs. The Project Stormwater Quality Control Plan must be submitted for review and approval by the City of Stockton Department of Municipal Utilities.

The proposed Project includes development of a new storm drainage system to serve the proposed uses as described above. The potential environmental effects resulting from construction of the storm drainage system are analyzed throughout this Draft EIR, and in some cases, there are potentially significant impacts associated with construction of this infrastructure. Where impacts

are identified for each environmental topic, mitigation measures are developed to avoid, minimize, or compensate for the impact to the extent practicable. All mitigation measures presented throughout this EIR will be implemented to reduce impacts to the extent practicable. There will not be any significant impacts beyond what is disclosed in the other chapters of this document. In addition to the other mitigation measures presented throughout this document, the following mitigation measure is intended to ensure that the drainage system is designed and constructed to meet the City's performance standards. With the implementation of mitigation measures presented throughout this EIR, and the following mitigation measure, impacts would be ***less than significant***.

MITIGATION MEASURE

Mitigation Measure 3.14-2*: Prior to the issuance of a building or grading permit, the project applicant shall submit a drainage plan to the City of Stockton for review and approval. The plan shall include an engineered Storm Water Quality Control Criteria Plan (SWQCCP) that demonstrates attainment of pre-project runoff requirements prior to release at the Bear Creek outfall. The plan shall describe the volume reduction measures and treatment controls consistent with City of Stockton requirements.*

3.14.4 SOLID WASTE

ENVIRONMENTAL SETTING

County of San Joaquin Solid Waste Services

Solid Waste is a division of the Public Works Department of San Joaquin County. The division oversees the operations of several solid waste facilities and sanitary landfills, administers state mandated waste diversion programs, and provides and arranges for a wide range of services and outreach to the general public so as to conserve resources, and preserve public health and safety and the environment. Facilities include County owned and operated Lovelace Materials Recovery Facility and Transfer Station, and North County Recycling Center and Sanitary Landfill, as well as owned but privately operated Foothill Sanitary Landfill and Hazardous Household Waste Facility. The division also maintains the closed landfill facilities at Corral Hollow and Harney Lane. The active facilities are key locations in a network that reaches every County resident and business to dispose of nearly all man-made products that can't be recycled or diverted. In 1994, the County of San Joaquin mandated that residents in densely populated unincorporated areas of the County have garbage collection service. Waste collection services are provided at the Project site by Republic Services (San Joaquin County, 2023).

City of Stockton Solid Waste Services

The City of Stockton Public Works Department (Solid Waste & Recycling Division) provides solid waste hauling service for the City of Stockton. This agency would serve the proposed Project. Waste collection services are provided weekly on a day, as specified by the waste haulers that serve the City, which include Republic Services and Waste Management. Customers with brown-colored carts are served by Republic Services, and those with green-colored carts are served by Waste Management.

Solid waste from Stockton is taken to Forward Landfill in Manteca or the North County Landfill in Lodi. During inclement weather, occasional loads are taken to the Lovelace Material Recovery Facility in Manteca. Solid waste from Lovelace is disposed at Foothill Landfill in Linden. Construction and demolition materials and some commercial loads are processed at the East Stockton Transfer Station. Residuals from the East Stockton Transfer Station are disposed at Forward Landfill. All three landfills are summarized in Table 3.14-7 below. Table 3.14-8 summarizes the City of Stockton's disposal rate targets, as identified by CalRecycle.

TABLE 3.14-7: CITY OF STOCKTON LANDFILL SUMMARY

LANDFILL	*LOCATION*	*MAXIMUM DAILY THROUGHPUT (TONS/DAY)*	*REMAINING CAPACITY (CUBIC YARDS)*	*ANTICIPATED CLOSURE YEAR*
Forward Sanitary	Manteca	8,668	24.7 million	2036
Foothill Sanitary	Linden	1,500	125 million	2082
North County	Lodi	825	35.4 million	2048

SOURCE: CALRECYCLE, SWIS FACILITY/SITE ACTIVITY DETAILS, 2023.

TABLE 3.14-8: CITY OF STOCKTON WASTE DISPOSAL RATE TARGETS (POUNDS/DAY)

POPULATION		*EMPLOYMENT*	
Target	Annual	Target	Annual
6.9	7.0	21.0	21.9

SOURCE: CALRECYCLE, 2023.

REGULATORY SETTING

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) was enacted in 1976 to address the huge volumes of municipal and industrial solid waste generated nationwide. After several amendments, the Act as it stands today governs the management of solid and hazardous waste and underground storage tanks (USTs). RCRA, enacted in 1976, is an amendment to the Solid Waste Disposal Act of 1965. RCRA has been amended several times, most significantly by the Hazardous and Solid Waste Amendments of 1984. RCRA is a combination of the first solid waste statutes and all subsequent amendments. RCRA authorizes the Environmental Protection Agency (EPA) to regulate waste management activities. RCRA authorizes states to develop and enforce their own waste management programs, in lieu of the Federal program, if a state's waste management program is substantially equivalent to, consistent with, and no less stringent than the Federal program.

AB 939: California's Integrated Waste Management Act of 1989

California's Integrated Waste Management Act of 1989 (AB 939) set a requirement for cities and counties to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling and composting. In order to achieve this goal, AB 939 requires that each City and County prepare and submit a Source Reduction and Recycling Element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 939 also established requirements for cities and counties to develop and implement plans for the safe management of household hazardous wastes. In order to achieve this goal, AB 939 requires that each city and county prepare and submit a Household Hazardous Waste Element.

California Integrated Waste Management Board Model Ordinance

Subsequent to the Integrated Waste Management Act, additional legislation was passed to assist local jurisdictions in accomplishing the goals of AB 939. The California Solid Waste Re-use and

Recycling Access Act of 1991 (§42900-42911 of the Public Resources Code) directs the California Integrated Waste Management Board to draft a "model ordinance" relating to adequate areas for collecting and loading recyclable materials in development projects. The model ordinance requires that any new development project, for which an application is submitted on or after September 1, 1994, include "adequate, accessible, and convenient areas for collecting and loading recyclable materials." For subdivisions of single-family detached homes, recycling areas are required to serve only the needs of the homes within that subdivision.

AB 341 (75 Percent Solid Waste Diversion)

Assembly Bill (AB) 341 directed CalRecycle to develop and adopt regulations for mandatory commercial recycling. CalRecycle initiated formal rulemaking with a 45-day comment period beginning Oct. 28, 2011. The final regulation was approved by the Office of Administrative Law on May 7, 2012. The purpose of AB 341 is to reduce GHG emissions by diverting commercial solid waste to recycling efforts and to expand the opportunity for additional recycling services and recycling manufacturing facilities in California.

Beginning on July 1, 2012, businesses have been required to recycle, and each jurisdiction has implemented programs that include education, outreach, and monitoring. Jurisdictions were required to start reporting on their 2012 Electronic Annual Report (due August 1, 2013) on their initial education, outreach, and monitoring efforts, and, if applicable, on any enforcement activities or exemptions implemented by the jurisdiction.

In addition to Mandatory Commercial Recycling, AB 341 sets a statewide goal for 75 percent disposal reduction by the year 2020. This is not written as a 75 percent diversion mandate for each jurisdiction. The 50 percent disposal reduction mandate still stands for cities, counties, and State agencies (including community colleges) under AB 939. CalRecycle continues to evaluate program implementation as it has in the past through the Annual Report review process for entities subject to either AB 939.

SB 1374 (Construction and Demolition Waste Materials Diversion)

Senate Bill 1374 (SB 1374), Construction and Demolition Waste Materials Diversion Requirements (CIWMB), requires that jurisdictions summarize their progress realized in diverting construction and demolition waste from the waste stream in their annual AB 939 reports. SB 1374 required the CIWMB to adopt a model construction and demolition ordinance for voluntary implementation by local jurisdictions.

AB 1826 (Mandatory Commercial Organics Recycling)

In October 2014 Governor Brown signed AB 1826, requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units (please note, however, that multi-family dwellings are not required to have a food waste diversion program). Organic waste (also referred to

as organics) means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. This law phases in the mandatory recycling of commercial organics over time, while also offering an exemption process for rural counties. In particular, the minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

Starting on January 1, 2019, businesses that generate four cubic yards or more of commercial solid waste per week shall arrange for organic waste recycling services. By Summer/Fall 2021, if CalRecycle determines that the statewide disposal of organic waste in 2020 has not been reduced by 50 percent of the level of disposal during 2014, the organic recycling requirements on businesses will expand to cover businesses that generate two cubic yards or more of commercial solid waste per week. Additionally, certain exemptions may no longer be available if this target is not met.

SB 1383 (Short-lived Climate Pollutants: Organic Waste Methane Emissions Reductions)

In September 2016, Governor Brown signed SB 1383, establishing methane emissions reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants (SLCP) in various sectors of California's economy. The bill codifies the California Air Resources Board's Short-Lived Climate Pollutant Reduction Strategy, established pursuant to SB 605, in order to achieve reductions in the statewide emissions of short-lived climate pollutants. Actions to reduce short-lived climate pollutants are essential to address the many impacts of climate change on human health, especially in California's most at-risk communities, and on the environment.

As it pertains to solid waste, SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The law grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025.

California Green Building Standards Code (CALGreen)

CALGreen requires the diversion of at least 50 percent of the construction waste generated during most new construction projects (CALGreen Sections 4.408 and 5.408) and some additions and alterations to nonresidential building projects.

Envision Stockton 2040 General Plan

The Envision Stockton 2040 General Plan contains policies related to solid waste that are applicable to the proposed Project.

POLICY: SAFETY ELEMENT

- SAF-2.6. Minimize the risk to city residents and property associated with the transport, distribution, use, and storage of hazardous materials.

ACTION: SAFETY ELEMENT

- SAF-2.6C. Educate the public regarding the types of household hazardous wastes and the proper methods of disposal.

POLICY: COMMUNITY HEALTH ELEMENT

- CH-5.2. Expand opportunities for recycling, re-use of materials, and waste reduction.

ACTION: COMMUNITY HEALTH ELEMENT

- CH-5.2.B. Continue to require recycling in private and public operations, including construction/demolition debris.

City of Stockton Municipal Code, Chapter 8.04

Chapter 8.04 of the Municipal Code regulates the management of garbage, recyclables, and other wastes. Chapter 8.04 sets forth solid waste collection, disposal, and diversion requirements for residential, commercial, industrial, and other uses and addresses yard waste, hazardous materials, recyclables, and other forms of solid waste.

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on the environment associated with Utilities if it will:

1. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment if solid waste reduction goals.
2. Comply with federal, State, and local statutes and regulations related to solid waste.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-7: The proposed Project would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs and comply with federal, State, and local statutes and regulations related to solid waste (Less than Significant)

The permitted maximum disposal at the Forward Landfill is 8,668 tons per day. The total permitted capacity of the Forward Landfill is 59.16 million cubic yards, which was expected to accommodate an operational life until January 1, 2036. The permitted maximum disposal at the Foothill Landfill is 1,500 tons per day. The remaining capacity is 125,000,000 cubic yards with an anticipated closure year of 2082. The permitted maximum disposal at the North County Landfill is 825 tons per day. The remaining capacity is 35,400,000 cubic yards with an anticipated closure year of 2048.

Solid waste generated by the proposed Project was estimated based on generation rate estimates by use in the *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR*. The dwelling units are estimated to generate approximately 10 pounds per day per a unit. It is

estimated that the 1,411 units would generate approximately 14,110 pounds per day of solid waste. The total solid waste generated by the proposed project is estimated to be 7.11 tons per day. Since residential units would generate more solid waste than school uses, this option of the development of an additional 79 units compared to a 12-acre school, would generate a greater amount of solid waste.

As previously described, solid waste generated in the City is disposed of at the Forward Landfill. This landfill was projected to close in the year 2036. The City's solid waste per capita generation has decreased since 2007 due to the waste diversion efforts of the City. There are 50 solid waste diversion programs in Stockton, including: composting; facility recovery, such as transfer stations; household hazardous waste collection and education programs; recycling; source reduction programs, including business waste reduction programs; special waste materials, such as tires and concrete/asphalt/rubble; and waste to energy.[1] The permitted maximum disposal at the Forward Landfill is 8,668 tons per day. The remaining capacity of the landfill is 24.7 million cubic yards. The addition of solid waste associated with the proposed Project, approximately 14,110 pounds or 7.11 tons per day at total buildout, to the Forward Landfill would not exceed the landfill's remaining capacity.

All development in the City of Stockton is required to have solid waste service pursuant to Section 8.04.020 of the City Municipal Code. Solid waste service for the proposed Project would be provided by the City's contracted providers. Therefore, impacts related to solid waste would be ***less than significant***.

[1] City of Stockton, Envision Stockton 2040 General Plan Update & Utility Master Plan Supplements Draft EIR, June 2018. Page 4.15-23.

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The California Environmental Quality Act (CEQA) requires an Environmental Impact Report (EIR) to evaluate a project's effects in relationship to broader changes occurring, or that are foreseeable to occur, in the surrounding environment. Accordingly, this chapter presents a discussion of CEQA-mandated analysis for cumulative impacts, significant irreversible effects, and significant and unavoidable impacts associated with the proposed Project.

4.1 CUMULATIVE SETTING AND IMPACT ANALYSIS

INTRODUCTION

CEQA requires that an EIR contain an assessment of the cumulative impacts that could be associated with the proposed Project. According to CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (as defined by Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created because of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact occurs from:

> *…the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

In addition, Section 15130(b) identifies that the following three (3) elements are necessary for an adequate cumulative analysis:

1) Either:

(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,

(B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

CUMULATIVE SETTING

In compliance with CEQA Guidelines Section 15130(1)(b), this section of the EIR describes the environmental effects of the General Plan Update in combination with the effects of regional growth, as forecasted in the San Joaquin Council of Governments (SJCOG) Regional Transportation Plan/Sustainable Communities Strategy, adopted by SJCOG's Board of Directors on August 25, 2022. Existing population is based on the California Department of Finance population estimates. Table 4.0-1 shows growth projections.

TABLE 4.0-1: GROWTH PROJECTIONS

YEAR	*ESTIMATED POPULATION (STOCKTON)*	*ESTIMATED POPULATION (SAN JOAQUIN COUNTY)*
2022	319,731	786,145
2025	335,798	833,053
2030	348,258	882,162
2035	354,700	917,811
2040	359,991	951,985
2045	365,114	987,241

SOURCES: SAN JOAQUIN COUNCIL OF GOVERNMENTS (2022), DEPARTMENT OF FINANCE (2023).

CUMULATIVE EFFECTS OF THE PROJECT

Cumulative settings are identified under each cumulative impact analysis. Cumulative settings vary because the area that the impact may affect is different. For example, noise impacts generally only impact the local surrounding area because noise travels a relatively short distance while air quality impacts affect the whole air basin as wind currents control air flow and are not generally affected by natural or manmade barriers which would affect noise. Cumulative Project impacts are addressed and summarized below.

Method of Analysis

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively. State CEQA Guidelines 15130 requires a reasonable analysis of a project's cumulative impacts, which are defined as "two (2) or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts." The cumulative impact that results from several closely related projects is: the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a

period of time (State CEQA Guidelines 15355[b]). Cumulative impact analysis may be less detailed than the analysis of the project's individual effects (State CEQA Guidelines 15130[b]).

There are two (2) approaches to identifying cumulative projects and the associated impacts. The list approach identifies individual projects known to be occurring or proposed in the surrounding area to identify potential cumulative impacts. The projection approach uses a summary of projections in adopted General Plans or related planning documents to identify potential cumulative impacts. This EIR uses the projection approach for the cumulative analysis and considers the development anticipated to occur upon buildout of the various General Plans in the area.

Project Assumptions

The proposed Project's contribution to environmental impacts under cumulative conditions is based on development of the Project site consistent with the development assumptions identified in Chapter 2.0, Project Description. See Chapter 2.0, Project Description, for a complete description of the proposed Project.

Cumulative Impacts

Some cumulative impacts for issue areas are not quantifiable and are therefore discussed in general terms as they pertain to development patterns in the surrounding region. Exceptions to this are traffic, utilities, noise and air quality (the latter two of which are associated with traffic volumes and operations associated with the proposed land uses), which may be quantified by estimating future traffic patterns, pollutant emitters, etc. and determining the combined effects that may result. In consideration of the cumulative scenario described above, the proposed Project may result in the following cumulative impacts.

AESTHETICS AND VISUAL RESOURCES

The cumulative setting for aesthetics is the City of Stockton and surrounding areas of San Joaquin County.

Impact 4.1: Cumulative Damage to Scenic Resources within a State Scenic Highway (Less than Significant and Less than Cumulatively Considerable)

As described in Section 3.1, Aesthetics and Visual Resources, one highway section in San Joaquin County is listed as a Designated Scenic Highway by the Caltrans Scenic Highway Mapping System; the segment of I-580 from Interstate 5 to Interstate 205. This route traverses the edge of the Coast Range to the west and Central Valley to the east. The entire City of Stockton, including the Project site, is not visible from this roadway segment, which is located approximately 30 miles southwest of the site.

Cumulative development in the city would not impact a State Scenic Highway. Implementation of the proposed Project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts relative to scenic resources would be a ***less than cumulatively considerable contribution*** and no mitigation is required.

Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region (Cumulatively Considerable and Significant and Unavoidable)

Implementation of the proposed Project would change the existing visual character of the site from a primarily agricultural site to a primarily urbanized site. Developed land uses occur in the area surrounding the Project site, including the existing "Destinations" neighborhood and future Tra Vigne development to the west and east, respectively.

The proposed Project would include visual components that would assist in enhancing the appearance of the site following site development. Landscaping improvements, including new street trees, groundcover, and ornamental vegetation, would be provided throughout the Project site, including along the site boundary. Additionally, the proposed Project would include approximately 30.7 (without the school) to 31.6 (with the school) acres of parkland and open space areas, including two (2) parks, a series of streets with an enhanced right of way to accommodate a pedestrian "wellness walk," and a detention basin area. These parkland and open space areas would improve the visual quality of the site and provide visual relief from the built environment.

Under cumulative conditions, buildout of the General Plan for Stockton and the surrounding jurisdictions could result in changes to the visual character and quality of the City of Stockton through development of undeveloped areas and/or changes to the character of existing communities. Development of the proposed Project, in addition to other future projects in the area, would change the existing visual and scenic qualities of the City. It is noted that although the Project site is largely undeveloped and currently occupied by agricultural uses, the General Plan designates the site for Low Density Residential, Medium Density Residential, High Density Residential, Institutional, and Parks and Recreation uses. Additionally, the surrounding areas to the east, south, and west are designated for urban uses (including mainly Low Density Residential, High Density Residential, and Commercial uses) by the General Plan. As such, the General Plan and associated EIR anticipated development of the Project area for similar uses as proposed by the Project.

Development within the City would be required to be consistent with the General Plan policies and City Municipal Code, both of which cover aesthetics and visual characteristics. Further, the Municipal Code contains development standards that address the visual character of a development project, such as building height, massing, setbacks, lighting, and landscaping. Although implementation of these requirements would reduce the impacts associated with development, the impacts would remain significant and unavoidable. As such, this is a ***cumulatively considerable contribution*** and a ***significant and unavoidable*** impact.

Impact 4.3: Cumulative Impact on Light and Glare (Less than Significant and Less than Cumulatively Considerable)

Implementation of the proposed Project would introduce new sources of light and glare into the Project site and surrounding area. The Project would be required to comply with the City of Stockton Municipal Code, including Section 16.32.070, Light and Glare, and Section 16.36.060, Development Considerations, which would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the

Municipal Code would ensure that excessively reflective building materials are not used, and that the proposed Project would not result in significant impacts related to daytime glare.

Future projects within Stockton, Lathrop, and San Joaquin County would be subject to the light and glare standards established by the individual jurisdictions. These regulations are designed to minimize potential light and glare impacts of new development. Implementation of these regulations would ensure that future projects minimize their potential light and glare impacts resulting in a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to nighttime lighting and daytime glare would be a ***less than cumulatively considerable contribution***, and no mitigation is required.

AGRICULTURAL RESOURCES

The cumulative setting for agriculture and forest resources is all of San Joaquin County. According to the Department of Conservation, the County had 742,687 acres of farmland in 2018, the majority of which (51.4 percent) is identified as Prime Farmland. The remaining agricultural land is comprised of Farmland of Statewide Importance (11.1 percent), Unique Farmland (11.5 percent), Farmland of Local Importance (8.9 percent), and Grazing Land (17.1 percent)

Impact 4.4: Cumulative Impact on Agricultural Resources (Cumulatively Considerable and Significant and Unavoidable)

As described in Section 3.2, Agricultural Resources, no parcels within the Development Area are currently under a Williamson Act contract. However, a parcel located within the northwestern portion of the Project site (APN 084-050-03) is under a Williamson Act contract. As this parcel is located within the Project's Non-development Area, the parcel would not be converted from agricultural to urban uses under the proposed Project; however, annexation into the City would require the parcel to file a notice of nonrenewal for the Williamson Act contract. It is noted that existing agricultural uses can continue to operate as legal nonconforming uses within the City of Stockton (see Chapter 16.228, non-conforming uses, structures, and parcels). Although conversion of the entire Project site from agricultural to urban uses has been anticipated by the City since the passage of the General Plan and associated EIR, the Project would conflict with existing agricultural use and Williamson Act compatibility requirements within the Non-development Area.

Additionally, development of the proposed Project would result in a permanent conversion of 23.12 acres of Prime Farmland, 217.79 acres of Farmland of Statewide Importance, and 7.51 acres of Farmland of Local Importance to non-agricultural use. The loss of Important Farmland as classified under the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) is considered a potentially significant environmental impact.

Mitigation of agricultural land conversion losses would be provided through the county-wide San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) and its local adoption by the City of Stockton. The SJMSCP requires the payment of a per-acre fee for loss of wildlife habitat, which in San Joaquin County is largely integral with agricultural use. The City's Agricultural Land Mitigation Program requires that future development pay the agricultural mitigation fee to mitigate the conversion of agricultural land to urban use. The San Joaquin Council

of Governments (SJCOG) would then use these funds to purchase conservation easements on agricultural and habitat lands that are placed over agricultural land, such as alfalfa and row crops in the Project vicinity.

The purchase of conservation easements and/or deed restrictions through the City's Agricultural Land Mitigation Program and the SJMSCP allows the agricultural landowner to retain ownership of the land and continue agricultural operations and preserves such lands in perpetuity.

While the proposed Project would contribute fees toward the purchase of conservation easements on agricultural lands, as required by Mitigation Measure 3.2-1, those fees and conservation easements would not result in the creation of new farmland to offset the loss that would occur with Project implementation. As such, the loss of Important Farmland would be a ***cumulatively considerable contribution*** and a ***significant and unavoidable*** impact.

AIR QUALITY

The cumulative setting for air quality impacts is the San Joaquin Valley Air Basin (SJVAB), which consists of eight (8) counties, stretching from Kern County in the south to San Joaquin County in the north. The SJVAB is bounded by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south.

Impact 4.5: Cumulative Impact on the Region's Air Quality (Cumulatively Considerable and Significant and Unavoidable)

Under buildout conditions in the San Joaquin County, the SJVAB would continue to experience increases in criteria pollutants and efforts to improve air quality throughout the basin would be hindered. As described in Section 3.3, San Joaquin County has a state designation of Nonattainment for ozone, PM_{10} and $PM_{2.5}$. Table 3.3-2 in Section 3.3 presents the State and federal attainment status for San Joaquin County.

As discussed under Impact 3.3-1 in Section 3.3, operational emissions would exceed the SJVACPD thresholds of significance for ROG. The Project's operational ROG emissions are primarily from the Project's mobile vehicle emissions. However, a substantial portion of the ROG emissions are also from area sources, which include off-gassing from architectural coatings, off-gassing from consumer products, and the usage of landscape equipment. The only feasible mitigation to reduce the Project's operational emissions are to reduce the ROG content off-gassed from architectural coatings (by using architectural coatings that have fewer ROG emissions) and by utilizing landscaping equipment with fewer or no ROG emissions. There is no feasible mitigation to reduce mobile vehicle ROG emissions, or to reduce the amount of ROG off-gassing from consumer products, as these are not activities that the Project applicant would have the ability to feasibly influence.

With implementation of the available feasible mitigation measures (Mitigation Measures 3.3-1 through 3.3-3), the proposed Project's emissions would be reduced. The Project's ROG emissions could be reduced from approximately 14.3 to 13.0 tons per year, with the implementation of Mitigation Measures 3.3-1 through 3.3-3. However, this would not be sufficient to ensure a

reduction of ROGs to below the applicable Air District criteria pollutant threshold of 10 tons per year.

As discussed in Impact 3.3-2 in Section 3.3, Project maximum construction emissions would not exceed the SJVAPCD thresholds of significance. Nevertheless, regardless of emission quantities, the SJVAPCD requires construction related mitigation in accordance with their rules and regulations. Nevertheless, implementation of the Mitigation Measure 3.3-4 through 3.3-7 would further reduce proposed Project construction related emissions to the extent possible.

Additionally, as discussed in Impact 3.3-4 of Section 3.3, no residences would be located within 500 feet of a freeway, urban road with 100,000 vehicles/day or more, or a rural road with 50,000 vehicles/day or more. Additionally, under CEQA, an EIR need not analyze the impacts of the existing environment on the Project. No residual TAC emissions and corresponding cancer risk are anticipated after Project construction. The proposed Project is not anticipated to generate long-term, operational sources of TAC emissions because the Project would only include residential land uses and public open space. The Project would not include heavy industrial uses or other land uses typically associated with stationary sources of TACs. As such, the Project would not result in substantial TAC emissions that may affect nearby receptors, nor would the Project be exposed to nearby sources of TACs.

Overall, even with the application of the mitigation measures included in Section 3.3, emissions levels would remain above the defined thresholds of significance. As such, implementation of the proposed Project would have a ***cumulatively considerable contribution*** and ***significant and unavoidable*** impact from air emissions.

BIOLOGICAL RESOURCES

The cumulative setting for biological resources includes the Project site and the greater San Joaquin County region. Development associated with implementation of the local General Plan(s) would contribute to the ongoing loss of natural and agricultural lands in San Joaquin County, including the Project site. Cumulative development would result in the conversion of existing habitat to urban uses. The local General Plan(s), in addition to regional, State and federal regulations, includes policies and measures that mitigate impacts to biological resources associated with General Plan buildout. Additionally, local land use authorities in San Joaquin County require development to participate in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), which is a habitat conservation plan and natural community conservation plan for San Joaquin County that provides a mechanism for compensatory mitigation for habitat and species loss in accordance with federal and State laws.

Impact 4.6: Cumulative Loss of Biological Resources Including Habitats and Special Status Species (Less than Significant and Less than Cumulatively Considerable)

Under cumulative conditions, buildout of the General Plan(s) within San Joaquin County will result in impacts to biological resources associated with new development. The General Plan(s) includes policies that are designed to minimize impacts to the extent feasible and the SJMSCP has been

established to provide a mechanism for compensatory mitigation and standardized avoidance and minimization measures as needed.

As described in Section 3.4 Biological Resources, construction in the Project site has the potential to result in impacts to special-status species in the region. The California Natural Diversity Database (CNDDB) currently contains records for Swainson's hawk, giant gartersnake, vernal tadpole shrimp, Suisun Marsh aster, and tricolored blackbird in the vicinity of the Project site. The Project site provides potential habitat for several species, including those discussed in Section 3.4.

Mitigation Measure 3.4-1 requires participation with the SJMSCP, which includes fees that will be used to purchase conservation lands for a variety of special status species. The SJMSCP was created and adopted to address both the Project and cumulative impacts to biological resources, including special status species. The proposed Project will participate in the SJMSCP, including payment of fees and implementation of all Incidental Take Minimization Measures required by the SJCOG through the authorization of SJMSCP coverage.

Additionally, the Development Area contains numerous shade trees along the agricultural parcel boundaries, near the center of the Development Area, and near the southwestern corner of the Development Area. It may be possible for specific trees to be incorporated into the final design of the development once the more detailed engineering effort begins. However, it is likely that removal of the majority of the on-site trees would be required. Any Heritage Trees that cannot remain in the final design must be replaced in accordance with Chapter 16.130 of the Municipal Code if deemed applicable at the time of removal. A "Heritage Tree" is defined as: "Any *Quercus lobata* (commonly known as "Valley Oak"), *Quercus agrifolia* (Coast Live Oak), and *Quercus wislizenii* (Interior Live Oak) tree which is located on public or private property within the limits of the City, and which has a trunk diameter of 16 inches or more, measured at 24 inches above actual grade. For Oak trees of the species mentioned above, with multiple trunks, the combined total trunk diameter shall be used for all trunks measuring six (6) inches or greater measured at 24 inches above actual grade." Mitigation Measure 3.4-2 requires compliance with the Stockton Municipal Code for removal and replacement of Heritage Oak Trees.

Implementation of Mitigation Measures 3.4-1 and 3.4-2 in Section 3.4 would reduce potentially cumulative impacts to a ***less than significant*** level. As such, impacts to biological resources would be a ***less than cumulatively considerable contribution***.

CULTURAL AND TRIBAL RESOURCES

The geography of cultural resources impacts can be defined by region, by political subdivision or by the geography of the cultural resources present in an area, where sufficient inventory data is available to define it. The cumulative setting for cultural resources includes all of the San Joaquin County. There are extensive cultural sites located in the region.

Impact 4.7: Cumulative Impacts on Known and Undiscovered Cultural and Tribal Resources (Less than Significant and Less than Cumulatively Considerable)

Cumulative development anticipated in the City and County, including growth projected by adopted future projects, may result in the discovery and removal of cultural resources, including archaeological, paleontological, historical, and Native American resources and human remains. As discussed in Section 3.5, Cultural and Tribal Resources, a CHRIS search and a field assessment conducted as part of the Cultural Resource Assessment found no evidence of cultural resources on the Project site. As such, the Project site does not contain historical resources, archeological resources, or tribal cultural resources. Additionally, no human remains have been documented on or near the Project site.

Any previously unknown cultural or tribal cultural resources which may be discovered during development of the proposed Project would be required to be preserved, either through preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. With implementation of the mitigation measures provided in Section 3.5, the proposed Project is not anticipated to considerably contribute to a significant reduction in cultural resources in the region.

All future projects in the regional vicinity would be subject to their respective General Plans (i.e., City of Stockton, City of Lathrop, and San Joaquin County), each of which have policies and measures that are designed to ensure protection of undiscovered cultural resources. As with the Project, all discretionary related cumulative projects in these jurisdictions would require environmental review per regulations established in CEQA. Where significant or potentially significant impacts are identified, implementation of all feasible site-specific mitigation would be required to avoid or reduce impacts.

Implementation of the proposed Project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to cultural resources would result in a ***less than cumulatively considerable contribution***.

GEOLOGY AND SOILS

Impacts related to geology and soils are not inherently cumulative. Geology and soils concerns are related to risks, hazards or development constraints that are largely site-specific. However, seismic hazards are regional, and management of seismic hazards is vested with the local planning and building authority. For these reasons, the potential for cumulative geology and soils impacts are considered in the context of the City of Stockton and the Project site vicinity.

Impact 4.8: Cumulative Impact Related to Geology and Soils (Less than Significant and Less than Cumulatively Considerable)

As discussed in Section 3.6 Geology and Soils, implementation of the proposed Project has limited potential for landslide or liquefaction, subsidence, and lateral spreading. However, the Project would be required to prepare a final geotechnical evaluation of soils at a design-level to ensure that all on-site fill soils comply with the applicable safety requirements established by the California Building Code (CBC) to reduce risks associated with unstable soils and excavations and fills. While

the Project site and City is not within an area known for its seismic activity, there will always be a potential for groundshaking caused by seismic activity anywhere in California, including the Project site. Seismic activity could come from a known active fault such as the Vernalis fault, or any number of other faults in the region. In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the CBC. Additionally, the City of Stockton has incorporated numerous policies relative to seismicity to ensure the health and safety of all people in the City. Design in accordance with these standards and policies would reduce any potential impact to a less than significant level.

Geologic and soils impacts tend to be site-specific and Project-specific. Following compliance with the existing regulatory environment, implementation of the proposed Project would not result in increased risks or hazards related to geologic conditions in the cumulative setting area, nor would it result in any off-site or indirect impacts. Additionally, while there is the potential for cumulative project sites to have soils that contain paleontological resources, cumulative projects would undergo environmental and design review on a project-by-project basis pursuant to CEQA to evaluate potential impacts to paleontological resources. Where significant or potentially significant impacts are identified, implementation of all feasible site-specific mitigation would be required to avoid or reduce impacts. Implementation of the proposed Project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to geology and soils would result in a ***less than cumulatively considerable contribution***.

GREENHOUSE GASES AND CLIMATE CHANGE

The cumulative setting for greenhouse gas emissions and climate change impacts for this analysis is San Joaquin County, which is the boundary for the California Air Resources Board's (CARB) regional greenhouse gas emissions reduction targets. However, it should be noted that greenhouse gas emissions are global in nature and therefore are also analyzed in relation to their contribution to climate change on a global basis.

Impact 4.9: Cumulative Impact on Climate Change from Increased Project-Related Greenhouse Gas Emissions (Less than Significant and Less than Cumulatively Considerable)

Greenhouse gas emissions from a single Project will not cause global climate change; however, greenhouse gas emission from multiple projects throughout a region or state could result in a cumulative impact with respect to global climate change.

The California Legislature has enacted a series of statutes in recent years addressing the need to reduce GHG emissions across the State. These statutes can be categorized into four broad categories: (i) statutes setting numerical statewide targets for GHG reductions, and authorizing CARB to enact regulations to achieve such targets; (ii) statutes setting separate targets for increasing the use of renewable energy for the generation of electricity throughout the State; (iii) statutes addressing the carbon intensity of vehicle fuels, which prompted the adoption of regulations by CARB; and (iv) statutes intended to facilitate land use planning consistent with statewide climate objectives.

Between AB 32 (2006) and SB 32 (2016), the Legislature has codified some of the ambitious GHG reduction targets included within certain high-profile Executive Orders issued by the last two (2) Governors. The 2020 statewide GHG reduction target in AB 32 was consistent with the second of three statewide emissions reduction targets set forth in former Governor Arnold Schwarzenegger's 2005 Executive Order known as S-3-05, which is expressly mentioned in AB 32. (See Health & Safety Code Section 38501, subd. (i).) That Executive Branch document included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several State agencies to cooperate in the development of a climate action plan. The Secretary of Cal-EPA leads the Climate Action Team, whose goal is to implement global warming emission reduction programs identified in the Climate Action Plan and to report on the progress made toward meeting the emission reduction targets established in the executive order.

In 2015, Governor Brown issued Executive Order, B-30-15, which created a "new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 is established in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050." SB 32 codified this target.

In 2018, the Governor issued Executive Order B-55-18, which established a statewide goal to "achieve carbon neutrality as soon as possible, and no later than 2045, and maintain and achieve negative emissions thereafter." The order directs the CARB to work with other State agencies to identify and recommend measures to achieve those goals.

Notably, the Legislature has not yet set a 2045 or 2050 target in the manner done for 2020 and 2030 through AB 32 and SB 32, though references to a 2050 target can be found in statutes outside the Health and Safety Code. Senate Bill 350 (SB 350) (Stats. 2015, ch. 547) added to the Public Utilities Code language that essentially puts into statute the 2050 GHG reduction target already identified in Executive Order S-3-05, albeit in the limited context of new state policies (i) increasing the overall share of electricity that must be produced through renewable energy sources and (ii) directing certain State agencies to begin planning for the widespread electrification of the California vehicle fleet. Section 740.12(a)(1)(D) of the Public Utilities Code now states that "[t]he Legislature finds and declares [that] … [r]educing emissions of [GHGs] to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification." Furthermore, Section 740.12(b) now states that the California Public Utilities Commission (PUC), in consultation with CARB and the California Energy Commission (CEC), must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, … and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

Additionally, the City of Stockton Climate Action Plan (CAP) was approved by the Stockton City Council on December 2, 2014. The Climate Action Plan summarizes the City's GHG emissions inventory and provides 26 GHG emissions reduction measures. The CAP relies on numerous

voluntary measures for both existing and new development, but also includes mandatory measures where required by other state or local existing mandates and other City initiatives. The CAP also provides implementation strategies for the emissions reduction measures provided within the CAP.

As presented in Table 3.7-2 in Section 3.7 of this EIR, short-term construction emissions of GHGs are estimated at a total approximately 3,643 MT CO_2e. As shown in Table 3.7-3, the annual mitigated operational emissions of GHGs associated with the proposed Project would be approximately 16,118 MT CO_2e under the unmitigated scenario, and 16,103 under the mitigated scenario. The Project would be consistent with relevant plans, policies, and regulations associated with GHGs, notably the most recent version of the CARB's Scoping Plan, the SJCOG's 2022 RTP/SCS, and the City of Stockton Climate Action Plan. This would ensure that the proposed Project would be consistent with, and would not impair, the State's carbon neutrality standard by year 2045 as established under AB 1279. The State is making progress toward reducing GHG emissions in key sectors such as transportation, industry, and electricity. Since the Project would be consistent with State GHG Plans, it would not impede the State's goals of reducing GHG emissions 40 percent below 1990 levels by 2030, and of achieving carbon neutrality by 2045. The proposed Project would make a reasonable fair share contribution to the State's GHG reduction goals, by implementing a wide array of Project features that would substantially reduce GHG emissions and therefore, the proposed Project's GHG emissions would be considered to have a ***less than significant*** impact. As such, impacts related to climate change and greenhouse gas emissions would result in a ***less than cumulatively considerable contribution.***

HAZARDS AND HAZARDOUS MATERIALS

The cumulative context for the analysis of cumulative hazards and hazardous materials impacts is San Joaquin County, including all cumulative growth therein, as represented by full implementation of each respective General Plan (e.g., City of Stockton, City of Lathrop, San Joaquin County). As discussed in Section 3.8, Hazards and Hazardous Materials, implementation of the proposed Project would not result in any significant impacts related to this environmental topic with the implementation of the mitigation measures provided in Section 3.8.

Impact 4.10: Cumulative Impact Related to Hazards and Hazardous Materials (Less than Significant and Less than Cumulatively Considerable)

The proposed Project, in conjunction with cumulative development in the region, would occur in areas designated for a variety of urban, agricultural, and open space uses as defined by the applicable General Plan. Cumulative development would include continued operation of, or development of, new uses and facilities as allowed under each land use designation. New development or redevelopment has the potential to increase the use of hazardous materials within the region, resulting in potential health and safety effects related to hazardous materials use. Potential impacts associated with new and future development would primarily be associated with commercial and industrial areas, as other uses such as residential would not involve the use of hazardous substances in large quantities or that would be particularly hazardous. Incidents, if any, would typically be site specific and would involve accidental spills or inadvertent releases. Associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials and would not combine with similar effects

elsewhere (i.e., construction workers), as hazard-related impacts tend to be site-specific and Project-specific.

The Project site is not associated with any existing hazardous materials spills; however, after agricultural operations cease, and development is anticipated to occur, the applicant or future project proponent would be required to hire a qualified consultant to perform site-specific soil sampling to determine if chemicals of potential concern associated with the historical agricultural uses at the Project site are present in shallow soil at concentrations that would pose a threat to human health. If results of the soil sampling identify concentrations of hazardous materials exceeding appropriate ESLs for the future site-specific use, on-site remediation would be required in coordination with the San Joaquin County Department of Environmental Health.

Implementation of the proposed Project would not result in significant increased risks of hazards in the cumulative setting area, nor would it result in any significant off-site or indirect impacts. Mitigation measures have been included to reduce the risk of on-site hazards associated with the use of on-site hazardous materials. Implementation of the proposed Project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to hazards and hazardous materials would result in a ***less than cumulatively considerable contribution***.

HYDROLOGY AND WATER QUALITY

Potential cumulative issues associated with surface waters can be addressed on a watershed basis, or in the case of groundwater, in the context of a groundwater basin. Because water resources are highly interconnected, the cumulative setting is based on San Joaquin County which is located in the San Joaquin River Hydrological Region. Cumulative development in this region, including the proposed Project, would impact the water quality and hydrological features of the San Joaquin River Hydrologic Region. The City of Stockton and much of the surrounding area is located in the Eastern San Joaquin River Groundwater Basin. Any matter that may affect water quality draining from the Project site will eventually end up in the Delta or within the groundwater basin.

Impact 4.11: Cumulative Increases in Peak Stormwater Runoff from the Project site (Less than Significant and Less than Cumulatively Considerable)

Implementation of the proposed Project would introduce impervious surfaces within the Development Area of the Project site, which could increase peak stormwater runoff rates and volumes on and downstream of the Project site. The Project proposes to construct a new storm basin near Eight Mile Road. Two (2) options for connecting to offsite drainage facilities are being considered and evaluated. Under Option 1, the new basin would collect stormwater from the Project site to be pumped through a force main system to a new outfall structure located north of the basin, and discharge flows into an existing Woodbridge Irrigation District (WID) drainage facility that parallels Eight Mile Road. Under Option 2, the new basin would collect storm water from the Project site to be pumped through a force main system to the existing Pixley Slough Outfall Facility, located at the northwest corner of the existing Destinations residential master plan community. Storm water from the new basin would be pumped following peak flows to avoid impacting the existing storm drainage system built as part of the Destinations residential community. The force

main pipe would be located in a drainage easement adjacent to the Eight Mile Road right of way, travel west to the existing Pixley Slough Outfall facility.

According to the City of Stockton and San Joaquin County Stormwater Quality Control Criteria Plan (SWQCCP), the Project would be considered both a Priority Project and a PLU Project. Priority projects are required to prepare and submit a Project Stormwater Quality Control Plan that demonstrates the Project incorporates site design measures, landscape features, and engineered treatment facilities (typically bioretention facilities) that will minimize imperviousness, retain or detain stormwater, slow runoff rates, and reduce pollutants in post-development runoff. In particular, the Project Stormwater Quality Control Plan would specify best management practices (BMPs) required to be implemented by the Project and design specifications for selected BMPs. In compliance with the Stockton Municipal Code, the Project Stormwater Quality Control Plan must be submitted for review and approval by the City of Stockton Department of Municipal Utilities.

Similar to the proposed Project, future and cumulative development projects upstream and downstream from the Project site could increase impervious areas resulting in increased stormwater runoff downstream from the Project site. Each individual development project would be required to address potential stormwater runoff impacts in accordance to the SWQCCP and existing regulatory requirements. While a greater quantity of peak stormwater runoff may be discharged to the Delta system with implementation of the related projects, because of an increase in impervious surfaces, LID measures and other BMPs would be expected to reduce potential impacts to a level that is less than significant.

With the design and construction of flood control improvements, the proposed Project's incremental effects involving an increase in peak stormwater runoff would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to stormwater runoff would result in a ***less than cumulatively considerable contribution***.

Impact 4.12: Cumulative Impacts Related to Degradation of Water Quality (Less than Significant and Less than Cumulatively Considerable)

The proposed Project, along with many related projects within the City of Stockton, would ultimately discharge stormwater runoff to the nearby Delta waterways. This could potentially degrade the water quality of the system.

Construction of the proposed Project would contribute to a cumulative increase in urban pollutant loading, which could adversely affect water quality. Cumulative development in the Stockton area, including the proposed Project, would also result in increased impervious surfaces that could increase the rate and amount of runoff, thereby potentially adversely affecting existing surface water quality through increased erosion and sedimentation. The primary sources of water pollution include: runoff from roadways and parking lots; runoff from landscaping areas; non-stormwater connections to the drainage system; accidental spills; and illegal dumping. Runoff from roadway and parking lots could contain oil, grease, and heavy metals; additionally, runoff from landscaped areas could contain elevated concentrations of nutrients, fertilizers, and pesticides.

The proposed Project and cumulative development projects in the region would be subject to National Pollutant Discharge Elimination System (NPDES) permit requirements that address the control of erosion and siltation. This includes the Construction General Permit for sites disturbing greater than or equal one (1) acre of land, which requires a SWPPP and the effective implementation of erosion control measures. The Project site's SWPPP would include BMPs to regulate stormwater quality which would be designed in accordance with the NPDES permit issued by the Regional Water Quality Control Board (RWQCB).

While there are no assurances that other projects in the County would incorporate the same degree or methods of treatment as the proposed Project, several of the projects within the City of Stockton would phase out existing agricultural runoff discharges from their respective sites and, similar to the proposed Project, could provide some level of water quality improvement. Also, each related Project that would discharge stormwater runoff would be required to comply with NPDES discharge permits from the RWQCB, which would ensure projects avoid significant degradation of water quality on a case-by-case basis. Therefore, while a greater quantity of urban runoff may be discharged to the Delta system with implementation of the related projects, because of an increase in impervious surfaces, the associated surface water quality impacts would be expected to be less than significant because of improved or similar quality of runoff compared to existing conditions.

Compliance with the existing regulatory environment would ensure that the proposed Project minimizes impacts to surface water quality. Implementation of the proposed Project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to water quality would result in a ***less than cumulatively considerable contribution***.

Impact 4.13: Cumulative Impacts Related to Degradation of Groundwater Supply or Recharge (Less than Significant and Less than Cumulatively Considerable)

The proposed Project would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. Infiltration rates vary depending on the overlying soil types. In general, sandy soils have higher infiltration rates and can contribute to significant amounts of ground water recharge; clay soils tend to have lower percolation potential; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff.

The Project site is located in the Eastern San Joaquin County Groundwater Basin. The basin is not adjudicated; however, a groundwater management plan and groundwater sustainability plan have been prepared to ensure sustainable management of groundwater resources and reduce overdraft conditions.

The City of Stockton Metropolitan Area (COSMA) has three (3) water retailers including the City of Stockton Municipal Utilities District (COSMUD), California Water Service Company (Cal Water), and San Joaquin County within their respective service areas. The Project site will receive its water from the COSMUD, which relies on purchased water from the Calaveras, Stanislaus, and Mokelumne Rivers; surface water from the San Joaquin Delta; and groundwater. According to the Water Supply Assessment (WSA) prepared by COSMUD for the Project, sufficient water supplies exist to meet the Project's build-out water demand as well as all existing and reasonably foreseeable water demands. Additionally, the WSA concludes that the existing near-term and long-term reliable supplies of

surface water supplies and indigenous groundwater supplies can deliver a sustainable reliable water supply to meet existing and foreseeable water demands without impacting environmental values and/or impacting the current stabilization of the groundwater basin underlying the COSMA (Section 3.14 Utilities).

While the proposed Project would reduce the amount of pervious surfaces within the Project site, the proposed Project is designed to promote infiltration of groundwater in areas with pervious surface. Storm drainage flows in the Project site would be directed to a new storm basin near Eight Mile Road. As described in the response to Impact 3.9.1, the Project would be required to submit a Project Stormwater Quality Control Plan that demonstrates the incorporation of site design measures, landscape features, and approved engineered treatment facilities (typically bioretention facilities) for water quality treatment that minimizes imperviousness, retains or detains stormwater, slows runoff rates, and reduces pollutants in post-development runoff, consistent with the City of Stockton NPDES Stormwater Management Plan.

For the reasons mentioned above, the proposed Project would not cause the substantial depletion of groundwater supplies or interfere substantially with groundwater recharge. Implementation of the proposed Project would have a ***less than significant*** and ***less than cumulatively considerable*** impact relative to this topic.

Impact 4.14: Cumulative Impacts Related to Flooding (Less than Significant and Less than Cumulatively Considerable)

According to the FEMA FIRM, the Project site is located within Zone X (areas of 0.2 percent annual chance [500-year] flood; and areas protected by levees from the one percent annual chance [100-year] flood. According to the State DWR Levee Flood Protection Zone maps, the Project site is located within a Levee Flood Protection Zone protected by Bear Creek, with an unknown flood depth. There are several relatively small areas within the Project site that are potentially subject to flood depths of three feet or more during a 200-year storm event. Additionally, the entire Project site is located within the Camanche Dam and Salt Springs inundation area.

Flood impacts are site specific and generally do not combine to result in cumulative impact. Future development projects within the City of Stockton would be reviewed by the City to determine if a project site is located within areas of special flood hazards and thus subject to additional provisions set forth in Municipal Code Chapter 15.44. Additionally, pursuant to City floodplain regulations contained in Chapter 16.90 of the Stockton Municipal Code, the proposed Project and related cumulative development projects would be required to comply with State flood protection requirements. Through compliance with existing regulations, the Project would not result in a flood hazard or result in the release of pollutants due to on- or off-site flooding due to development of the proposed Project. Implementation of the proposed Project would have a ***less than significant*** and ***less than cumulatively considerable*** impact relative to this topic.

LAND USE, POPULATION AND HOUSING

The cumulative setting for land use and population impacts is the City of Stockton.

Impact 4.15: Cumulative Impact on Communities and Local Land Uses and Population (Less than Significant and Less than Cumulatively Considerable)

Land Use: Cumulative land use impacts, such as the potential for conflicts with adjacent land uses and consistency with adopted plans and regulations, are typically site- and Project-specific. When land uses are not consistent with a General Plan there are two courses of action: 1) the uses are not allowed due to the inconsistency, or 2) the land uses are changed through an amendment to the General Plan to create consistency. The land uses as proposed are consistent with the General Plan. Although the proposed Project is consistent with the site's existing General Plan designations, the proposed Project would require a City of Stockton General Plan Amendment to the Land Use Element to change land uses on the Project site. Changes to the General Plan Land Use Map are largely a reorganization of the precise locations for each land use within the boundary of the Project site as opposed to land use changes. Figures 2.0-6-A and 2.0-6-B in Chapter 2.0 illustrate the proposed Stockton General Plan land uses with and without the school site. Table 2.0-3 summarizes the existing and proposed land use designations. Approval of the General Plan amendment would ensure that the proposed Project would be substantially consistent with the Envision Stockton 2040 General Plan land use requirements.

The Project is located within the City's Sphere of Influence (SOI) and will provide residential, park, and institutional uses in an area of the City designated for these uses. Additionally, the Project is consistent with most of the applicable General Plan policies that aim to avoid or mitigate an environmental effect. As shown in Table 3.10-2 in Section 3.10, the Project is consistent with all of the City's General Plan policies.

Approval of the General Plan amendment would ensure that the proposed Project would be substantially consistent with the Envision Stockton 2040 General Plan land use requirements and would have a ***less than significant*** and ***less than cumulatively considerable*** impact relative to the Stockton General Plan.

The Stockton Municipal Code implements the General Plan. As noted above, the San Joaquin LAFCo will require the Project site to be pre-zoned by the City of Stockton in conjunction with the proposed annexation. The City's pre-zoning will include the following zoning designations: RL, RM, RH and PF. The pre-zoning would go into effect upon annexation into the City of Stockton. The proposed pre-zoning for the Project site is shown on Figure 2.0-7-A and 2.0-7-B in Chapter 2.0. These proposed zone changes would ensure that zoning would be consistent with the proposed General Plan designations within the Project site.

The Applicant is seeking a Planned Unit Residential (PURD) Permit to introduce design deviations to the standards to allow for an alternative range of lot sizes. The planned development permit may adjust or modify, where necessary and justifiable, all applicable development standards (e.g., building envelope, off-street parking, street layout, etc.) contained within this Development Code. The City will review each component of the proposed Project as plans (improvement plans, building plans, site plans, etc.) are submitted for final approval to ensure that they are consistent with the City's Municipal Code. Approval of the pre-zoning would ensure that the proposed Project would be consistent with the Development Code and will have a less than significant impact relative to this topic.

Approval of the pre-zoning would ensure that the proposed Project would be consistent with the Zoning Code and will have a ***less than significant*** and ***less than cumulatively considerable*** relative to this topic.

Population: Continued development in Stockton and San Joaquin County will result in housing unit and population increases in the region. The Project would directly introduce new residents to the City as housing is proposed as part of the Project. The project would result in 1,332 to 1,411 residential units. Using the most recent Department of Finance data (2023) for the average number of persons residing in a dwelling unit in the City of Stockton (3.13 persons per household), the Project could result in 4,169 to 4,416 residents.

The Stockton General Plan designates land uses to ensure a balance between new residential development and jobs-creating uses and designates the Project site for urban uses, including residential, institutional, and parks and recreation. The proposed Project would not result in direct population growth beyond the City's capacity identified in the General Plan; rather, it would result in a reduction of the total number of units anticipated under the General Plan by approximately 662 to 741 units. The net population reduction associated with the reduction of units is anticipated to be 2,072 to 2,319 persons.

According to the City's General Plan EIR, the 2040 horizon-year projection for the General Plan includes the following:

- 40,900 new dwelling units
- 132,200 new residents
- 63,300 new jobs
- 13.8 million square feet of new commercial space and office space
- 35.6 million square feet of new industrial space

By comparison, SJCOG projects the following for the City of Stockton between 2015 and 2040:

- 41,030 new dwelling units
- 122,708 new residents
- 39,754 new jobs

The largely residential land uses proposed by the Project would be within the growth projections anticipated and analyzed in the General Plan EIR. Overall, the proposed Project is not anticipated to exceed the planned growth (directly or indirectly) in the area beyond what is anticipated in the City's General Plan or regional growth projections.

The proposed Project, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within San Joaquin County), would not be expected to cause any significant cumulative impacts. The proposed Project would not have cumulatively considerable impacts associated with population and housing. As such, implementation of the proposed Project would have a ***less than significant*** and ***less than cumulatively considerable*** contribution to impacts to population.

NOISE

The cumulative setting for noise impacts consists of the existing and future noise sources that could affect the Project site or surrounding uses.

Impact 4.16: Cumulative Exposure of Existing and Future Noise-Sensitive Land Uses to Increased Noise Resulting from Cumulative Development (Less than Significant and Less than Cumulatively Considerable)

Noise generated by construction would be temporary and would not add to the permanent noise environment or be considered as part of the cumulative context. The total noise impact of the proposed Project would be fairly small and would not be a substantial increase to the existing future noise environment. Thus, the proposed Project would result in a less-than-significant cumulative impact.

Operational Noise: Cumulative noise impacts would occur primarily because of increased traffic on local roadways and on-site activities resulting from operation of the proposed Project. Traffic circulation and residential HVAC noise are considered to be the primary noise sources for high density residential uses. Table 3.11-12 in Section 3.11 of this EIR shows cumulative traffic noise levels with and without the proposed Project. As discussed in Section 3.11, the Project would not result in significant increases in traffic noise levels at existing sensitive receptors under the Cumulative Plus Project condition. Non-transportation noise would also comply with the maximum noise level limits. Implementation of the proposed Project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to cumulative operational noise would result a ***less than cumulatively considerable contribution***.

Construction Noise: Noise generated by construction would be temporary and would not add to the permanent noise environment or be considered as part of the cumulative context. Compliance with the City's permissible hours of construction, as well as implementing the best management noise reduction techniques and practices (both outlined in Mitigation Measure 3.11-1), would ensure that construction noise would not result in a substantial temporary increase in ambient noise levels that would result in annoyance or sleep disturbance of nearby sensitive receptors. Implementation of the proposed Project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to cumulative construction noise would result a ***less than cumulatively considerable contribution***.

Cumulative Conclusion: The operational noise from the proposed Project is not expected to produce noise levels that would exceed City or County standards. Consequently, the total noise impact of the proposed Project would not be a substantial increase to the future noise environment. The proposed Project would result in a ***less-than-significant*** cumulative impact.

PUBLIC SERVICES AND RECREATION

Cumulative setting would include all areas covered in the service areas of the Stockton Fire Department (SFD), Stockton Police Department, Parks and Recreation Department, the Lodi Unified School District (LUSD), and any other relevant public services.

Impact 4.17: Cumulative Impact on Public Services (Less than Significant and Less than Cumulatively Considerable)

Implementation of the proposed Project would contribute toward an increased demand for public services and facilities within the City of Stockton. It has been determined that the impacts to the Stockton Police, Stockton Fire, Parks and Recreation Department, Stockton-San Joaquin County Public Library system, and LUSD would be less-than-significant. The proposed Project would be subject to all fees that are paid toward the enhancement of public services within the region. Payment of the applicable development fees by the Project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed Project, would assist in maintaining existing fire, police, schools, library services and park services. Implementation of the proposed Project would have a ***less than significant*** cumulative impact relative to this environmental topic. As such, impacts related to public services would result in a ***less than cumulatively considerable contribution***.

TRANSPORTATION AND CIRCULATION

The cumulative setting for this analysis including the City of Stockton SOI and nearby areas of the County. The analysis models the overall change in vehicle-miles-traveled (VMT) in Stockton as a result of forecast development, with the addition of the proposed Project. The intent is to understand how the proposed Project will influence travel behavior in light of future conditions, and to identify possible significant future impacts. The year 2040 is the horizon year for cumulative condition impact analyses.

Impact 4.18: Under Cumulative conditions, the proposed Project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) (Significant and Unavoidable and Cumulatively Considerable)

Analysis for the cumulative scenarios was completed using the Envision Stockton 2040 General Plan Travel Demand Model. Tables 3.13-1 and 3.13-2 in Section 3.13 summarize the results of the VMT analysis for home-based VMT per residents for Baseline and Cumulative With Project Conditions. The following key findings are derived from the VMT analysis:

- According to the City of Stockton Baseline (Existing) Travel Demand Model, the Citywide average daily home-based VMT per resident is 17.46 miles.
- According to the Envision Stockton 2040 General Plan Travel Demand Model, the Project's average daily home-based VMT per resident is projected to be 16.68 miles in the Cumulative Year with implementation of mitigation measures. This is 0.78 miles (4.4 percent) less when compared to Baseline (Existing) Conditions.

Mitigation measures implemented as Project Design Features, which are part of the Project as proposed, to reduce the impact of the Project on VMT were considered in compliance with the *City of Stockton Traffic Impact Analysis Guidelines*. Based on estimates presented in the Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (GHG Handbook), implementation of the mitigation measures recommended in Section 3.13 could result in a maximum reduction in VMT of 4.9 percent. It would be reasonable to expect implementation of the measures to result in a reduction somewhat less than 4.9 percent. As a result, implementation of the recommended mitigation measure would not reduce the Project impact on VMT to a less than significant level. The impact is considered ***significant and unavoidable*** and ***cumulatively considerable*****.**

Impact 4.19: Under Cumulative conditions, the proposed Project would not adversely affect pedestrian and bicycle facilities (Less than Significant and Less than Cumulatively Considerable)

Implementation of the proposed Project would not result in a conflict with an existing or planned pedestrian facility, bicycle facility, or transit service/facility. In addition, the Project would not interfere with the implementation of a planned bicycle facility, pedestrian facility, or transit service/facility. The Project would not cause a degradation in transit service such that service does not meet performance standards established by the transit operator.

Implementation of the proposed Project would have a ***less than significant*** and ***less than cumulatively considerable*** impact relative to this topic*.*

Impact 4.20: Under Cumulative conditions, the proposed Project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (Less than Significant and Less than Cumulatively Considerable)

Implementation of the proposed Project would not would not substantially exacerbate an existing safety problem, and is not anticipated to introduce new hazardous geometric design features. Implementation of the proposed Project would provide site access via collector roadway connections with West Lane and Marlette Road. The roadway connections would be designed and constructed per local design standards and requirements, consistent with accepted design guidelines for safety. The internal Project streets would be designed to meet the City's geometric design standards to avoid creating hazardous driving conditions. The internal Project streets would provide ADA compliant sidewalk along each side of the roadways so that pedestrians would be separated from vehicle traffic per city standards. Proposed roadway geometries/cross-sections and design features would be reviewed as part of final maps and improvement plan review to confirm that proposed designs are consistent with the local code and design standards and confirm that design features do not limit sight distance.

Implementation of the proposed Project would have a ***less than significant*** and ***less than cumulatively considerable*** impact relative to this topic*.*

Impact 4.21: Under Cumulative conditions, the proposed Project would not result in inadequate emergency access (Less than Significant and Less than Cumulatively Considerable)

Implementation of the proposed Project would not create roadway and transportation facilities that impede access for emergency response vehicles. As described above, the Project includes an extension of the west-east trending Marlette Road that would provide several access points to the proposed development and also connect to West Lane and Lower Sacramento Road. Project traffic would be directed to Marlette Road, except for one direct access point to West Lane, and then directed east or west along Marlette Road to West Lane and Lower Sacramento Road. Access to the proposed Project would not occur from Eight Mile Road, thus eliminating any conflicts with the flow of traffic on Eight Mile Road. In addition, the internal transportation network is designed to maintain high levels of emergency vehicle accessibility and mobility, which ensures vehicles have the necessary access when responding to an emergency. Emergency vehicles arriving from Lower Sacramento Road or from the secondary access point from West Lane will have unimpeded access to the Project site.

Implementation of the proposed Project would have a ***less than significant*** and ***less than cumulatively considerable*** impact relative to this topic.

Impact 4.22: Under Cumulative conditions, the proposed Project would not cause impacts due to construction (Less than Significant and Less than Cumulatively Considerable)

Implementation of the proposed Project would occur in six (6) phases. The majority of the construction activity would occur on the Project site. Therefore, construction of the Project would not cause impacts due to construction. Implementation of the proposed Project would have a ***less than significant*** and ***less than cumulatively considerable*** impact relative to this topic.

UTILITIES AND SERVICE SYSTEMS

The cumulative setting includes all areas covered in the service areas of the City's wastewater system, water system, stormwater system, and the solid waste collection and disposal services. Under General Plan buildout conditions, the City would see an increased demand for water service, sewer service, solid waste disposal services, and stormwater infrastructure needs.

Impact 4.23: Cumulative Impact on Wastewater Utilities (Less than Significant and Less than Cumulatively Considerable)

The City of Stockton owns and operates a wastewater collection, treatment, and disposal system, and provides sewerage service to the City of Stockton. On April 1, 2020, the RWQCB adopted Waste Discharge Requirements (WDRs) Board Order Number R5-2020-0007, NPDES CA0079138, prescribing waste discharge requirements for the City of Stockton RWCF.

The City of Stockton's wastewater treatment system is currently in compliance with the waste discharge requirements of Order Number R5-2020-0007, NPDES CA0079138. The wastewater treatment system options covered under this Order include: City of Stockton Regional Wastewater

Control Facility (RWCF), including discharge to the San Joaquin River. The development of the proposed Project under this permitted option would not exceed the wastewater discharge requirements in this Order as described under Impact 3.14-1 in Section 3.14. Implementation of the proposed Project would have a ***less than significant*** and ***less than cumulatively considerable*** impact relative to this topic.

The wastewater collection and conveyance system that will serve the proposed Project will consist of engineered infrastructure consistent with the City's existing infrastructure requirements. The Project proposes an 18-inch sewer line in Marlette Road that would connect with a sewer trunk main in West Lane that will be constructed as part of the Tra Vigne project. The existing facilities, including the Stockton RWCF, have undergone environmental review and have waste discharge permits from the State. New wastewater collection and conveyance infrastructure needed for the proposed Project would require trenching/excavation of earth, and placement of pipe within the trenches at specific locations, elevations, and gradients. The applicant will refine the wastewater collection/conveyance infrastructure design through the development of improvements plans which undergo a review by the Public Works Department to ensure consistency with the City's engineering standards. This improvement plan process will include full engineering design (i.e. location, depth, slope, etc.) of all conveyance infrastructure as well as a review of new sewer pump stations and new force mains if needed. Ultimately, the sanitary sewer collection system will be an underground collection system installed as per the City of Stockton standards and specifications. Sanitary sewer disposal and treatment will be to the RWCF. The location of the facilities is contained within the boundary of the Project site and associated off-site improvement areas, and the environmental impacts of the new facilities are analyzed throughout this EIR. Implementation of the proposed Project would have a ***less than significant*** and ***less than cumulatively considerable*** impact relative to this topic.

Based on the generation factors for residential and parks and recreational lands uses in the City of Stockton, the proposed Project is estimated to generate approximately 613,040 gallons per day (gpd) of wastewater or approximately 1.9% of the City's current 33 million gallons per day (mgd) current average flow. The proposed Project would increase the amount of wastewater requiring treatment. The wastewater would be treated at the RWCF. Occupancy of the proposed Project would be prohibited without an issuance of sewer allocation as required by Stockton Municipal Code Section 13.12.100, Mandatory Sanitary Service Required. An issuance of sewer allocation from the City's available capacity would ensure that there would be a final determination by the wastewater treatment and/or collection provider that there is adequate capacity to serve the proposed Project's projected demand in addition to the provider's existing commitments.

The Project by itself does not exceed the existing capacity of the wastewater treatment plant. The Project and any future cumulative projects would be required to secure adequate wastewater treatment capacity/allocation prior to occupancy of any building which would require wastewater treatment services. Implementation of the proposed Project would have a ***less than significant*** and ***less than cumulatively considerable*** impact relative to this topic.

Impact 4.24: Cumulative Impact on Water Utilities
(Less than Significant and Less than Cumulatively Considerable)

The proposed Project would require the extension of offsite water conveyance infrastructure to the Project site for potable water and irrigation water. All offsite water utility improvements will be in or adjacent to existing roadways along the perimeter of the Project site, thereby limiting any potential impact to areas that were not already disturbed. The proposed Project would also require the construction of new onsite water conveyance infrastructure for potable water and irrigation water. Water supply will be provided by the City of Stockton, which includes surface and ground water supplies. Water distribution will be by an underground distribution system installed as per the City of Stockton standards and specifications. The proposed Project would also require the construction of new onsite water conveyance infrastructure for potable water and irrigation water.

The proposed Project would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for water service. The City has adequate water supplies to support existing demand in the City in addition to the proposed Project under average daily and maximum daily demand conditions. Water demand projections in the 2020 UWMP were based on the anticipated growth within the COSMUD water service area as defined by Envision Stockton 2040 General Plan; the Project, which is consistent with the 2040 General Plan, is included in these projections.

The Water Supply Assessment completed for the proposed Project demonstrates that the total projected water supplies determined to be available for the Project during normal, single dry, and multiple dry years during a 20-year projection would meet the projected water demand associated with Project, in addition to existing and planned future uses, including, but not limited to, agriculture and industrial uses. Implementation of the proposed Project would have a ***less than significant*** and ***less than cumulatively considerable*** impact relative to this topic.

Impact 4.25: Cumulative Impact on Stormwater Facilities
(Less than Significant and Less than Cumulatively Considerable)

The Project proposes to construct a storm drain detention basin to provide flood control. Development of the proposed Project would include construction of a new storm basin near Eight Mile Road, and two (2) options for connecting to offsite drainage facilities are being considered and evaluated. Option 1 would connect to a new outfall structure to the north of the basin and pump storm water into the WID drainage ditch that is located south of, and parallel to Eight Mile Road. Option 2 is construction of a force main to Pixley Slough to an existing outfall structure. The force main would be located south of, and parallel Eight Mile Road. It is noted that the location of the proposed basin is conceptual and will be finalized during the design of Improvement Plans.

The potential environmental effects resulting from construction of the storm drainage system are analyzed throughout this Draft EIR, and in some cases, there are potentially significant impacts associated with construction of this infrastructure. Where impacts are identified for each environmental topic, mitigation measures are developed to avoid, minimize, or compensate for the impact to the extent practicable. All mitigation measures presented throughout this EIR will be implemented to reduce impacts to the extent practicable. There will not be any significant impacts beyond what is disclosed in the other chapters of this document. Implementation of the proposed

Project would have a ***less than significant*** and ***less than cumulatively considerable*** impact relative to this topic.

Impact 4.26: Cumulative Impact on Solid Waste Facilities
(Less than Significant and Less than Cumulatively Considerable)

The permitted maximum disposal at the Foothill Landfill is 1,500 tons per day. The remaining capacity is 125,000,000 cubic yards with an anticipated closure year of 2082. The permitted maximum disposal at the North County Landfill is 825 tons per day. The remaining capacity is 35,400,000 cubic yards with an anticipated closure year of 2048.

Solid waste generated by the proposed Project was estimated based on generation rate estimates by use in the *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR*. The dwelling units are estimated to generate approximately 10 pounds per a day per a unit. It is estimated that the 1,411 units would generate approximately 14,110 pounds per day of solid waste. The total solid waste generated by the proposed project is estimated to be 7.11 tons per day. Since residential units would generate more solid waste than a school use, this option of the development of an additional 79 units compared to a 12-acre school, would generate a greater amount of solid waste.

As previously described, solid waste generated in the City is disposed of at the Forward Landfill. This landfill was projected to close in the year 2036. The City's solid waste per capita generation has decreased since 2007 due to the waste diversion efforts of the City. There are 50 solid waste diversion programs in Stockton, including: composting; facility recovery, such as transfer stations; household hazardous waste collection and education programs; recycling; source reduction programs, including business waste reduction programs; special waste materials, such as tires and concrete/asphalt/rubble; and waste to energy.[1] The permitted maximum disposal at the Forward Landfill is 8,668 tons per day. The remaining capacity of the landfill is 24.7 million cubic yards. The addition of solid waste associated with the proposed Project, approximately 14,110 pounds or 7.11 tons per day at total buildout, to the Forward Landfill would not exceed the landfill's remaining capacity.

The proposed Project would be required to comply with applicable State and local requirements including those pertaining to solid waste, construction waste diversion, and recycling. In conclusion, implementation of the proposed Project would have a ***less than significant*** cumulative impact relative to this environmental topic. Thus, impacts related to solid waste facilities would be a ***less than cumulatively considerable contribution***.

4.2 SIGNIFICANT IRREVERSIBLE EFFECTS

LEGAL CONSIDERATIONS

CEQA Section 15126.2(c) and Public Resources Code Sections 21100(b)(2) and 21100.1(a), require that the EIR include a discussion of significant irreversible environmental changes which would be

[1] City of Stockton, Envision Stockton 2040 General Plan Update & Utility Master Plan Supplements Draft EIR, June 2018.

involved in the proposed action should it be implemented. Irreversible environmental effects are described as:

- The project would involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses (e.g., a highway provides access to previously remote area);
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing of the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Determining whether the proposed Project would result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed such that there would be little possibility of restoring them. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Analysis

Implementation of the proposed Project would result in the conversion of approximately 306.03 acres of land comprised of predominantly agricultural and undeveloped uses for the development of residential, institutional, open space, park facilities, and public roadway right-of-way land uses. Development of the proposed Project would constitute a long-term commitment to these uses. It is unlikely that circumstances would arise that would justify the return of the land to its previous condition as agricultural or vacant rural land.

A variety of resources, including land, energy, water, construction materials, and human resources would be irretrievably committed for the initial construction, infrastructure installation and connection to existing utilities, and its continued maintenance. Construction of the proposed Project would require the commitment of a variety of other non-renewable or slowly renewable natural resources such as lumber and other forest products, sand and gravel, asphalt, petrochemicals, and metals.

Additionally, a variety of resources would be committed to the ongoing operation and life of the proposed Project. The introduction of residential uses to the Project site will result in an increase in area traffic over existing conditions. Fossil fuels are the principal source of energy and the proposed Project will increase consumption of available supplies, including gasoline and diesel. These energy resource demands relate to initial Project construction, Project operation and site maintenance and the transport of people and goods to and from the Project site.

4.3 GROWTH-INDUCING IMPACTS

Section 15126.2(d) of the CEQA Guidelines requires that an EIR evaluate the growth-inducing impacts of a proposed action, directing:

> *Discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the*

> *surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also, discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

Based on the CEQA Guidelines, growth inducement is any growth that exceeds planned growth of an area and results in new development that would not have taken place without implementation of the project. A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project, for example, involved construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it would involve a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services to support the new employment demand *(Napa Citizens for Honest Government v. Napa County Board of Supervisors)*. Similarly, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. A project providing an increased water supply in an area where water service historically limited growth could be considered growth-inducing.

The CEQA Guidelines further explain that the environmental effects of induced growth are considered indirect impacts of the proposed action. These indirect impacts or secondary effects of growth may result in significant, adverse environmental impacts. Potential secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, and adverse environmental impacts such as degradation of air and water quality, degradation or loss of plant and animal habitat, and conversion of agricultural and open space land to developed uses.

Growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans provide for land use development patterns and growth policies that allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service, and solid waste service.

The proposed Project includes a Vesting Tentative Subdivision Map for the Development Area. The tentative map would result in the subdivision of 236.3 acres into 1,217 single-family residential units (approximately 179 acres) and 194 high density residential units (9.5 acres), a 12.0-acre school site, and an 8.5-acre central park and 3.47-acre northern park, and approximately 23.3 acres for streets/common areas/easements. Total parkland is 12.0 acres. In addition, there will be a series of streets with an enhanced right of way to accommodate a pedestrian “wellness walk.” The

development of the 12.0-acre school site is the discretionary decision of Lodi Unified School District (LUSD). If LUSD decides they do not want to secure a school site, an additional 79 single-family residential units would be developed on the school parcel.

The Development Area is bordered on the north by Eight Mile Road, on the east by West Lane, on the west by agricultural land, a residential home, a church and commercial building along Lower Sacramento Road, and on the south by Marlette Road, a partially paved frontage road. The Development Area is predominantly comprised of agricultural and undeveloped uses; sheds and associated agricultural equipment exist in the center portion of the site. Additionally, two (2) dirt/gravel roadways bisect the Development Area, including one roadway extending north to south from Eight Mile Road to the southern boundary at Marlette Road, and another extending east to west from West Lane connecting to the dirt/gravel roadway in the center of the Development Area. Irrigation canals, operated by the Woodbridge Irrigation District, run along the northern, eastern, and southern borders of the Development Area, separating existing agricultural uses from the respective roadways.

Buildout of the Project would require the extension of off-site and on-site roadway, potable water, wastewater, and storm drainage infrastructure to the undeveloped and underdeveloped portions of the Project site. However, as noted in Section 3.15, Utilities, wastewater generated by the proposed Project could be accommodated by the existing wastewater treatment facilities. Additionally, the City has adequate water supply to meet the water demand from buildout of the Project and the landfill that would serve the Project has adequate capacity to manage the solid waste generated as a result of the Project. Furthermore, buildout of the Project would not generate or contribute runoff water that would exceed the capacity of the stormwater drainage system.

Given the historical and current population, housing, and employment trends, growth in the City, as well as the entire state, is inevitable. The primary factors that account for population growth are natural increase and net migration. The average annual birth rate for California is expected to be 20 births per 1,000 population. Additionally, California is expected to attract more than one third of the country's immigrants. Other factors that affect growth include the cost of housing, the location of jobs, the economy, the climate, and transportation. While these factors would likely result in growth in Stockton during the planning period of the General Plan, growth will continue to occur based primarily on the demand of the housing market and demand for new commercial, industrial, and other non-residential uses. Using the most recent Department of Finance data (2023) for the average number of persons residing in a dwelling unit in the City of Stockton (3.13 persons per household), the Project could result in 4,169 to 4,416 residents. Based on the growth projected to occur in the City's General Plan Planning Area, the proposed Project would not induce a substantial amount of growth that has not been adequately planned. Overall, cumulative growth would not displace substantial numbers of people or housing or exceed planned levels of growth.

The Project would result in an increase in employment opportunities by creating full-time job positions at the school site. The Project would also generate short-term construction employment opportunities, but these opportunities would not result in substantial population growth in the

project region. Therefore, the proposed Project would not result in significant growth inducing impacts.

In short, while the project would foster population and economic growth, such growth would be similar to what has been previously anticipated for the project region, and a less than-significant impact related to growth inducement would occur.

4.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. The following significant and unavoidable impacts of the proposed Project are discussed in Chapters 3.1 through 3.14 and previously in this chapter (cumulative-level). Refer to those discussions for further details and analysis of the significant and unavoidable impact identified below:

- Impact 3.1-1: Project implementation may result in substantial adverse effects on scenic vistas and resources or substantial degradation of visual character.
- Impact 3.2-1: The proposed Project would result in the conversion of Farmlands, including Prime Farmland and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses.
- Impact 3.2-2: The proposed Project would conflict with existing zoning for agricultural use, or Williamson Act contracts.
- Impact 3.3-1: Project operation has the potential to result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment, or conflict or obstruct implementation of the District's air quality plan.
- Impact 3.13-1: Project implementation would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).
- Impact 4.2: Cumulative Degradation of the Existing Visual Character of the Region.
- Impact 4.4: Cumulative Impact on Agricultural Resources.
- Impact 4.5: Cumulative Impact on the Region's Air Quality.
- Impact 4.18: Under Cumulative conditions, the proposed Project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).

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5.1 CEQA REQUIREMENTS

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) analyze a reasonable range of feasible alternatives that meet most or all project objectives while reducing or avoiding one or more significant environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6[f]). Where a potential alternative was examined but not chosen as one of the range of alternatives, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed.

PROJECT OBJECTIVES

The principal purpose of the proposed Project is the annexation of the Project site into the City of Stockton, and approval and subsequent development of the Development Area for residential and park uses.

The LeBaron Ranch Project identifies the following project objectives as part of the stated purpose:

- Provide residential housing opportunities, with an array of lot sizes and housing types, that are visually attractive and accommodate the future housing demand in Stockton.
- Establish a mixture of Low-, Medium-, and High-Density Residential project types that collectively provide for local and regional housing and that take advantage of the area's high level of accessibility. Ensure that all housing is designed with architectural form that is visually attractive.
- Provide infrastructure, public facilities, and park space that meets City standards, in a centralized setting that is integrated with existing and planned facilities and connections and increases recreation opportunities for existing and future residents of the City.
- Provide a site that could accommodate a K-8 school if the Lodi Unified School District desires to build a school within the Project site. Alternatively, if the Lodi Unified School District chooses not to build a school within the Project site, ensure that the design alternative would accommodate single-family residential housing consistent with the form and design of surrounding single-family residential units planned within the Project site.
- To incorporate Woodbridge Irrigation District facilities into the Project design, that maintains their purpose while avoiding any conflicts with future residents.
- Continue open space improvements along Eight Mile Road, like the Destinations Master Plan Project to the west of the Project Site. This includes preservation of a drainage facility and access to an off-street pedestrian path.
- Establish a logical phasing plan designed to ensure that each phase of development would include necessary public improvements that are required to meet City standards, both onsite and offsite. Internal Phases will basically commence from the eastern portion of the Development Area and move west, allowing infrastructure to be advanced to an upcoming phase.

ALTERNATIVES NOT SELECTED FOR FURTHER ANALYSIS

A Notice of Preparation was circulated to the public to solicit recommendations for a reasonable range of alternatives to the proposed Project. Additionally, a public scoping meeting was held during the public review period to solicit recommendations for a reasonable range of alternatives to the proposed Project. No specific alternatives were recommended by commenting agencies or the public during the NOP public review process.

The City of Stockton considered alternative locations early in the public scoping process. The City's key considerations in identifying an alternative location were as follows:

- Is there an alternative location where significant effects of the Project would be avoided or substantially lessened?
- Is there a site available within the City's Sphere of Influence with the appropriate size and characteristics such that it would meet the basic Project objectives?

The City's consideration of alternative locations for the Project included a review of previous land use planning and environmental documents in Stockton including the General Plan. The search included a review of lands in the south part of Stockton that are located within the Sphere of Influence and is otherwise suitable for development. It was found that much of the undeveloped land located to the west of the Project site is located within a 100-, 200-, or 500-year flood plain. The areas within the 200-year flood plain are severely constrained and are not developable until the City of Stockton is able to design, fund, and construct a solution to protect this area from the 200-year flood plain. The City has found that there are no feasible alternative locations that exist within the City's Sphere of Influence with the appropriate size and characteristics that would meet the basic Project objectives and avoid or substantially lessen a significant effect. The City has determined that alternative locations outside the Sphere of Influence would not be feasible because an expansion of the Sphere of Influence would induce unplanned growth and cause impacts greater than development on the Project site. For these reasons, the City of Stockton determined that there are no feasible alternative locations.

In addition, as discussed in Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553 (Goleta II), where a project is consistent with an approved general plan, no off-site alternative need be analyzed in the EIR. The EIR "is not ordinarily an occasion for the reconsideration or overhaul of fundamental land-use policy." (Goleta II, supra, 52 Cal.3d at p. 573.) In approving a general plan, the local agency has already identified and analyzed suitable alternative sites for particular types of development and has selected a feasible land use plan. "Informed and enlightened regional planning does not demand a project EIR dedicated to defining alternative sites without regard to feasibility. Such ad hoc reconsideration of basic planning policy is not only unnecessary, but would be in contravention of the legislative goal of long-term, comprehensive planning." (Goleta II, supra, 52 Cal.3d at pp. 572-573.) The proposed Project is generally consistent with the types of uses considered in the Stockton General Plan and associated EIR. Further, the proposed Project is generally consistent with the site's existing General Plan designations. The land uses as proposed are consistent with the General Plan. Although the proposed Project is consistent with the site's existing General Plan designations, the proposed Project would require a City of Stockton General

Plan Amendment to the Land Use Element to reorganize land uses on the Project site. Changes to the General Plan Land Use Map are largely a reorganization of the precise locations for each land use within the boundary of the Project site as opposed to land use changes. Figures 2.0-6-A and 2.0-6-B in Chapter 2.0 illustrate the proposed Stockton General Plan land uses with and without the school site. Table 2.0-3 summarizes the existing and proposed land use designations. Approval of the General Plan amendment would ensure that the proposed Project would be substantially consistent with the Envision Stockton 2040 General Plan land use requirements. The General Plan amendment would refine the land uses and would not greatly adjust the overall acreages.

Thus, in addition to the reasons discussed above, an off-site alternative need not be further discussed in this EIR.

5.2 ALTERNATIVES CONSIDERED IN THIS EIR

Three alternatives to the proposed Project were developed based on input from City staff and the technical analysis performed to identify the environmental effects of the proposed Project. The alternatives analyzed in this EIR include the following three alternatives in addition to the proposed Project.

- **No Project (No Build) Alternative**: Under this alternative, development of the Project site would not occur, and the Project site would remain in its current existing condition.
- **Reduced Density Alternative:** Under the Reduced Density Alternative, the proposed Project would be developed with the same types of residential, open space, and parks and recreational facility uses as described in the Project Description, but the residential unit count would decrease by 25 percent, the amount of proposed, and the on-site open space would decrease by 25 percent. The school site would not be provided under this alternative, and the high-density residential portion of the Project would be removed.
- **Agriculture Protection Alternative:** Under this alternative, the proposed Project would be developed in such a way to protect some of the on-site Important Farmland by reducing the overall footprint of the developed areas.

NO PROJECT (NO BUILD) ALTERNATIVE

Under the No Project (No Build) Alternative development of the Project site would not occur, and the Project site would remain in its current existing condition. The Development Area is predominantly comprised of agricultural and undeveloped uses; sheds and associated agricultural equipment exist in the center portion of the site. Additionally, two (2) dirt/gravel roadways bisect the Development Area, including one roadway extending north to south from Eight Mile Road to the southern boundary at Marlette Road, and another extending east to west from West Lane connecting to the dirt/gravel roadway in the center of the Development Area. Irrigation canals, operated by the Woodbridge Irrigation District, run along the northern, eastern, and southern borders of the Development Area, separating existing agricultural uses from the respective roadways. It is noted that the No Project (No Build) Alternative would fail to meet the Project objectives identified by the City of Stockton.

REDUCED DENSITY ALTERNATIVE

Under the Reduced Density Alternative, the proposed Project would be developed with the same types of residential, open space, and parks and recreational facility uses as described in the Project Description, but the residential unit count would decrease by 25 percent, the amount of proposed, and the on-site open space would decrease by 25 percent. The school site would not be provided under this alternative, and the high-density residential portion of the Project would be removed. The size of the Development Area and Project site would be equal to the Project.

The amount of residential units would decrease from 1,411 dwelling units (du) under the proposed Project to 991 units and the park area would decrease from 12.2 acres to 9.2 acres. Because the density of urban development would decrease, the size of the storm basins would also decrease.

AGRICULTURE PROTECTION ALTERNATIVE

Under the Agriculture Protection Alternative, the proposed Project would be developed in such a way to protect some of the on-site Important Farmland by reducing the overall footprint of the developed areas. The reasoning behind this alternative is to present an alternative to protect some of the agricultural land on the Project site. Development of the proposed Project would result in the permanent conversion of 23.12 acres of Prime Farmland, 217.79 acres of Farmland of Statewide Importance.

Under the Agriculture Protection Alternative, the total Project area would decrease from 306.03 acres under the proposed Project to 229.7 acres. The Development Area would decrease from 236.30 acres under the proposed Project to 177.25 acres. The remaining 76.6 acres outside of the Agriculture Protection Alternative area would remain in their current condition (agricultural and open space uses). The 76.6 acres, which would not be included in the development area for this alternative, would be in the eastern portion of the site. The area outside of the Development Area but within the Project site would be annexed to the City as part of this Alternative.

Under this alternative, the proposed Project would be developed with the same components as described in the Project Description, but the density of the residential areas would be increased to maintain the number of residential units proposed while also reducing the development footprint. The 9.5-acre high density residential area with 194 units would be the same size as the proposed Project but with 250 units, the 113.6-acre medium density residential area with 796 units would be decreased to 93.25 acres with 875 units, the 78.0-acre low density residential area with 421 units would be decreased to 42.0 acres with 300 units, the parks and recreation acreage would decrease from 12.2 to 10.0 acres, and the storm basin area would decrease from 4.5 to 4.0 acre. The open space acreage would be equal to the Project.

Table 5.0-1 summarizes the Agriculture Protection Alternative acreages and units compared to the Project.

TABLE 5.0-1: GROSS LAND USE SUMMARY – PROPOSED PROJECT VS. AGRICULTURE PROTECTION ALTERNATIVE

PROPOSED LAND USE DESIGNATIONS	*PROPOSED PROJECT*		*AGRICULTURE PROTECTION ALTERNATIVE*	
	ACRES W/O SCHOOL	*NUMBER OF UNITS*	*ACRES*	*NUMBER OF UNITS*
Low Density Residential	78	421	42	300
		Difference	*-36*	*-121*
Medium Density Residential	113.6	796	93.25	875
		Difference	*-20.35*	*79*
High Density Residential	9.5	194	9.5	236
		Difference	*0*	*42*
Parks and Recreation	12.2	--	10	--
		Difference	*-2.2*	--
Storm Basin	4.5	--	4	--
		Difference	*-0.5*	--
Open Space and Rights of Way	18.5	--	18.5	--
		Difference	*0*	
TOTAL	**236.3**	**1,411**	**177.25**	**1,411**
		Difference	**-59.05**	**0**

SOURCE: DE NOVO PLANNING GROUP, 2023

5.3 ENVIRONMENTAL ANALYSIS

The alternatives analysis provides a summary of the relative impact level of significance associated with each alternative for each of the environmental issue areas analyzed in this EIR. Following the analysis of each alternative, Table 5.0-2 summarizes the comparative effects of each alternative.

NO PROJECT (NO BUILD) ALTERNATIVE

Aesthetics and Visual Resources

As described in Section 3.1, the visual character of the Project site would be significantly altered because of Project implementation. Consistency with the General Plan, Stockton Municipal Code, and development standards would ensure that impacts are reduced to the greatest extent possible. Nevertheless, impacts related to degradation of the visual character of the site would be significant and unavoidable.

Lighting fixtures within the proposed Project site would be installed in conformance with the City of Stockton standards and specifications, and would be required to incorporate design features to minimize the effects of light and glare. Compliance with the existing regulatory environment would ensure impacts associated with nighttime lighting and light spillage onto adjacent properties are less than significant.

The No Project (No Build) Alternative would leave the Project site in its existing state and would not result in increases in daytime glare or nighttime lighting. The visual character of the Project site would not change under this alternative compared to existing conditions. As such, this impact would be reduced when compared to the proposed Project.

Agricultural Resources

Development of the proposed Project would result in the permanent conversion of 23.12 acres of Prime Farmland, 217.79 acres of Farmland of Statewide Importance, and 7.51 acres of Farmland of Local Importance to non-agricultural use. The No Project (No Build) Alternative would result in no development on the Project site. As such, this alternative would have no impact on agricultural land, no potential for conflicts with existing agricultural resources, and no potential for conflict with regulations and plans intended to protect those resources. As such, this impact would be reduced when compared to the proposed Project.

Air Quality

Under buildout conditions in the San Joaquin County, the San Joaquin Valley Air Basin (SJVAB) would continue to experience increases in criteria pollutants and efforts to improve air quality throughout the basin would be hindered. As described in Section 3.3, San Joaquin County has a state designation of Nonattainment for ozone, PM_{10} and $PM_{2.5}$. Table 3.3-2 in Section 3.3 presents the State and Federal attainment status for San Joaquin County.

As discussed under Impact 3.3-1 in Section 3.3, operational emissions would exceed the SJVACPD thresholds of significance for ROG. The Project's operational ROG emissions are primarily from the Project's mobile vehicle emissions. However, a substantial portion of the ROG emissions are also from area sources, which include off-gassing from architectural coatings, off-gassing from consumer products, and the usage of landscape equipment. The only feasible mitigation to reduce the Project's operational emissions are to reduce the ROG content off-gassed from architectural coatings (by using architectural coatings that have fewer ROG emissions) and by utilizing landscaping equipment with fewer or no ROG emissions. There is no feasible mitigation to reduce mobile vehicle ROG emissions, or to reduce the amount of ROG off-gassing from consumer products, as these are not activities that the Project applicant would have the ability to feasibly influence.

With implementation of the available feasible mitigation measures (Mitigation Measures 3.3-1 through 3.3-3), the proposed Project's emissions would be reduced. The Project's ROG emissions could be reduced from approximately 14.3 to 13.0 tons per year, with the implementation of Mitigation Measures 3.3-1 through 3.3-3. However, this would not be sufficient to ensure a reduction of ROGs to below the applicable Air District criteria pollutant threshold of 10 tons per year.

As discussed in Impact 3.3-2 in Section 3.3, Project maximum construction emissions would not exceed the SJVAPCD thresholds of significance. Nevertheless, regardless of emission quantities, the SJVAPCD requires construction related mitigation in accordance with their rules and regulations. Nevertheless, implementation of the Mitigation Measure 3.3-4 through 3.3-7 would further reduce proposed Project construction related emissions to the extent possible.

Additionally, as discussed in Impact 3.3-4 of Section 3.3, no residences would be located within 500 feet of a freeway, urban road with 100,000 vehicles/day or more, or a rural road with 50,000 vehicles/day or more. Additionally, under CEQA, an EIR need not analyze the impacts of the existing environment on the Project. No residual TAC emissions and corresponding cancer risk are anticipated after Project

construction. The proposed Project is not anticipated to generate long-term, operational sources of TAC emissions because the proposed Project would only include residential land uses and public open space. The Project would not include heavy industrial uses or other land uses typically associated with stationary sources of TACs. As such, the Project would not result in substantial TAC emissions that may affect nearby receptors, nor would the Project be exposed to nearby sources of TACs.

Under the No Project (No Build) Alternative, the Project site would not be developed, and there would be no net change in emissions and no potential for a conflict with any adopted plans or policies related to air quality. As such, this impact would be reduced when compared to the proposed Project.

Biological Resources

As described in Section 3.4 Biological Resources, construction on the Project site has the potential to result in impacts to special-status species in the region. The California Natural Diversity Database (CNDDB) currently contains records for Swainson's hawk, giant garter snake, vernal tadpole shrimp, Suisun Marsh aster, and tricolored blackbird in the vicinity of the Project site. The Project site provides potential habitat for several species. Mitigation Measure 3.4-1 requires participation with the San Joaquin Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), which includes fees that will be used to purchase conservation lands for a variety of special status species. The SJMSCP was created and adopted to address both the Project and cumulative impacts to biological resources, including special status species. The proposed Project will participate in the SJMSCP, including payment of fees and implementation of all Incidental Take Minimization Measures required by the San Joaquin Council of Governments (SJCOG) through the authorization of SJMSCP coverage. Through the implementation of various mitigation measures found in Section 3.4, implementation of the proposed Project will have a less than significant impact on biological resources.

Under the No Project (No Build) Alternative, the proposed Project would not be constructed, no habitat would be removed, and no ground disturbing activities would occur. As such, this impact would be reduced when compared to the proposed Project.

Cultural and Tribal Resources

Cumulative development anticipated in the City and County, including growth projected by adopted future projects, may result in the discovery and removal of cultural resources, including archaeological, paleontological, historical, and Native American resources and human remains. As discussed in Section 3.5, Cultural and Tribal Resources, a California Historical Resources Information System (CHRIS) search and a field assessment conducted as part of the Cultural Resource Assessment found no evidence of cultural resources in the Project site. As such, the Project site does not contain historical resources, archeological resources, or tribal cultural resources. Additionally, no human remains have been documented on or near the Project site.

Any previously unknown cultural or tribal cultural resources which may be discovered during development of the proposed Project would be required to be preserved, either through

preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. With implementation of the mitigation measures provided in Section 3.5, the proposed Project is not anticipated to considerably contribute to a significant reduction in cultural resources in the region.

The No Project (No Build) Alternative would result in no ground disturbing activities related to the proposed Project and would not have the potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. While the proposed Project is not anticipated to result in significant impacts to cultural resources with mitigation, the No Project (No Build) Alternative would result in less potential for impacts to cultural resources as the entire Project site would continue to be used for agriculture production. As such, this impact would be reduced when compared to the proposed Project.

Geology and Soils

As described in Section 3.6, implementation of the proposed Project would result in the construction of new structures on the Project site. The new structures would be subject to seismic, geologic, and soils hazards for the life of the Project. Additionally, the Project site is in an area known to have paleontological resources. Mitigation Measure 3.6-1 identified in Section 3.6 would reduce the potential impact to paleontological resources to a less than significant level.

The No Project (No Build) Alternative would result in the Project site remaining in its existing condition. There are no structures on the Project site that are subject to seismic or geologic risks. The No Project (No Build) Alternative would not involve new construction that could be subject to seismic, geologic or soils hazards. Additionally, the No Project (No Build) Alternative would not result in ground disturbance which could damage or destruct paleontological resources. Thus, this alternative would have no potential for impact. As such, this impact would be reduced when compared to the proposed Project.

Greenhouse Gases, Climate Change and Energy

Short-term construction greenhouse gas (GHG) emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the proposed Project. As presented in Table 3.7-2 in Section 3.7, short-term construction emissions of GHGs are estimated to be a total of approximately 3,643 metric tons of carbon dioxide equivalents ($MTCO_2e$) per year. As shown in Table 3.7-3, the annual mitigated operational emissions of GHGs associated with the proposed Project would be approximately 16,118 MT CO_2e under the unmitigated scenario, and 16,103 MT CO_2e under the mitigated scenario (i.e. with implementation of the mitigation measures provided in *Section 3.3: Air Quality* of the Draft EIR). The proposed Project would comply with all existing energy standards and would not be expected to result in significant adverse impacts on energy resources. For these reasons, the proposed Project would not cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the energy-related thresholds as described by the CEQA Guidelines.

Under the No Project (No Build) Alternative, the Project site would not be developed, and there would be no net change in emissions and no potential for a conflict with any adopted plans or

policies related to GHG reductions. As such, this impact would be reduced when compared to the proposed Project.

Hazards and Hazardous Materials

For the most part, potential impacts associated with new and future development would be confined to commercial and industrial areas and would not involve the use of hazardous substances in large quantities or that would be particularly hazardous. Incidents, if any, would typically be site specific and would involve accidental spills or inadvertent releases. Associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials and would not combine with similar effects elsewhere (i.e., construction workers), as hazard-related impacts tend to be site-specific and Project-specific.

The Project site is not associated with any existing hazardous materials spills; however, after agricultural operations cease, and development is anticipated to occur, the applicant or future project proponent would be required to hire a qualified consultant to perform site-specific soil sampling to determine if chemicals of potential concern associated with the historical agricultural uses at the Project site are present in shallow soil at concentrations that would pose a threat to human health. If results of the soil sampling identify concentrations of hazardous materials exceeding appropriate environmental screening levels (ESLs) for the future site-specific use, on-site remediation would be required in coordination with the San Joaquin County Department of Environmental Health. Overall, consistency with federal, State, and local laws and regulations related to the handling of hazardous materials discussed above and implementation of Mitigation Measures 3.8-1 through 3.8-3 would reduce potential impacts that could occur due to the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment associated with construction activities within the Project site to a less than significant level.

Under the No Project (No Build) Alternative, no new land uses would be introduced to the Project site, and the potential for hazardous material release on the Project site would be eliminated. As such, this impact would be reduced when compared to the proposed Project.

Hydrology and Water Quality

As described in Section 3.9, compliance with National Pollutant Discharge Elimination System (NPDES) and City of Stockton Municipal Code requirements would ensure that Project construction and operations would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The long-term operation of the proposed Project could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. The proposed Project would not significantly impact groundwater recharge; however, the Project would place persons or structures in a flood hazard zone. Following implementation of Mitigation Measure 3.9-1 and compliance with existing regulations, the Project would not result in a flood hazard or result in the release of pollutants due to on- or off-site flooding

due to implementation of the proposed Project and impacts would be less than significant in this regard.

Under the No Project (No Build) Alternative, water quality impacts from construction and operation of the proposed Project would be eliminated. While groundwater recharge is not considered a significant impact under the proposed Project, under this alternative, the land will be kept in its present state with most of the Project site being used for agricultural purposes. The No Project (No Build) Alternative will have a greater chance of groundwater recharge because it does not introduce large areas of impervious surfaces as would the proposed Project. Additionally, the No Project (No Build) Alternative would not place people or structures in a flood zone. As such, potential impacts related to hydrology and water quality would be reduced under the No Project (No Build) Alternative when compared to the proposed Project.

Land Use and Population

The Project would directly introduce new residents to the City as housing is proposed as part of the Project. The Project would require a zoning and general plan amendment for land use changes. However, impacts to land use are considered less than significant.

The No Project (No Build) Alternative would result in no changes to land use and would have no development. Because the No Project (No Build) Alternative would not add any additional population, impacts related to population would be reduced when compared to the proposed Project. It is noted, however, that the population growth resulting from the proposed Project would be within the growth projections assumed for the Project site by the General Plan and associated EIR. The No Project (No Build) Alternative would be inconsistent with the General Plan and zoning designations for the site because the agricultural uses which would continue the site under this alternative are not allowed within the existing land use or zoning districts. Overall, the impacts related to land use and population under this alternative would be reduced compared to the proposed Project.

Noise

The primary noise sources associated with the proposed Project are traffic circulation and HVAC noise. Mitigation Measure 3.11-1 provided in Section 3.11 would reduce the potential construction noise impacts to a less than significant level.

Under the No Project (No Build) Alternative, the Project site would not be developed and there would be no potential for new noise sources. As such, this impact would be reduced when compared to the proposed Project.

Public Services and Recreation

Development of the proposed Project will require payment of all applicable fees and assessments required to fund its fair share of public services. This funding would assist in the development of facilities to meet the City's standards. The proposed Project would have a less than significant impact to fire, police, schools, and recreational facilities.

Under the No Project (No Build) Alternative, the Project site would remain undeveloped and there would be no increased demand for public services or recreation. The No Project (No Build) Alternative would have a reduced impact when compared to the proposed Project because demand on public services would be reduced when compared to the proposed Project.

Transportation and Circulation

As shown in Table 3.13-1 in Section 3.13, under Baseline Year conditions, the proposed Project would generate 20.10 home-based VMT per resident. This would be 35 percent above the significance threshold. As a result, the Project is considered to have a significant impact on VMT. Under Cumulative Year conditions, the Project would generate 17.54 home-based VMT per resident. This would be 18 percent above the significance threshold. As a result, the Project is considered to have a significant impact on VMT. All other transportation related impacts were determined to be less than significant.

The No Project (No Build) Alternative would not introduce additional vehicle trips onto the area roadways. Under the No Project (No Build) Alternative, all transportation related impacts would be avoided, and the No Project (No Build) Alternative would have a reduced traffic impact when compared to the proposed Project.

Utilities

Implementation of the proposed Project would result in increased flows to the public wastewater system. The wastewater system can handle the increased flows with their existing permit and infrastructure.

Implementation of the proposed Project would result in increased demand for potable water. The City has adequate water supply to handle the increased demand with their existing supply and infrastructure.

Implementation of the proposed Project would result in increased storm drainage from new impervious surfaces. The proposed Project includes a storm drainage collection system to handle the increased storm drainage.

Implementation of the proposed Project would result in increased generation of solid waste. However, the landfill has adequate capacity to dispose the solid waste.

Under the No Project (No Build) Alternative the Project site would not increase the demand for any utilities, including wastewater services, potable water supplies, or solid waste disposal. There would be no need to construct stormwater drainage infrastructure. Overall, the demand for utilities would be reduced under the No Project (No Build) Alternative when compared to the proposed Project.

REDUCED DENSITY ALTERNATIVE

Aesthetics and Visual Resources

As described in Section 3.1, the visual character of the Project site would be significantly altered because of Project implementation. Consistency with the General Plan, Stockton Zoning Ordinance,

and development standards would ensure that impacts are reduced to the greatest extent possible. Nevertheless, impacts related to degradation of the visual character of the site would be significant and unavoidable.

Lighting fixtures within the proposed Project site would be installed in conformance with the City of Stockton standards and specifications, and would be required to incorporate design features to minimize the effects of light and glare. Compliance with the existing regulatory environment would ensure impacts associated with nighttime lighting and light spillage onto adjacent properties are less than significant.

These impacts would be similar with the Reduced Density Alternative as this alternative is located on the same site and would have similar uses as the proposed Project. Due to the equal size developed area compared to the Project, the changes to the visual character of the site would be like the Project. The impacts of light and glare would still occur and could be mitigated to a less than significant level. However, due to the decreased unit count and decreased residential density, the Reduced Density Alternative would have a slightly reduced impact on visual resources when compared to the proposed Project.

Agricultural Resources

Development of the proposed Project would result in the permanent conversion of 23.12 acres of Prime Farmland, 217.79 acres of Farmland of Statewide Importance, and 7.51 acres of Farmland of Local Importance to non-agricultural use. Because the size of the Development Area and Project site under this alternative would be equal to the Project, the amount of Farmland converted would be equal to the Project. Overall, the Reduced Density Alternative would have equal impacts on agricultural resources when compared to the proposed Project.

Air Quality

As discussed previously, operational emissions would exceed the SJVACPD thresholds of significance for ROG. The Project's operational ROG emissions are primarily from the Project's mobile vehicle emissions. There is no feasible mitigation to reduce mobile vehicle ROG emissions, or to reduce the amount of ROG off-gassing from consumer products, as these are not activities that the Project applicant would have the ability to feasibly influence. Implementation of the mitigation measures in Section 3.3 would not be sufficient to ensure a reduction of ROGs to below the applicable Air District criteria pollutant threshold of 10 tons per year.

Additionally, Project maximum construction emissions would not exceed the SJVAPCD thresholds of significance. Nevertheless, regardless of emission quantities, the SJVAPCD requires construction related mitigation in accordance with their rules and regulations. Nevertheless, implementation of the Mitigation Measure 3.3-4 through 3.3-7 would further reduce proposed Project construction related emissions to the extent possible. Further, the Project would not result in substantial TAC emissions that may affect nearby receptors, nor would the Project be exposed to nearby sources of TACs.

Uses in the Reduced Density Alternative would be required to adhere to the same mitigation measures as the proposed Project. Due to the 25 percent reduction in residential units, the mobile and energy emissions would be reduced compared to the Project. The Reduced Density Alternative would result in reduced impacts related to air quality when compared to the proposed Project; however, it is likely that the significant and unavoidable air quality impact would remain under this alternative.

Biological Resources

As described in Section 3.4 Biological Resources, construction on the Project site has the potential to result in impacts to special-status species in the region. The CNDDB currently contains records for Swainson's hawk, giant garter snake, vernal tadpole shrimp, Suisun Marsh aster, and tricolored blackbird in the vicinity of the Project site. The Project site provides potential habitat for several species. Mitigation Measure 3.4-1 requires participation with the SJMSCP, which includes fees that will be used to purchase conservation lands for a variety of special status species. Through the implementation of various mitigation measures found in Section 3.4, implementation of the proposed Project will have a less than significant impact on biological resources.

The size of the Development Area and Project site would be equal to the Project under this alternative. As such, the same amount of habitat conversion would result, and the same mitigation measures would be required for this alternative. As such, the Reduced Density Alternative would result in equal impacts to biological resources when compared to the proposed Project.

Cultural and Tribal Resources

As discussed previously, a CHRIS search and a field assessment conducted as part of the Cultural Resource Assessment found no evidence of cultural resources in the Project site. As such, the Project site does not contain historical resources, archeological resources, or tribal cultural resources. Additionally, no human remains have been documented on or near the Project site. Any previously unknown cultural or tribal cultural resources which may be discovered during development of the proposed Project would be required to be preserved, either through preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. With implementation of the mitigation measures provided in Section 3.5, the proposed Project is not anticipated to considerably contribute to a significant reduction in cultural resources in the region.

The size of the Development Area and Project site would be equal to the Project under this alternative. As such, the same amount of land conversion would result. This would result in an equal potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. The same mitigation measures required for the proposed Project would be required for this alternative. Overall, the Reduced Density Alternative would result in an equal potential for impacts to cultural resources.

Geology and Soils

As described in Section 3.6, implementation of the proposed Project would result in the construction of new structures on the Project site. The new structures would be subject to seismic, geologic, and

soils hazards for the life of the Project. Additionally, the Project site is in an area known to have paleontological resources. Mitigation Measure 3.6-1 identified in Section 3.6 would reduce the potential impact to paleontological resources to a less than significant level.

Under the Reduced Density Alternative, the amount of developed area would be equal to the Project, and the number of structures that would be subject to hazardous geological conditions would be reduced by 25 percent. While the proposed Project is not anticipated to result in significant impacts from geology and soils with mitigation, the Reduced Density Alternative would result in a slightly reduced potential for impacts when compared to the proposed Project due to the reduced unit count.

Greenhouse Gases, Climate Change and Energy

Short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the proposed Project. As presented in Table 3.7-2 in Section 3.7, short-term construction emissions of GHGs are estimated to be a total of approximately 3,643 $MTCO_2e$ per year. As shown in Table 3.7-3, the annual mitigated operational emissions of GHGs associated with the proposed Project would be approximately 16,118 MT CO_2e under the unmitigated scenario, and 16,103 MT CO_2e under the mitigated scenario (i.e. with implementation of the mitigation measures provided in *Section 3.3: Air Quality* of the Draft EIR). The proposed Project would comply with all existing energy standards and would not be expected to result in significant adverse impacts on energy resources. For these reasons, the proposed Project would not cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the energy-related thresholds as described by the CEQA Guidelines.

Under the Reduced Density Alternative, the Project site would be developed with the same types of uses and structures as the proposed Project, but the residential unit count would decrease by 25 percent, the amount of proposed, and the on-site open space would decrease by 25 percent. All uses in the Reduced Density Alternative would be required to adhere to the same mitigation measure as the proposed Project. The reduced amount of development would result in a corresponding reduced level of GHG emissions when compared to the proposed Project. The total reduced GHG emissions is estimated to be 15,293 MT CO_2e, which is approximately 5.0% lower than the GHG emissions associated with the proposed Project. As such, the GHG emissions impact would be reduced with this Alternative when compared to the proposed Project.

Hazards and Hazardous Materials

For the most part, potential impacts associated with new and future development would be confined to commercial and industrial areas and would not involve the use of hazardous substances in large quantities or that would be particularly hazardous. Incidents, if any, would typically be site specific and would involve accidental spills or inadvertent releases. Associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials and would not combine with similar effects elsewhere (i.e., construction workers), as hazard-related impacts tend to be site-specific and Project-specific.

The Project site is not associated with any existing hazardous materials spills; however, after agricultural operations cease, and development is anticipated to occur, the applicant or future project proponent would be required to hire a qualified consultant to perform site-specific soil sampling to determine if chemicals of potential concern associated with the historical agricultural uses at the Project site are present in shallow soil at concentrations that would pose a threat to human health. Overall, consistency with federal, State, and local laws and regulations related to the handling of hazardous materials discussed above and implementation of Mitigation Measures 3.8-1 through 3.8-3 would reduce potential impacts that could occur due to the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment associated with construction activities within the Project site to a less than significant level.

Under the Reduced Density Alternative, the type of urban uses would not change when compared to the proposed Project, but the amount of development would be reduced by 25 percent. This alternative would still use the hazardous materials identified under the proposed Project. As such, this alternative would have equal impacts from hazards and hazardous materials impacts when compared to the proposed Project.

Hydrology and Water Quality

As described in Section 3.9, compliance with NPDES and City of Stockton Municipal Code requirements would ensure that Project construction and operations would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The long-term operation of the proposed Project could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. The proposed Project would not significantly impact groundwater recharge; however, the Project would place persons or structures in a flood hazard zone. Following implementation of Mitigation Measure 3.9-1 and compliance with existing regulations, the Project would not result in a flood hazard or result in the release of pollutants due to on- or off-site flooding due to implementation of the proposed Project and impacts would be less than significant in this regard.

Under the Reduced Density Alternative, potential construction-related and long-term operational impacts to water quality or waste discharge related to stormwater runoff would be equivalent to the Project under this alternative. The reduced density would result in larger lots for the low and medium density residential uses, which would result in larger yard areas and an increased amount of surfaces that will remain pervious to precipitation; this will facilitate groundwater recharge and the natural biofiltration of stormwater. This alternative will still include stormwater detention/basins, and provide natural BMPs to reduce pollutants in stormwater runoff. As such, potential impacts related to hydrology and water quality would be slightly reduced under the Reduced Density Alternative when compared to the proposed Project.

Land Use and Population

The Project would directly introduce new residents to the City as housing is proposed as part of the Project. The Project would require a zoning and general plan amendment for land use changes. However, impacts to land use are considered less than significant.

Under the Reduced Density Alternative, the amount of residential units would decrease from 1,322 du to 1,411 du under the proposed Project to 991 units. Therefore, impacts relating to population would be reduced under this alternative. Like the Project, the Reduced Density Alternative would be inconsistent with the General Plan and zoning designations for the site and a General Plan amendment and rezone would be required. Overall, the impacts related to land use and population under this alternative would be reduced when compared to the proposed Project.

Noise

The primary noise sources associated with the proposed Project are traffic circulation and HVAC noise. Mitigation Measure 3.11-1 provided in Section 3.11 would reduce the potential construction noise impacts to a less than significant level.

The Reduced Density Alternative would result in a reduced amount of residential uses compared to the Project; therefore, the noise impacts associated with vehicular and operational activities of the proposed Project would be reduced under this alternative. Construction would still occur over the entire Development Area, like the Project. All noise issues would be mitigated, as appropriate, through noise attenuation and best management practices under both the proposed Project and the Reduced Density Alternative. Therefore, under this alternative, noise impacts are slightly reduced when compared to the proposed Project.

Public Services and Recreation

Development of the proposed Project will requirement payment all applicable fees and assessments required to fund its fair share of public services. This funding would assist in the development of facilities to meet the City's standards. The proposed Project would have a less than significant impact to fire, police, schools, and recreational facilities.

Under the Reduced Density Alternative, the proposed Project would be developed with the same types of residential, open space, and parks and recreational facility uses as described in the Project Description, but the residential unit count would decrease by 25 percent, the amount of proposed, and the on-site open space would decrease by 25 percent. The amount of residential units would decrease from 1,411 dwelling units (du) under the proposed Project to 991 units and the park area would decrease from 12.2 acres to 9.2 acres. The school site would not be provided under this alternative, and the high-density residential portion of the Project would be removed. The size of the Development Area and Project site would be equal to the Project. Both the proposed Project and the Reduced Density Alternative would result in less-than-significant impacts to public services. As such, impacts to public services under this alternative would be comparable to the proposed Project.

Transportation and Circulation

As shown in Table 3.13-1 in Section 3.13, under Baseline Year conditions, the proposed Project would generate 20.10 home-based VMT per resident. This would be 35 percent above the significance threshold. As a result, the Project is considered to have a significant impact on VMT. Under Cumulative Year conditions, the Project would generate 17.54 home-based VMT per resident. This would be 18 percent above the significance threshold. As a result, the Project is considered to have a significant impact on VMT. All other transportation related impacts were determined to be less than significant.

The VMT would likely decrease due to the reduction in units. The other impacts would be equal to the Project. Overall, the Reduced Density Alternative would result in slightly reduced traffic related impacts when compared to the proposed Project.

Utilities

Implementation of the proposed Project would result in increased flows to the public wastewater system. The wastewater system can handle the increased flows with their existing permit and infrastructure.

Implementation of the proposed Project would result in increased demand for potable water. The City has adequate water supply to handle the increased demand with their existing supply and infrastructure.

Implementation of the proposed Project would result in increased storm drainage from new impervious surfaces. The proposed Project includes a storm drainage collection system to handle the increased storm drainage.

Implementation of the proposed Project would result in increased generation of solid waste. However, the landfill has adequate capacity to dispose the solid waste.

Under the Reduced Density Alternative, the proposed Project would be developed with the same types of residential, open space, and parks and recreational facility uses as described in the Project Description, but the residential unit count would decrease by 25 percent, the amount of proposed, and the on-site open space would decrease by 25 percent. The school site would not be provided under this alternative, and the high-density residential portion of the Project would be removed. The size of the Development Area and Project site would be equal to the Project. The amount of residential units would decrease from 1,322 du to 1,411 du under the proposed Project to 991 units and the park area would decrease from 12.2 acres to 9.2 acres. Because the density of urban development would decrease, the size of the storm basins would also decrease.

The Reduced Project Alterative would be required to adhere to the same mitigation measures as the proposed Project. Due to the reduced unit count, the amount of wastewater generation, water demand, and solid waste generation would be reduced. As such, the Reduced Density Alternative would result in reduced demand on utility systems when compared to the proposed Project. As such, this alternative would have reduced utilities impacts when compared to the proposed Project.

AGRICULTURE PROTECTION ALTERNATIVE

Aesthetics and Visual Resources

As described in Section 3.1, the visual character of the Project site would be significantly altered because of Project implementation. Consistency with the General Plan, Stockton Zoning Ordinance, and development standards would ensure that impacts are reduced to the greatest extent possible. Nevertheless, impacts related to degradation of the visual character of the site would be significant and unavoidable.

Lighting fixtures within the proposed Project site would be installed in conformance with the City of Stockton standards and specifications, and would be required to incorporate design features to minimize the effects of light and glare. Compliance with the existing regulatory environment would ensure impacts associated with nighttime lighting and light spillage onto adjacent properties are less than significant.

Under this alternative, the proposed Project would be developed with the same components as described in the Project Description, but the density of the residential areas would be increased to maintain the number of residential units proposed while also reducing the development footprint. To accommodate the increased density of residential units, the lot sizes of the low and medium density residential uses would increase. Although the developed area would be reduced by 25 percent compared to the Project, the impacts to the existing visual quality would be like the proposed Project as 177.25 acres of the site would be developed with the same uses as under the proposed Project, just at a higher intensity. As such, there would still be an impact to the visual character under this alternative. The impact associated with increased light and glare in the developed area would be mitigated under both the proposed Project and the Agriculture Protection Alternative. Under this alternative, the changes to the existing visual quality would be like the proposed Project in the areas that are developed, but would be significantly less in the areas that are not developed. Overall, this alternative would have a reduced impact to aesthetics when compared to the proposed Project.

Agricultural Resources

Development of the proposed Project would result in the permanent conversion of 23.12 acres of Prime Farmland, 217.79 acres of Farmland of Statewide Importance, and 7.51 acres of Farmland of Local Importance to non-agricultural use. While this alternative would decrease the amount of developed area by 25 percent compared to the Project, 177.25 acres would still be converted from agricultural use. While this alternative would reduce the impacts to agricultural lands when compared to the proposed Project, the loss of the agricultural land, including prime farmland, would be a significant and unavoidable impact under both this Alternative and the proposed Project. Overall, the Agriculture Protection Alternative would have reduced impacts on agricultural resources when compared to the proposed Project.

Air Quality

As discussed previously, operational emissions would exceed the SJVACPD thresholds of significance for ROG. The Project's operational ROG emissions are primarily from the Project's mobile vehicle emissions. There is no feasible mitigation to reduce mobile vehicle ROG emissions, or to reduce the amount of ROG off-gassing from consumer products, as these are not activities that the Project applicant would have the ability to feasibly influence. Implementation of the mitigation measures in Section 3.3 would not be sufficient to ensure a reduction of ROGs to below the applicable Air District criteria pollutant threshold of 10 tons per year.

Additionally, Project maximum construction emissions would not exceed the SJVAPCD thresholds of significance. Nevertheless, regardless of emission quantities, the SJVAPCD requires construction related mitigation in accordance with their rules and regulations. Nevertheless, implementation of the Mitigation Measure 3.3-4 through 3.3-7 would further reduce proposed Project construction related emissions to the extent possible. Further, the Project would not result in substantial TAC emissions that may affect nearby receptors, nor would the Project be exposed to nearby sources of TACs.

Uses in the Agriculture Protection Alternative would be required to adhere to the same mitigation measures as the proposed Project. The Agriculture Protection Alternative would result in equal impacts related to air quality when compared to the proposed Project and the significant and unavoidable air quality impact would remain under this alternative.

Biological Resources

As described in Section 3.4 Biological Resources, construction on the Project site has the potential to result in impacts to special-status species in the region. The CNDDB currently contains records for Swainson's hawk, giant garter snake, vernal tadpole shrimp, Suisun Marsh aster, and tricolored blackbird in the vicinity of the Project site. The Project site provides potential habitat for several species. Mitigation Measure 3.4-1 requires participation with the SJMSCP, which includes fees that will be used to purchase conservation lands for a variety of special status species. Through the implementation of various mitigation measures found in Section 3.4, implementation of the proposed Project will have a less than significant impact on biological resources.

The Agriculture Protection Alternative would result in development of 177.25 acres of the Development Area. Under this alternative, the 76.6 acres which would not be included in the Development Area for this alternative would be in the eastern portion of the site to preserve Prime Farmland and Farmland of Statewide Importance. The preservation of 76.6 acres of the 236.30-acre Development Area would provide biological benefits even though the remainder of the site would be developed. As such, the Agriculture Protection Alternative would result in less impact to biological resources when compared to the proposed Project.

Cultural and Tribal Resources

As discussed previously, a CHRIS search and a field assessment conducted as part of the Cultural Resource Assessment found no evidence of cultural resources in the Project site. As such, the Project site does not contain historical resources, archeological resources, or tribal cultural resources.

Additionally, no human remains have been documented on or near the Project site. Any previously unknown cultural or tribal cultural resources which may be discovered during development of the proposed Project would be required to be preserved, either through preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. With implementation of the mitigation measures provided in Section 3.5, the proposed Project is not anticipated to considerably contribute to a significant reduction in cultural resources in the region.

Under the Agriculture Protection Alternative, the total Project area would decrease from 306.03 acres under the proposed Project to 229.7 acres. The 76.6 acres which would not be included in the Development Area for this alternative would be in the eastern half of the site. This would result in a reduced potential to disturb or destroy cultural, historic, and archaeological resources, as well as paleontological resources. The same mitigation measures required for the proposed Project would be required for this alternative. While the proposed Project is not anticipated to result in significant impacts to cultural resources with mitigation, the Agriculture Protection Alternative would result in a reduced potential for impacts to cultural resources.

Geology and Soils

As described in Section 3.6, implementation of the proposed Project would result in the construction of new structures on the Project site. The new structures would be subject to seismic, geologic, and soils hazards for the life of the Project. Additionally, the Project site is in an area known to have paleontological resources. Mitigation Measure 3.6-1 identified in Section 3.6 would reduce the potential impact to paleontological resources to a less than significant level.

Under the Agriculture Protection Alternative, the amount of developed area would be reduced by 25 percent compared to the Project, but the structural square footage that would be subject to hazardous geological conditions would be equal to the Project. Both the proposed Project and the Agriculture Protection Alternative would not result in potentially significant impacts related to geology and soils and both would require mitigation. As such, the Agriculture Protection Alternative would result in equal geology and soils impacts when compared to the proposed Project.

Greenhouse Gases, Climate Change and Energy

Short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the proposed Project. As presented in Table 3.7-2 in Section 3.7, short-term construction emissions of GHGs are estimated to be a total of approximately 3,643 $MTCO_2e$ per year. As shown in Table 3.7-3, the annual mitigated operational emissions of GHGs associated with the proposed Project would be approximately 16,118 MT CO_2e under the unmitigated scenario, and 16,103 MT CO_2e under the mitigated scenario (i.e. with implementation of the mitigation measures provided in *Section 3.3: Air Quality* of the Draft EIR). The proposed Project would comply with all existing energy standards and would not be expected to result in significant adverse impacts on energy resources. For these reasons, the proposed Project would not cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the energy-related thresholds as described by the CEQA Guidelines.

Under the Agriculture Protection Alternative, the Project site would be developed with the same number of residential units as the proposed Project, but the amount of developed area would be decreased by 25 percent. All uses in the Agriculture Protection Alternative would be required to adhere to the same mitigation measure as the proposed Project. The equal amount of development would result in a corresponding equal level of GHG emissions when compared to the proposed Project. As such, the GHG emissions impact would have equal impacts when compared to the proposed Project.

Hazards and Hazardous Materials

For the most part, potential impacts associated with new and future development would be confined to commercial and industrial areas and would not involve the use of hazardous substances in large quantities or that would be particularly hazardous. Incidents, if any, would typically be site specific and would involve accidental spills or inadvertent releases. Associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials and would not combine with similar effects elsewhere (i.e., construction workers), as hazard-related impacts tend to be site-specific and Project-specific.

The Project site is not associated with any existing hazardous materials spills; however, after agricultural operations cease, and development is anticipated to occur, the applicant or future project proponent would be required to hire a qualified consultant to perform site-specific soil sampling to determine if chemicals of potential concern associated with the historical agricultural uses at the Project site are present in shallow soil at concentrations that would pose a threat to human health. Overall, consistency with federal, State, and local laws and regulations related to the handling of hazardous materials discussed above and implementation of Mitigation Measures 3.8-1 through 3.8-3 would reduce potential impacts that could occur due to the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment associated with construction activities within the Project site to a less than significant level.

Under the Agriculture Protection Alternative, the type of urban uses would not change when compared to the proposed Project, but the amount of developed area would be reduced by 25 percent. This alternative would use the same types and quantities of hazardous materials identified under the proposed Project. As such, this alternative would have equal impacts from hazards and hazardous materials impacts when compared to the proposed Project.

Hydrology and Water Quality

As described in Section 3.9, compliance with NPDES and City of Stockton Municipal Code requirements would ensure that Project construction and operations would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The long-term operation of the proposed Project could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. The proposed Project would not

significantly impact groundwater recharge; however, the Project would place persons or structures in a flood hazard zone. Following implementation of Mitigation Measure 3.9-1 and compliance with existing regulations, the Project would not result in a flood hazard or result in the release of pollutants due to on- or off-site flooding due to implementation of the proposed Project and impacts would be less than significant in this regard.

Under the Agriculture Protection Alternative, potential construction-related and long-term operational impacts to water quality or waste discharge related to stormwater runoff would be reduced equivalent to the amount of land area that remains undeveloped under this alternative. The increased amount of undeveloped land under this alternative will remain pervious to precipitation, which will facilitate groundwater recharge and the natural biofiltration of stormwater. This alternative will still include stormwater detention/basins, and provide natural BMPs to reduce pollutants in stormwater runoff. As such, potential impacts related to hydrology and water quality would be reduced under the Agriculture Protection Alternative when compared to the proposed Project due to the reduction in land for development.

Land Use and Population

The Project would directly introduce new residents to the City as housing is proposed as part of the Project. The Project would require a zoning and general plan amendment for land use changes. However, impacts to land use are considered less than significant.

Under this alternative, the proposed Project would be developed with the same components as described in the Project Description, but the density of the residential areas would be increased to maintain the number of residential units proposed while also reducing the development footprint. Like the Project, the Agriculture Protection Alternative would be inconsistent with the General Plan and zoning designations for the site and a General Plan amendment and rezone would be required. Overall, the impacts related to land use and population under this alternative would be slightly reduced when compared to the proposed Project.

Noise

The primary noise sources associated with the proposed Project are traffic circulation and HVAC noise. Mitigation Measure 3.11-1 provided in Section 3.11 would reduce the potential construction noise impacts to a less than significant level.

The Agriculture Protection Alternative would result in an equal amount of residential units uses compared to the Project; therefore, the noise impacts associated with vehicular and operational activities of the proposed Project would be equal under this alternative. Although the eastern portion of the Development Area would not be developed under this alternative, there are few noise sensitive receptors near the eastern portion of the site. All noise issues would be mitigated, as appropriate, through noise attenuation and best management practices under both the proposed Project and the Agriculture Protection Alternative. Therefore, under this alternative, noise impacts are equal when compared to the proposed Project.

Public Services and Recreation

Development of the proposed Project will require payment of all applicable fees and assessments required to fund its fair share of public services. This funding would assist in the development of facilities to meet the City's standards. The proposed Project would have a less than significant impact to fire, police, schools, and recreational facilities.

Under this alternative, the proposed Project would be developed with the same components as described in the Project Description, but the density of the residential areas would be increased to maintain the number of residential units proposed while also reducing the development footprint. Both the proposed Project and the Agriculture Protection Alternative would result in less-than-significant impacts to public services. As such, impacts to public services under this alternative would be equal to the proposed Project.

Transportation and Circulation

As shown in Table 3.13-1 in Section 3.13, under Baseline Year conditions, the proposed Project would generate 20.10 home-based VMT per resident. This would be 35 percent above the significance threshold. As a result, the Project is considered to have a significant impact on VMT. Under Cumulative Year conditions, the Project would generate 17.54 home-based VMT per resident. This would be 18 percent above the significance threshold. As a result, the Project is considered to have a significant impact on VMT. All other transportation related impacts were determined to be less than significant.

The VMT would be similar the Project. As such, the significant and unavoidable VMT impact would remain under this alternative. The other impacts would be like the Project. Overall, the Reduced Density Alternative would result in equal traffic related impacts when compared to the proposed Project.

Utilities

Implementation of the proposed Project would result in increased flows to the public wastewater system. The wastewater system can handle the increased flows with their existing permit and infrastructure.

Implementation of the proposed Project would result in increased demand for potable water. The City has adequate water supply to handle the increased demand with their existing supply and infrastructure.

Implementation of the proposed Project would result in increased storm drainage from new impervious surfaces. The proposed Project includes a storm drainage collection system to handle the increased storm drainage.

Implementation of the proposed Project would result in increased generation of solid waste. However, the landfill has adequate capacity to dispose the solid waste.

Under this alternative, the proposed Project would be developed with the same components as described in the Project Description, but the density of the residential areas would be increased to

maintain the number of residential units proposed while also reducing the development footprint. The total Project area would decrease from 306.03 acres under the proposed Project to 229.7 acres. The Development Area would decrease from 236.30 acres under the proposed Project to 177.25 acres. The remaining 76.6 acres outside of the Agriculture Protection Alternative area would remain in their current condition (agricultural and open space uses). The 76.6 acres, which would not be included in the development area for this alternative, would be in the eastern portion of the site. This alternative would increase the amount of pervious soils, thereby increasing opportunities for stormwater retention at the Project site. Overall, the Agriculture Protection Alternative would result in a comparable demand on utility systems when compared to the proposed Project.

This alternative would have equal wastewater treatment demand, equal water demand, equal solid waste generated, and equal storm water runoff when compared to the proposed Project. As such, this alternative would have equal impacts when compared to the proposed Project.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project (No Build) Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). The environmentally superior alternative is that alternative with the least adverse environmental impacts when compared to the proposed Project.

Table 5.0-2 presents a comparison of the alternative Project impacts with those of the proposed Project.

TABLE 5.0-2: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROPOSED PROJECT

ENVIRONMENTAL ISSUE	*NO PROJECT (NO BUILD) ALTERNATIVE*	*REDUCED DENSITY ALTERNATIVE*	*AGRICULTURE PROTECTION ALTERNATIVE*
Aesthetics and Visual Resources	Less (Best)	Slightly Less (3rd Best)	Less (2nd Best)
Agricultural Resources	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Air Quality	Less (Best)	Less (2nd Best)	Equal (3rd Best)
Biological Resources	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Cultural and Tribal Resources	Less (Best)	Equal (3rd Best)	Less (2nd Best)
Geology and Soils	Less (Best)	Slightly Less (2nd Best)	Equal (3rd Best)
Greenhouse Gases, Climate Change and Energy	Less (Best)	Less (2nd Best)	Equal (3rd Best)
Hazards and Hazardous Materials	Less (Best)	Equal (2nd Best)	Equal (2nd Best)
Hydrology and Water Quality	Less (Best)	Slightly Less (3rd Best)	Less (2nd Best)
Land Use and Population	Less (Best)	Less (2nd Best)	Equal (3rd Best)
Noise	Less (Best)	Slightly Less (2nd Best)	Equal (3rd Best)
Public Services and Recreation	Less (Best)	Equal (2nd Best)	Equal (3rd Best)
Transportation and Circulation	Less (Best)	Slightly Less (2nd Best)	Equal (3rd Best)
Utilities	Less (Best)	Less (2nd Best)	Equal (3rd Best)

GREATER = GREATER IMPACT THAN THAT OF THE PROPOSED PROJECT

LESS = LESS IMPACT THAN THAT OF THE PROPOSED PROJECT

EQUAL = NO SUBSTANTIAL CHANGE IN IMPACT FROM THAT OF THE PROPOSED PROJECT

As shown in the table, the No Project (No Build) Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project (No Build) Alternative is the

environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, the Reduced Density Alternative and Agriculture Protection Alternative both rank higher than the proposed Project. The Reduced Density Alternative would have equal impacts in five (5) areas, slightly less impacts in five (5) areas, and less impacts in nine (9) areas. The Agriculture Protection Alternative would have equal impacts in nine (9) areas and less impacts in five (5) areas. Therefore, the Reduced Density Alternative would be the next environmentally superior alternative. It is noted that neither the Agriculture Protection Alternative nor the Reduced Density Alternative fully meet all the Project objectives. See Section 5.4 below for a comparative evaluation of the objectives for each alternative.

5.4 COMPARATIVE EVALUATION OF THE ALTERNATIVES' ABILITY TO SATISFY PROJECT OBJECTIVES

This section examines how each of the alternatives selected for more detailed analysis meets the Project objectives.

1. *Provide residential housing opportunities, with an array of lot sizes and housing types, that are visually attractive and accommodate the future housing demand in Stockton.*

The No Project (No Build) Alternative would not satisfy this Project objective because under this alternative, the Project site would remain in its current existing condition and would not provide residential housing opportunities. Both the Reduced Density Alternative and the Agriculture Protection Alternative would meet this objective because these alternatives would provide residential housing opportunities, with an array of lot sizes and housing types, that are visually attractive and accommodate the future housing demand in Stockton. However, due to the reduction in units under the Reduced Density Alternative, this alternative would meet this objective to a lesser extent than the Project.

2. *Establish a mixture of Low-, Medium-, and High-Density Residential project types that collectively provide for local and regional housing and that take advantage of the area's high level of accessibility. Ensure that all housing is designed with architectural form that is visually attractive.*

The No Project (No Build) Alternative would not satisfy this Project objective because under this alternative, the Project site would remain in its current existing condition and would not establish a mixture of Low-, Medium-, and High-Density Residential project types. The Reduced Density Alternative would establish a mixture of Low- and Medium-Density Residential project types that collectively provide for local and regional housing and that take advantage of the area's high level of accessibility. However, this alternative only partially meets this objective as high-density residential uses would not be provided. The Agriculture Protection Alternative would meet this objective.

3. *Provide infrastructure, public facilities, and park space that meets City standards, in a centralized setting that is integrated with existing and planned facilities and connections and increases recreation opportunities for existing and future residents of the City.*

The No Project (No Build) Alternative would not satisfy this Project objective because under this alternative, the Project site would remain in its current existing condition and would not provide infrastructure, public facilities, and park space that meets City standards, in a centralized setting. Under the Reduced Density Alternative, the school site would be eliminated and the park area would decrease from 12.2 acres to 9.2 acres. Because the density of urban development would decrease, the size of the storm basins would also decrease under this alternative. This alternative would meet this objective, but to a lesser extent than the proposed Project due to the reduction in park space, reduced storm basins, and eliminated school site.

Under the Agriculture Protection Alternative, the proposed Project would be developed with the same components as described in the Project Description, but the density of the residential areas would be increased to maintain the number of residential units proposed while also reducing the development footprint. The 9.5-acre high density residential area (proposed for 194 units) would increase density and result in 250 units. The 113.6-acre medium density residential area (proposed for 796 units) would only develop 93.25 acres (20.35 acres less than proposed) and result in 875 units. The 78.0-acre low density residential area (proposed for 421 units) would only develop 42 acres (36 acres less than proposed) and result in 300 units. The parks and recreation acreage would decrease from 12.2 to 10.0 acres, and the storm basin area would decrease from 4.5 to 4.0 acre. The open space acreage under this alternative would be equal to the proposed Project. Because the amount of park and open space uses would be reduced compared to the proposed Project, the Agriculture Protection Alternative would meet this objective but to a lesser extent than the Project.

4. *Provide a site that could accommodate a K-8 school if the Lodi Unified School District desires to build a school within the Project site. Alternatively, if the Lodi Unified School District chooses not to build a school within the Project site, ensure that the design alternative would accommodate single-family residential housing consistent with the form and design of surrounding single-family residential units planned within the Project site.*

None of the Project alternatives would meet this objective as a school site would not be provided under any alternative.

5. *To incorporate Woodbridge Irrigation District facilities into the Project design, that maintains their purpose while avoiding any conflicts with future residents.*

The No Project (No Build) Alternative would not satisfy this objective because under this alternative, Woodbridge Irrigation District facilities would not be incorporated into the Project design and the site would remain in its current condition. Both the Reduced Density Alternative and the Agriculture Protection Alternative would meet this objective because both would not result in conflicts between future residents and the Woodbridge Irrigation District facilities.

6. *Continue open space improvements along Eight Mile Road, like the Destinations Master Plan Project to the west of the Project Site. This includes preservation of a drainage facility and access to an off-street pedestrian path.*

The No Project (No Build) Alternative would not continue open space improvements along Eight Mile Road, like the Destinations Master Plan Project to the west of the Project Site; as such, the No Project (No Build) Alternative would not meet achieve this objective. The Reduced Density Alternative and the Agriculture Protection Alternative would both include open space improvements, preservation of drainage facilities, and pedestrian paths. However, the Reduced Density Alternative would reduce the amount of open space by 25 percent; as such, this alternative would not meet this objective to the same extent as the Project. The Agriculture Protection Alternative would meet this objective.

7. *Establish a logical phasing plan designed to ensure that each phase of development would include necessary public improvements that are required to meet City standards, both onsite and offsite. Internal Phases will basically commence from the eastern portion of the Development Area and move west, allowing infrastructure to be advanced to an upcoming phase.*

The No Project (No Build) Alternative would not achieve this objective because this alternative would not develop the Project site in a logical phased manner. The Reduced Density Alternative and the Agriculture Protection Alternative would meet this objective because both alternatives would be phased to ensure each phase of development would include necessary public improvements required to meet City standards.

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REPORT PREPARERS

City of Stockton

Nicole Moore ..... Contract Planner

Mike McDowell ..... Deputy Director

Stephanie Ocasio ..... Director

Lori Asuncion ..... City Attorney

De Novo Planning Group

Steve McMurtry ..... Principal Planner/Project Manager

Elise Laws ..... Senior Planner

Josh Smith ..... Senior Planner

Jeffery Setterlund ..... Associate Planner

Ziqian Yin ..... GIS Analyst

WK Shijo Consulting – Traffic Consultant

Wayne Shijo ..... Principal

Saxelby Acoustics – Noise Consultant

Luke Saxelby, INCE Bd. Cert. ..... Principal

Peak Associates – Cultural Consultant

Melinda Peak ..... Principal Investigator

Robert A. Gerry ..... Senior Archeologist

West Yost – Water Supply Consultant

Elizabeth Dryer, P.E. ..... Principal Engineer

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APPENDIX A

Notice of Preparation and NOP Comments

NOTICE OF PREPARATION

TO: State Clearinghouse
State Responsible Agencies
State Trustee Agencies
Other Public Agencies
Interested Organizations

FROM: Nicole D. Moore, LEED AP – Planning Consultant
City of Stockton
345 N. El Dorado Street
Stockton, CA 95202
(209) 937-8200
Nicole.Moore.CTR@stocktonca.gov

SUBJECT: Notice of Preparation – LeBaron Project

EIR CONSULTANT

Steve McMurtry, Principal Planner
De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762

The City has determined that an Environmental Impact Report (EIR) must be prepared for the proposed Project. An Initial Study has not been prepared, instead, the City has determined that all CEQA environmental topics will require a detailed analysis in the EIR. The EIR will consider potential environmental effects of the proposed project to determine the level of significance of the environmental effect and will analyze these potential effects to the detail necessary to make a determination on the level of significance.

We need to know the views of your agency or organization as to the scope and content of the environmental information germane to your agency's statutory responsibilities or of interest to your organization in connection with the proposed project. Specifically, we are requesting the following:

1. If you are a public agency, state whether your agency will be a responsible or trustee agency for the proposed project and list the permits or approvals from your agency that will be required for the project and its future actions;
2. Identify significant environmental effects and mitigation measures that you believe need to be explored in the EIR with supporting discussion of why you believe these effects may be significant;
3. Describe special studies and other information that you believe are necessary for the City of Stockton to analyze the significant environmental effects, alternatives, and mitigation measures you have identified;
4. For public agencies that provide infrastructure and public services, identify any facilities that must be provided (both on- and off-site) to provide services to the proposed project;
5. Indicate whether a member(s) from your agency would like to attend a scoping workshop/meeting for public agencies to discuss the scope and content of the EIR's environmental information; and

6. Provide the name, title, and telephone number of the contact person from your agency or organization that we can contact regarding your comments.

Due to the time limits mandated by State law, your response must be sent and received by the City of Stockton by the following deadlines:

- For responsible agencies, not later than 30 days after you receive this notice.
- For all other agencies and organizations, not later than 30 days following the publication of this Notice of Preparation. The 30-day review period begins Monday, July 31, 2023, and ends on Wednesday, August 30, 2023.

If we do not receive a response from your agency or organization, we will presume that your agency or organization has no response to make.

A responsible agency, trustee agency, or other public agency may request a meeting with the City of Stockton or its representatives in accordance with Section 15082(c) of the CEQA Guidelines. A public scoping meeting and neighborhood meeting will be held during the public review period as follows:

Virtual Scoping and Neighborhood Meeting: August 22, 2023, via Microsoft Teams.

Meeting ID: 218-705-533-802
Passcode: sPWX5Wg
Call in: 209-232-4684
Phone Conference ID: 132 293-944#

Please send your responses to Nicole Moore – Planning Consultant at the City of Stockton, 345 N. El Dorado Street Stockton, CA 95202. If you have any questions, please contact Nicole Moore – Planning Consultant at (209) 937-8200 or via email at: Nicole.Moore.CTR@stocktonca.gov.

PROJECT LOCATION

The LeBaron Ranch Project site (proposed Project site) is located in the northern portion of the City of Stockton Metropolitan Area, within the unincorporated area of San Joaquin County. The Project site is adjacent to the City of Stockton's northern city limits, within the City of Stockton (City) Sphere of Influence (SOI) (as defined in the Envision Stockton 2040 General Plan), and within the City of Stockton Urban Services Boundary.

The Project site is bounded on the north by Eight Mile Road, to the east by West Lane, and to the west by Lower Sacramento Road. The future Marlette Road, between Lower Sacramento Road and West Lane, will form the property's southern boundary. The Project site is located within Section 3 of Township 2 North, Range 6 East Mount Diablo Base and Meridian. Figures 1 and 2 show the Project's regional location and vicinity.

PROJECT SITE DEFINED

The Project site includes several distinct planning boundaries, defined below. The following terms are used throughout this Draft Environmental Impact Report (DEIR) to describe the planning area boundaries within the Project site:

- Project Site (or Annexation Area) – includes the whole of the Project (totaling 306.03 acres), including the proposed 236.30-acre Development Area, 56.03-acre Non-development Area, and 13.7 acres of existing right-of-way.
- Development Area – includes six parcels totaling 236.30 acres (APNs 084-050-06, -07, -08, -14, -27, and -28) that is intended for the development of up to 1,411 residential units, two parks, and public infrastructure.
- Non-development Area – includes six parcels totaling 56.03 acres with agricultural uses, a commercial use (1 building) and a church, situated in the northwestern portion of the Project site.
- Right-of-Way Annexation Area – includes 13.7 acres of remaining right-of-way outside of areas of dedication owned by San Joaquin County and intended to be annexed into the City of Stockton.

PROJECT SETTING

EXISTING SITE CONDITIONS

The Project site is 306.03 acres located on 11 assessor parcels (APNs) and remaining County right-of-way as follows: Development Area (six parcels totaling 236.30 acres), Non-development Area (six parcels totaling 56.03 acres), and Right-of-Way Annexation Area (13.7 acres of remaining County right-of-way). Table 1 lists each parcel included in the Project site and Figure 3 illustrates the APNs.

TABLE 1: PARCELS WITHIN THE PROJECT SITE

APN/ROW	*ACREAGE*
DEVELOPMENT AREA	
084-050-06	3.85
084-050-07	46.09
084-050-08	113.83
084-050-14	33.73
084-050-27	6.02
084-050-28	32.79
Development Area Subtotal	*236.30*
NON-DEVELOPMENT AREA	
084-030-04	0.53
084-050-01	6.18
084-050-02	3.72
084-050-03	29.30
084-050-25	9.98
084-050-26	6.31
Non-Development Area Subtotal	*56.03*
RIGHT-OF-WAY ANNEXATION AREA	
ROW	13.7
Right-of-Way Annexation Area Subtotal	*13.7*
Total	**306.03**

SOURCE: COUNTY ASSESSOR PARCEL DATA 2022

SITE TOPOGRAPHY

The Project site is relatively flat and ranges in elevation from approximately 22 to 31 feet above sea level.

EXISTING SITE USES

The Development Area is bordered on the north by Eight Mile Road, on the east by West Lane, on the west by agricultural land, a residential home, a church and commercial building along Lower Sacramento Road, and on the south by Marlette Road, a partially paved frontage road. The Development Area is predominantly comprised of agricultural and undeveloped uses; sheds and associated agricultural equipment exist in the center portion of the site. Additionally, two (2) dirt/gravel roadways bisect the Development Area, including one roadway extending north to south from Eight Mile Road to the southern boundary at Marlette Road, and another extending east to west from West Lane connecting to the dirt/gravel roadway in the center of the Development Area. Irrigation canals, operated by the Woodbridge Irrigation District, run along the northern, eastern, and southern borders of the Development Area, separating existing agricultural uses from the respective roadways.

The Non-development Area is bordered on the north by Eight Mile Road, on the east and south by agricultural lands within the Development Area, and on the west by Lower Sacramento Road. The Non-development area consists of agricultural land, one existing residential home in the northwestern portion, a commercial use (single building), and a church.

The Right-of-Way Annexation Area includes Eight Mile Road, forming the northern border of the Project site.

Figure 4 shows aerial imagery of the current existing site uses within the Project site.

EXISTING SURROUNDING USES

The Project site is primarily bounded by lands within the County of San Joaquin (County) to the north and south. Lands within the City of Stockton are located to the east and west. Uses within the surrounding area include the following:

- North – Immediately north of the site is Eight Mile Road. North of Eight Mile Road are existing agricultural lands.
- East – Immediately east of the site is West Lane. East of West Lane are existing agricultural lands. The existing agricultural lands were recently incorporated into the City of Stockton and will be developed with residential and commercial uses as part of the approved Tra Vigne development project.
- South – Immediately south of the site is Marlette Road. South of Marlette Road are agricultural lands, Bear Creek, and McNair High School.
- West – Immediately west of the site is Lower Sacramento Road. West of Lower Sacramento Road is a City of Stockton residential neighborhood called "Destinations."

EXISTING GENERAL PLAN LAND USE DESIGNATIONS AND ZONING

The Project site is currently located within San Joaquin County. The Project site is outside the Stockton city limits, but within the City's Sphere of Influence (SOI).

City of Stockton General Plan Land Use Designations

The Envision Stockton 2040 General Plan Land Use Map (Figure 5) designates the Project site as Low Density Residential, Medium Density Residential, High Density Residential, Institutional, and Parks and Recreation. Table 2 provides an existing land use summary of the Development Area per the 2040 Stockton General Plan.

TABLE 2: GROSS LAND USE SUMMARY – DEVELOPMENT AREA (PER GENERAL PLAN)

PROPOSED LAND USE DESIGNATIONS	*EXISTING (ACRES)*
Low Density Residential	126.4
Medium Density Residential	63.9
High Density Residential	19.4
Institutional	13.7
Parks and Recreation	12.9
TOTAL	**236.3**

The General Plan contains the following standards to guide development for these land uses.

Low Density Residential: This designation allows for single-family residential units, duplexes, triplexes, semi-detached patio homes, town homes, public and quasi-public uses, second units, and other similar

and compatible uses. The maximum density is 6.1 units per acre based on gross acreage and 8.7 units per acre based on net acreage.

Medium Density Residential: This designation allows for single-family residential units, duplexes, triplexes, semi-detached patio homes, town homes, public and quasi-public uses, second units, and other similar and compatible uses. Based on gross acreage, this designation allows densities ranging from 6.2 to 13.1 units per acre; based on net acreage, it allows 8.8 to 17.4 units per acre. This designation also allows neighborhood-serving retail, commercial service, and mixed uses in appropriate locations that provide residents with easy access to daily services and necessities within their neighborhood, provided that they are compatible with surrounding uses, at a maximum FAR of 0.3

High Density Residential: This designation allows for multi-family residential units, apartments, dormitories, group homes, guest homes, public and quasi-public uses, and other similar and compatible uses. This designation also allows neighborhood-serving retail, commercial service, and mixed uses in appropriate locations that provide residents with easy access to daily services and necessities within their neighborhood, provided that they are compatible with surrounding uses. The allowable density and intensity ranges differ based on the geographic area, as follows:

- Outside the Greater Downtown: Based on gross acreage, this designation allows 13.2 to 24 units per acre; based on net acreage, it allows 17.5 to 30 units per acre. The maximum FAR for neighborhood-serving retail uses is 0.3.

- Inside the Greater Downtown: Based on gross acreage, this designation allows 16 to 72 units per acre; based on net acreage, it allows 20 to 90 units per acre. The maximum FAR for neighborhood-serving retail uses is 3.0.

- Inside the Downtown Core: Based on gross acreage, this designation allows 16 to 108.8 units per acre; based on net acreage, it allows 20 to 136 units per acre. The maximum FAR for neighborhood-serving retail uses is 5.0.

Institutional: This designation allows for a wide variety of industrial uses, including uses with nuisance or hazardous characteristics, warehousing, construction contractors, light manufacturing, offices, Retail Sales, service businesses, public and quasi-public uses, and other similar and compatible uses. Residential uses are prohibited. The maximum FAR for industrial uses is 0.6.

Parks and Recreation: This designation allows for City and County parks, golf courses, marinas, community centers, public and quasi-public uses, and other similar and compatible uses. The maximum FAR for parks and recreation uses is 0.2

San Joaquin County General Plan Land Use Designations

The Project site is designated as Low Density (R/L), High Density (R/H), and Office Commercial (C/O) by the County's General Plan Land Use Map. Below is a general description of County-designated land uses within the Project site.

Low Density Residential (R/L): This designation provides for low density residential development in neighborhoods where single-family homes are the dominant land use. The Low-Density Residential

Designation generally applies to residential neighborhoods in Urban Communities and City Fringe Areas. Typical building types include one- to two-story single family dwellings in an urban setting. The density range is between 2.1 and 6.0 dwelling units per acre. The minimum lot size is 5,000 square feet.

Residential/High Density (R/H): This designation provides for residential development in more intensely developed residential and commercial areas. Development at the higher end of the density range should occur along major transportation routes and within major commercial centers. The High-Density Residential Designation generally applies to central business districts and main street areas within Urban Communities and City Fringe Areas. Typical building types include one- to three-story multifamily developments. The density range is between 15.1 and 40.0 dwelling units per acre. The minimum lot size is 6,000 square feet.

Office Commercial (C/O): This designation provides for office/employment centers. The Office Commercial designation is limited to Urban Communities and City Fringe Areas and should be organized in clusters rather than a linier development pattern. Developments should be located on a County-defined Minor Arterial or higher classification roadway and include pedestrian and bicycle facilities. Typical building types include one- to three-story structures. The allowable floor area ratio (FAR) range is between 0.20 and 0.60.

San Joaquin County Zoning

Per the San Joaquin County Development Title and Zoning Map, the Project site is currently zoned Agriculture-Urban Reserve (AU-20). Below is a general description of County zoning within the Project site.

AU Zone (Agriculture-Urban Reserve): This zone is intended to retain in agriculture those areas planned for future urban development in order to facilitate compact, orderly growth and to assure the proper timing and economical provision of services and utilities. The minimum parcel size for lots zoned AU-20 is 20 acres.

SURROUNDING GENERAL PLAN DESIGNATIONS

Within San Joaquin County, lands to the north of the Project site are designated Agricultural General (A/G), with land along the Pixley Slough designated Resource Conservation (OS/RC), and lands to the south are designated Low Density (R/L).

Within the City, lands to the east and west are designated Commercial, High Density Residential, and Low Density Residential. The City's General Plan also designates land to the north and south (within unincorporated San Joaquin County) as Open Space/Agriculture, Low Density Residential, and Commercial.

PROJECT GOALS AND OBJECTIVES

Consistent with the California Environmental Quality Act (CEQA), Guidelines Section 15124(b), a clear statement of objectives and the underlying purpose of the proposed Project shall be discussed. The principal purpose of the proposed Project is the annexation of the Project site into the City of Stockton, and approval and subsequent development of the Development Area for residential and park uses.

The LeBaron Ranch Development Project identifies the following project objectives as part of the stated purpose:

- Provide residential housing opportunities, with an array of lot sizes and housing types, that are visually attractive and accommodate the future housing demand in Stockton.
- Establish a mixture of Low-, Medium-, and High-Density Residential project types that collectively provide for local and regional housing and that take advantage of the area's high level of accessibility. Ensure that all housing is designed with architectural form that is visually attractive.
- Provide infrastructure, public facilities, and park space that meets City standards, in a centralized setting that is integrated with existing and planned facilities and connections and increases recreation opportunities for existing and future residents of the City.
- Provide a site that could accommodate a K-8 school in the event that the Lodi Unified School District desires to build a school within the Project site. Alternatively, if the Lodi Unified School District chooses not to build a school within the Project site, ensure that the design alternative would accommodate single-family residential housing consistent with the form and design of surrounding single-family residential units planned within the Project site.
- To incorporate Woodbridge Irrigation District facilities into the Project design, that maintains their purpose while avoiding any conflicts with future residents.
- Continue open space improvements along Eight Mile Road, similar to the Destinations Master Plan Project to the west of the Project Site. This includes preservation of a drainage facility and access to an off-street pedestrian path.
- Establish a logical phasing plan designed to ensure that each phase of development would include necessary public improvements that are required to meet City standards, both onsite and offsite. Internal Phases will basically commence from the eastern portion of the Development Area and move west, allowing infrastructure to be advanced to an upcoming phase.

PROJECT CHARACTERISTICS AND DESCRIPTION

The proposed Project is primarily a residential development anticipated to provide up to 1,411 units (assuming school site is developed with single-family residential units). Total parkland and open space areas total 24.7 acres. Part of the open space acreage will come from a series of streets with an enhanced right of way to accommodate a pedestrian "wellness walk." Other uses to support and compliment the proposed residential development include underground wet and dry utility infrastructure, roadways, curb/gutters/sidewalks, bicycle/pedestrian facilities, street lighting, and street signage. Table 3 provides a land use summary of the Development Project. Figure 6 provides a map of the proposed General Plan land uses, and Figure 7 provides a map of the proposed Pre-zoning.

TABLE 3: GROSS LAND USE SUMMARY – DEVELOPMENT AREA (PER VESTED TENTATIVE MAP)

PROPOSED LAND USE DESIGNATIONS	*PROPOSED (ACRES) WITH SCHOOL*	*PROPOSED (ACRES) WITHOUT SCHOOL*	*PROJECTED NUMBER OF UNITS (OR SQUARE FEET)*
Low Density Residential	78.0	78.0	421
Medium Density Residential	100.7	113.6	796
High Density Residential	9.5	9.5	194
Institutional	12.0	--	--
Parks and Recreation	12.0	12.2	--
Storm Basin (Shown as Parks and Recreation Designation)	4.5	4.5	--
Open Space ("Wellness Walks" and Open Ditch); and Rights of Way	19.6	18.5	--
TOTAL	**236.3**	**236.3**	**1,411**

NOTE:

1. FOR PURPOSES OF THE ENVIRONMENTAL ANALYSIS, IT IS ASSUMED THAT 79 SINGLE-FAMILY RESIDENTIAL UNITS WOULD BE DEVELOPED ON THE PARCEL RESERVED FOR THE PROPOSED SCHOOL. THESE ADDITIONAL LOTS ARE ADDED TO THE PROJECT LOT COUNT, UNDER MEDIUM DENSITY DESIGNATION, TO DETERMINE A WORST-CASE SCENARIO IN TERMS OF BUILDOUT OF THE PROJECT SITE SHOULD THE SCHOOL DISTRICT NOT NEED THIS SITE.

RESIDENTIAL DEVELOPMENT

The proposed Project will provide a variety of housing types and lot sizes. As shown in Table 2 above, at full build-out, the Development Area will accommodate up to 1,411 residential units.

The proposed Project includes a vesting tentative map that would subdivide the Development Area consistent with the proposed land uses. The Development Area would have 1,217 single family residential units with lot sizes that would range from 3,375 to 6,000 sf. Additionally, the Development Area would include 194 high density residential units on 9.5 acres to the west of the proposed single family residential area, for a total residential unit count of 1,411 units.

The Project would be developed in six (6) phases. A portion of the Central Park would be developed in Phase 1. The sequence of phasing would generally be from the future Marlette Road, to the north, toward Eight Mile Road.

Figure 8a illustrates the site plan with a school site, which would result in the development of 1,332 residential units. In the event that the school is not developed, residential units would be built in its place for a total of 1,411 units. Figure 8b illustrates a site plan without the school site.

INSTITUTIONAL – SCHOOL SITE

The proposed Project establishes a site for a 12.0-acre K-8 school to be developed by Lodi Unified School District (LUSD). The development of a K-8 school at this site is the discretionary decision of the LUSD, and while the proposed Project has planned for a school at this location, it will be determined by LUSD at a later date through their decision-making process. If the LUSD decides to not pursue building a school at this site, then the site would be developed with 79 single family residential units. Construction of homes in this location would increase the number of units by 79 units when compared to the proposed Project

with the school site. The total combined units would increase from 1,332 under the proposed Project to 1,411 units under this variation (i.e., no school).

PARKS AND OPEN SPACE

The Project (under the "No School" scenario) would provide approximately 12.2 acres of traditional park space. Two Park areas are proposed, including a centrally located 8.75-acre park and a 3.47-acre park in the northern portion of the Development Area. In addition, to the two parks, there will be a series of streets with an enhanced right of way to accommodate a pedestrian "wellness walk". This "wellness walk," which is comprised of 8.53 acres of open space, will tie different areas to the internal parks and encourage movement throughout the Project site. Additionally, a 4.5-acre detention basin area would be located in the northern portion of the Project site, adjacent to the 3.47-acre park. 1.0-acre of the basin is considered usable open space.

CIRCULATION

The proposed Project will connect with and expand the existing circulation system in the City of Stockton. Additionally, the proposed Project will provide both standard sidewalks, and as part of specific project roadways, enhanced sidewalks (also referred to as "wellness walks") throughout the development, along with bike lanes along the major arterials that the proposed Project fronts to offer additional bicycling and walking facilities for all of Stockton's residents. The Development Area is proposed as a natural progression of the existing housing areas and street network to the west of the Project site and will tie directly to the existing roadway network.

The Project includes an extension of the west-east trending Marlette Road that will provide several access points to the proposed development, and also connect to West Lane and Lower Sacramento Road. West Lane and Lower Sacramento Road are the main arterial roadways providing access to the Development Area. The proposed Project includes annexation of right-of-way along Eight Mile Road, which will be improved to City of Stockton standards; however, access to the proposed development will not occur from Eight Mile Road, thus eliminating any conflicts with the flow of traffic on Eight Mile Road. Project traffic will be directed to Marlette Road, except for one direct access point to West Lane, and then directed east or west along Marlette Road to West Lane and Lower Sacramento Road.

The neighborhoods within the Development Area will include a network of minor collectors and residential streets to provide traffic flow through the area. Additionally, sidewalks will be included per the City standards, along with enhanced sidewalks (also referred to as "wellness walks") throughout portions of the development to provide access to the two parks and the trail system along Eight Mile Road.

Class IV bikeways (separated bikeways) will be provided along the major arterials that border the Project site; which includes Lower Sacramento Road, West Lane and Eight Mile Road. The Eight Mile Road cross section, shows both a Class IV bikeway on Eight Mile Road and a Class I bike path between the proposed Project and the Woodbridge Irrigation Ditch.

The "wellness walk" network throughout the proposed Project, provides bicyclist and walkers with a wider pathway to share a pedestrian-friendly option for traveling throughout the Project area. A connection is

provided from the "wellness walk" to the Class IV bikeway along West Lane and to the Class I bike path along the Project's northern boundary.

UTILITIES AND PLANNED INFRASTRUCTURE IMPROVEMENTS

The construction of on-site infrastructure improvements would be required to accommodate development of the Development Area, as described below.

Potable Water System

The Development Area would be served by a new potable water distribution system. The Project proposes two 18-inch lines along Marlette Road and Lower Sacramento Road. The proposed 18-inch water line along Marlette Road will connect to a water main in West Lane that will be constructed as part of the Tra Vigne project and travel west along the proposed Marlette Road, connecting to the existing City of Stockton water main on Lower Sacramento Road. The Project would extend the existing City of Stockton water main on Lower Sacramento Road north, by constructing a second 18-inch line along Lower Sacramento Road to connect with the existing water main in Eight Mile Road. The Project proposes a network of 12-inch lines located within the Project site to connect to the proposed 18-inch water line along Marlette Road and the 24-inch water line along West Lane.

Wastewater System

Wastewater services would be provided by existing and planned City of Stockton collection and treatment system. Wastewater treatment would be provided at the City's existing Regional Wastewater Control Facility (RWCF). Wastewater collection would be provided by the City's existing Wastewater Collection System No. 10 (System 10). The Project proposes an 18-inch sewer line in Marlette Road that would connect with a sewer trunk main in West Lane that will be constructed as part of the Tra Vigne project.

Stormwater System

Development of the proposed Project would include construction of a new storm basin near Eight Mile Road, and two options for connecting to offsite drainage facilities are being considered and evaluated. Option 1 would connect to a new outfall structure to the north of the basin and pump storm water into the Woodbridge Irrigation District (WID) drainage ditch that is located south of, and parallel to Eight Mile Road. Option 2 is construction of a force main to Pixley Slough to an existing outfall structure. The force main would be located south of, and parallel Eight Mile Road.

Option 1 (Direct Discharge to WID Drainage Facility): The new basin will collect storm water from the Project site to be pumped through a force main system to a new outfall structure located north of the basin and discharge flows into an existing WID drainage facility that parallels Eight Mile Road.

Option 2 (Force Main to Existing Pixley Slough Outfall): The new basin will collect storm water from the Project site to be pumped through a force main system to the existing Pixley Slough Outfall Facility, located at the northwest corner of the existing Destinations residential master plan community. Storm water from the new basin will be pumped following peak flows to avoid impacting the existing storm drainage system built as part of the Destinations residential community. The force main pipe will be located in an drainage

easement adjacent to the Eight Mile Road right of way, travel west to the existing Pixley Slough Outfall facility.

It is noted that the location of the proposed basin is conceptual and will be finalized during the design of Improvement Plans.

Regulated Public Utilities

Electrical, gas, phone, cable and related internet services would be extended to all portions of the Project site from existing facilities located along West Lane and Eight Mile Road, or other utility systems in the Project vicinity. Utility improvements would be installed in conjunction with planned street improvements.

PROJECT ENTITLEMENTS

GENERAL PLAN AMENDMENTS

The proposed Project would require a City of Stockton General Plan Amendment to the Land Use Element to change land uses on the Project site. Changes to the General Plan Land Use Map are largely a reorganization of the precise locations for each land use within the boundary of the Project site as opposed to land use changes. Figure 6a and 6b illustrates the proposed Stockton General Plan land uses with and without the school site. Table 3 summarizes the existing and proposed land use designations.

TABLE 3: COMPARISON OF EXISTING AND PROPOSED LAND USE DESIGNATIONS

LAND USE DESIGNATIONS	*EXISTING (ACRES)*	*PROPOSED (ACRES) WITH SCHOOL*	*DIFFERENCE*	*PROPOSED (ACRES) WITHOUT SCHOOL*	*DIFFERENCE*
Low Density Residential	126.4	78.0	-48.4	78.0	-48.4
Medium Density Residential	63.9	100.7	36.8	113.6	49.7
High Density Residential	19.4	9.5	-9.9	9.5	-9.9
Institutional	13.7	12.0	-1.7	--	-13.7
Parks and Recreation	12.9	12.0	-0.9	12.2	-0.7
Storm Basin	--	4.5	4.5	4.5	4.5
Open Space (“Wellness Walks” and Open Ditch); and Rights of Way	--	19.6	19.6	18.5	18.5
TOTAL	**236.3**	**236.3**	**0**	**236.3**	**0**

PRE-ZONING

As previously stated, the Project site is currently outside of the jurisdiction of the City of Stockton, and therefore does not have City zoning. The proposed Project includes a request for pre-zoning of the Development Area and Non-development Area, as described below. The pre-zoning would go into effect upon annexation into the City of Stockton.

Development Area: The pre-zoning request is for an RL District, RM District, RH District and PF District. These districts are defined as follows:

- **RL (Residential, Low Density) District**. The RL zoning district is applied to single-family residential neighborhoods, low-density residential planned developments, and/or other low-density residential development, and is intended to maintain densities and protect existing neighborhood character. Allowable density shall be up to 8.7 dwelling units per net acre and 6.1 per gross acre. The RL zoning district is consistent with the low/medium density residential land use designation of the General Plan.

- **RM (Residential, Medium Density) District**. The RM zoning district is applied to more intensely developed residential neighborhoods and/or other medium-density residential planned developments. Allowable housing types may include single-family independent dwelling units, duplexes, triplexes, townhouses, and multifamily units. Allowable density shall be 8.8 to 17.4 dwelling units per net acre and 6.2 to 13.1 dwelling units per gross acre. The maximum floor area ratio (FAR) for neighborhood-serving retail uses is 0.3. The RM zoning district is consistent with the low/medium density residential land use designation of the General Plan. The Applicant is seeking a Planned Unit Residential (PURD) Permit to introduce design deviations to the standards to allow for an alternative range of lot sizes. The planned development permit may adjust or modify, where necessary and justifiable, all applicable development standards (e.g., building envelope, off-street parking, street layout, etc.) contained within this Development Code.

- **RH (Residential, High Density) District**. The RH zoning district is applied to high-density residential neighborhoods. Allowable housing types may include multifamily and various types of group housing, as well as high density single-family residential development. The RH zoning district is consistent with the High Density Residential land use designation of the General Plan. Consistent with the General Plan, allowable densities are as follows:

    - **Outside the Greater Downtown**. 17.5 to 30 dwelling units per net acre and 13.2 to 24 dwelling units per gross acre. The maximum floor area ratio (FAR) for neighborhood-serving retail uses is 0.30.

    - **Inside the Greater Downtown**. 20 to 90 dwelling units per net acre and 16 to 72 dwelling units per gross acre. The maximum floor area ratio (FAR) for neighborhood-serving retail uses is 3.0.

    - **Inside the Downtown Core**. Up to 16 to 108.8 dwelling units per net acre and 20 to 136 dwelling units per gross acre. The maximum floor area ratio (FAR) for neighborhood-serving retail uses is 5.0.

- **PF (Public Facilities) District**. The PF zoning district is applied to areas appropriate for a variety of public and quasi-public land uses, including facilities and lands owned by the City, County, State, or Federal governments as well as religious facilities. The PF zoning district is consistent with the institutional and parks and recreational land use designations of the General Plan. The maximum FAR is 0.2.

Non-development Area: The pre-zoning request is for an RL District and RM District. These districts are defined as follows:

- **RL (Residential, Low Density) District**. The RL zoning district is applied to single-family residential neighborhoods, low-density residential planned developments, and/or other low-density residential development, and is intended to maintain densities and protect existing neighborhood character. Allowable density shall be up to 8.7 dwelling units per net acre and 6.1 per gross acre. The RL zoning district is consistent with the low/medium density residential land use designation of the General Plan.

- **RM (Residential, Medium Density) District**. The RM zoning district is applied to more intensely developed residential neighborhoods and/or other medium-density residential planned developments. Allowable housing types may include single-family independent dwelling units, duplexes, triplexes, townhouses, and multifamily units. Allowable density shall be 8.8 to 17.4 dwelling units per net acre and 6.2 to 13.1 dwelling units per gross acre. The maximum floor area ratio (FAR) for neighborhood-serving retail uses is 0.3. The RM zoning district is consistent with the low/medium density residential land use designation of the General Plan.

The proposed zoning for the Project site is shown on Figure 7.

VESTING TENTATIVE SUBDIVISION MAP

The proposed Project includes a Vesting Tentative Subdivision Map for the Development Area. The tentative map would result in the subdivision of 236.3 acres into 1,217 single-family residential units (approximately 179 acres) and 194 high density residential units (9.5 acres), a 12.0-acre school site, and an 8.5-acre central park and 3.47-acre northern park. Total parkland is 12.0 acres. In addition, there will be a series of streets with an enhanced right of way to accommodate a pedestrian "wellness walk." The development of the 12.0-acre school site is the discretionary decision of Lodi Unified School District (LUSD). If LUSD decides they do not want to secure a school site, an additional 79 single-family residential units would be developed on the school parcel. Figures 8a and 8b illustrate the Site Plan.

ANNEXATION

The proposed Project includes an Annexation of 12 APNs totaling 306.03 acres. This includes the Development Area (six parcels totaling 236.30 acres), Non-development Area (six parcels totaling 56.03 acres), and the remaining Right-of-Way Annexation Area (13.7 acres of existing County right-of-way). The annexation will also include detachment from the Lincoln Fire District.

DEVELOPMENT AGREEMENTS

The proposed Project includes a request for approval of one or more Development Agreements (DA) governing the relationship between the City and the Project applicants. The DA may be used to establish City/applicant agreements related to the Project. Such agreements may include commitments to Project entitlements and development standards as well as any administrative and/or financial relationships that may be defined during the review of the development plan. These relationships have not been defined at

present and would be developed during the review of the proposed Project and incorporated into the DA prior to Project approval.2.7 Uses of the EIR and Required Agency Approvals

This EIR may be used for the following direct and indirect approvals and permits associated with adoption and implementation of the proposed Project.

CITY OF STOCKTON

The City of Stockton will be the Lead Agency for the proposed Project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050. Actions that would be required from the City include, but are not limited to the following:

- Certification of the EIR;
- Adoption of the Mitigation Monitoring and Reporting Program;
- Adoption of the Findings and Statement of Overriding Considerations;
- Adoption of General Plan Amendment (Land Use Map);
- Adoption of an Ordinance for City of Stockton Pre-Zoning;
- Approval of a Detachment Agreement from the Lincoln Fire District;
- Approval of a Planned Unit Residential Development (PURD) Permit;
- Approval of Vesting Tentative map;
- Approval of Annexation and Authorization to submit Annexation request to San Joaquin LAFCo;
- Approval of future Final Maps;
- Approval of future Improvement Plans;
- Approval of future Grading Plans;
- Approval of Building Permits;
- Issuance of grading, encroachment, and building permits; and
- City review and approval of Project utility plans.

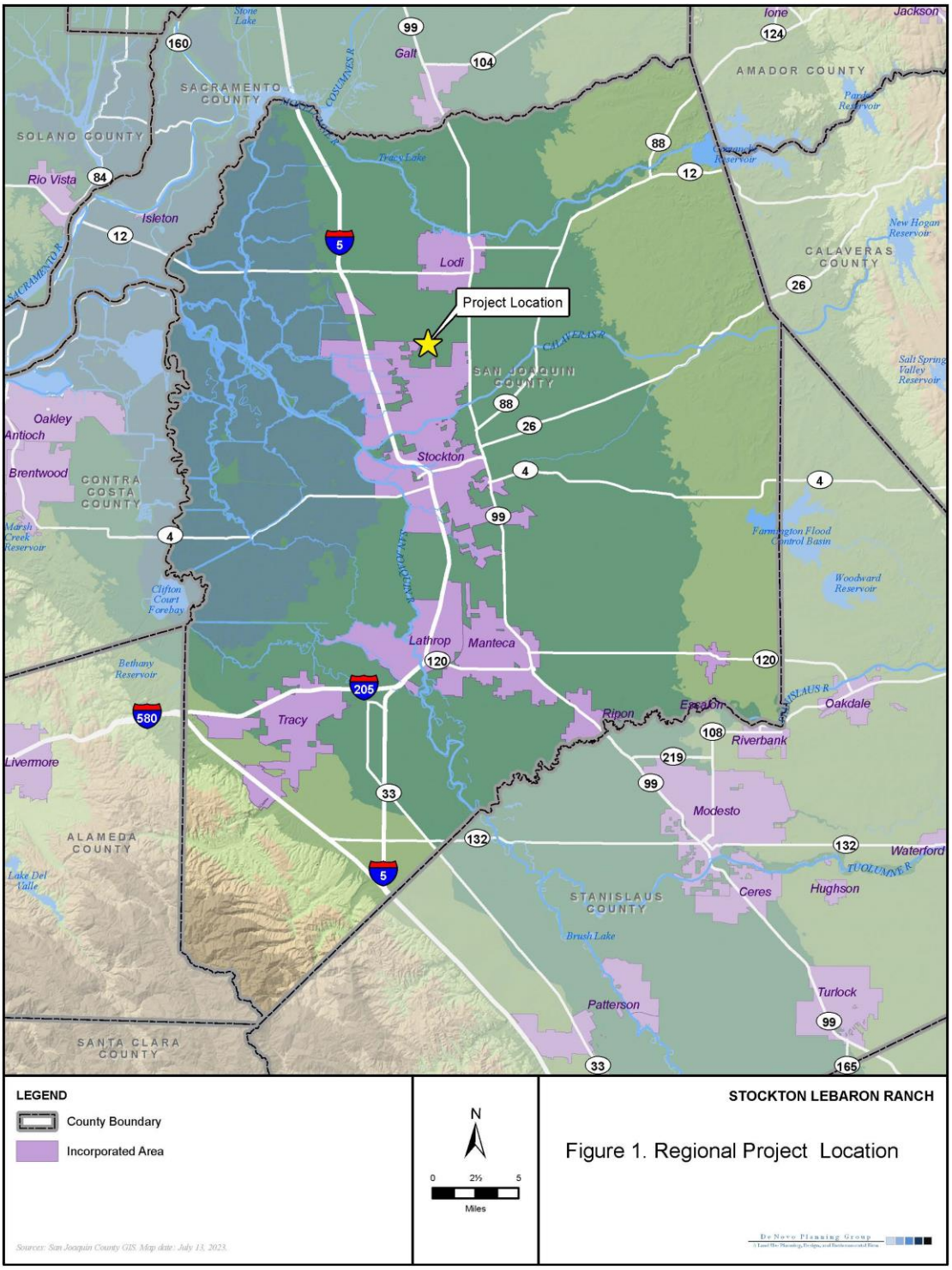
OTHER GOVERNMENTAL AGENCY APPROVALS

The following agencies are considered “Responsible Agencies” and will need to rely on this EIR to issue permits or approve certain aspects of the proposed Project. A "Responsible Agency" is any public agency, other than the lead agency, which has the responsibility for approving the project where more than one public agency is involved. Other governmental agencies that may require approval include, but are not limited to, the following:

- Central Valley Flood Protection Board (CVFPB) – should offsite work impact Pixley Slough (which is not anticipated);
- Central Valley Regional Water Quality Control Board (CVRWQCB) – Storm Water Pollution Prevention Plan (SWPPP) approval pursuant to the Clean Water Act;
- CVRWQCB – Water quality certification pursuant to Section 401 of the Clean Water Act;
- San Joaquin County Flood Control and Water Conservation District;
- Native American Heritage Commission (NAHC);
- San Joaquin Local Agency Formation Commission (LAFCo) – Annexation;

- San Joaquin Valley Air Pollution Control District (SJVAPCD) – Construction-related permits;
- San Joaquin Valley Air Pollution Control District (SJVAPCD) – Authority to Construct, Permit to Operate for stationary sources of air pollution
- Stockton Fire Department – Plan check of the site plan and roadway improvements for adequate emergency vehicle access and fire flow capabilities;
- San Joaquin Council of Governments (SJCOG) – Issuance of incidental take permit under the San Joaquin Multi-Species Habitat Conservation and Open Space Plan (SJMSCP).
- United States Army Corps. Of Engineers (USACE) – Permitting of federal jurisdictional areas pursuant to Section 404 of the Clean Water Act.
- Woodbridge Irrigation District

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Project Location
Lodi
Stockton
Galt
Ione
Jackson
Rio Vista
Isleton
Oakley
Antioch
Brentwood
Lathrop
Manteca
Tracy
Ripon
Escalon
Oakdale
Riverbank
Modesto
Waterford
Hughson
Ceres
Turlock
Patterson
Livermore
SACRAMENTO COUNTY
SOLANO COUNTY
AMADOR COUNTY
CALAVERAS COUNTY
SAN JOAQUIN COUNTY
CONTRA COSTA COUNTY
ALAMEDA COUNTY
STANISLAUS COUNTY
SANTA CLARA COUNTY
LEGEND
County Boundary
Incorporated Area
N
0 2½ 5
Miles
STOCKTON LEBARON RANCH
Figure 1. Regional Project Location

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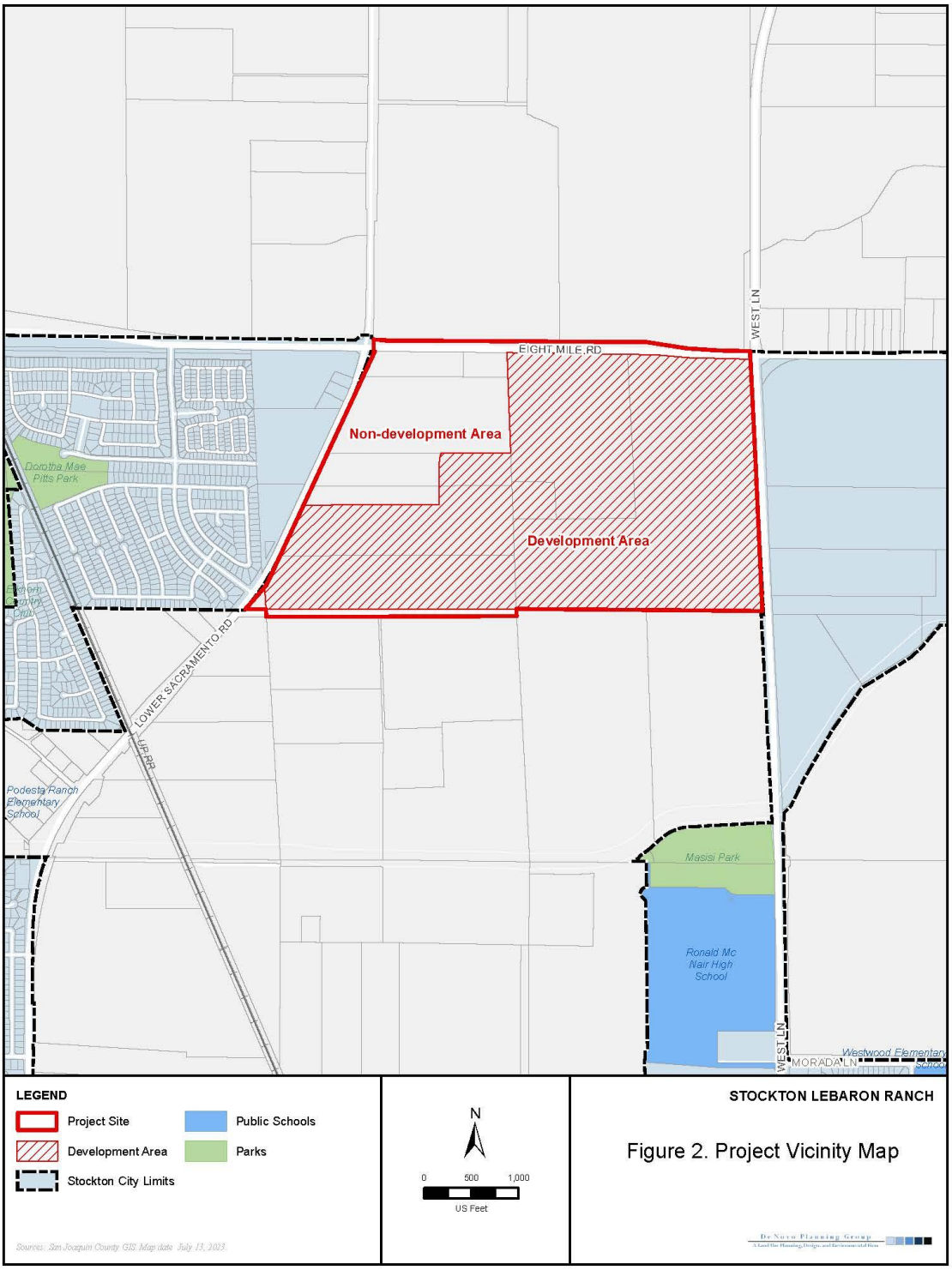
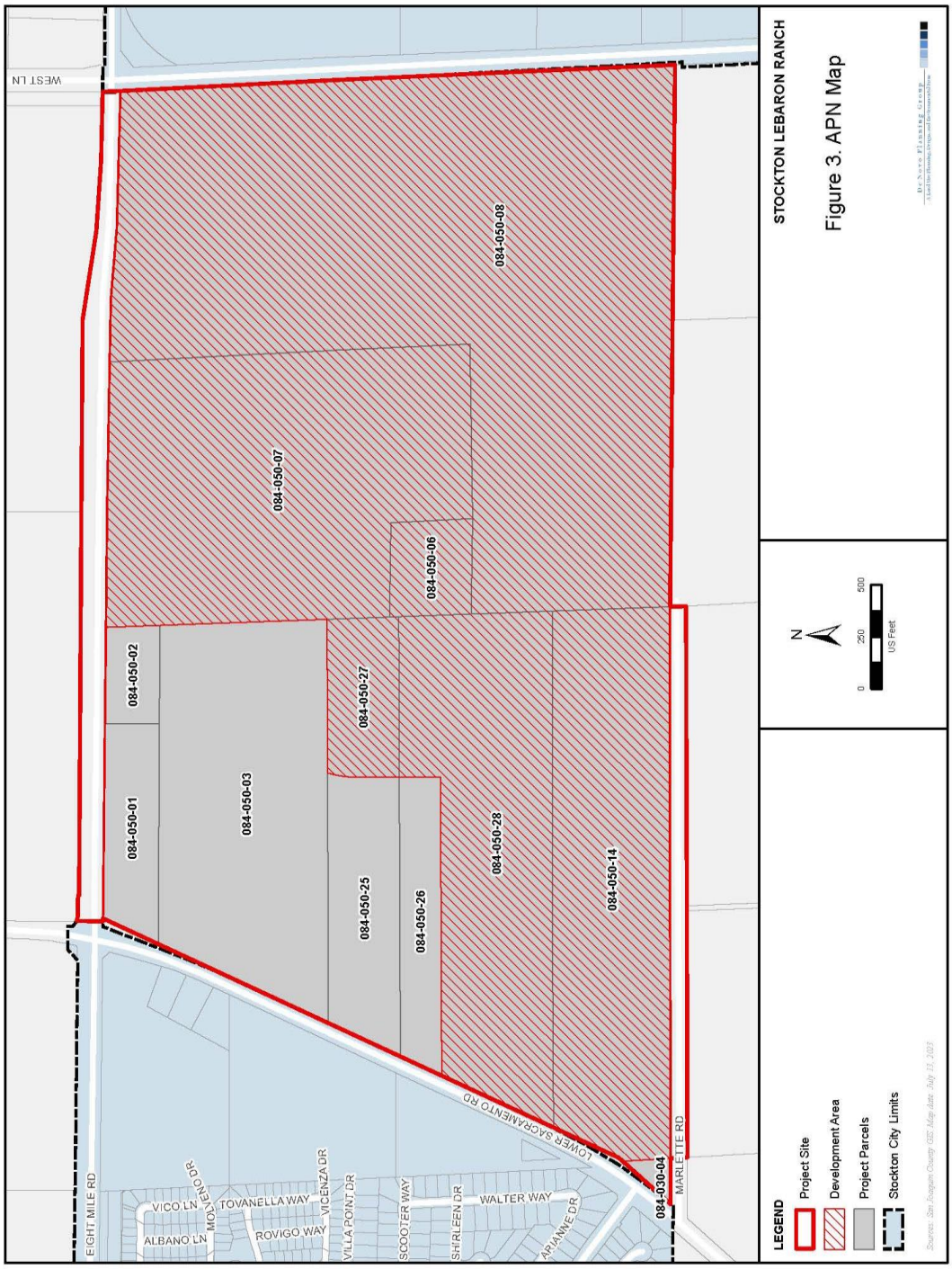


Figure 2. Project Vicinity Map

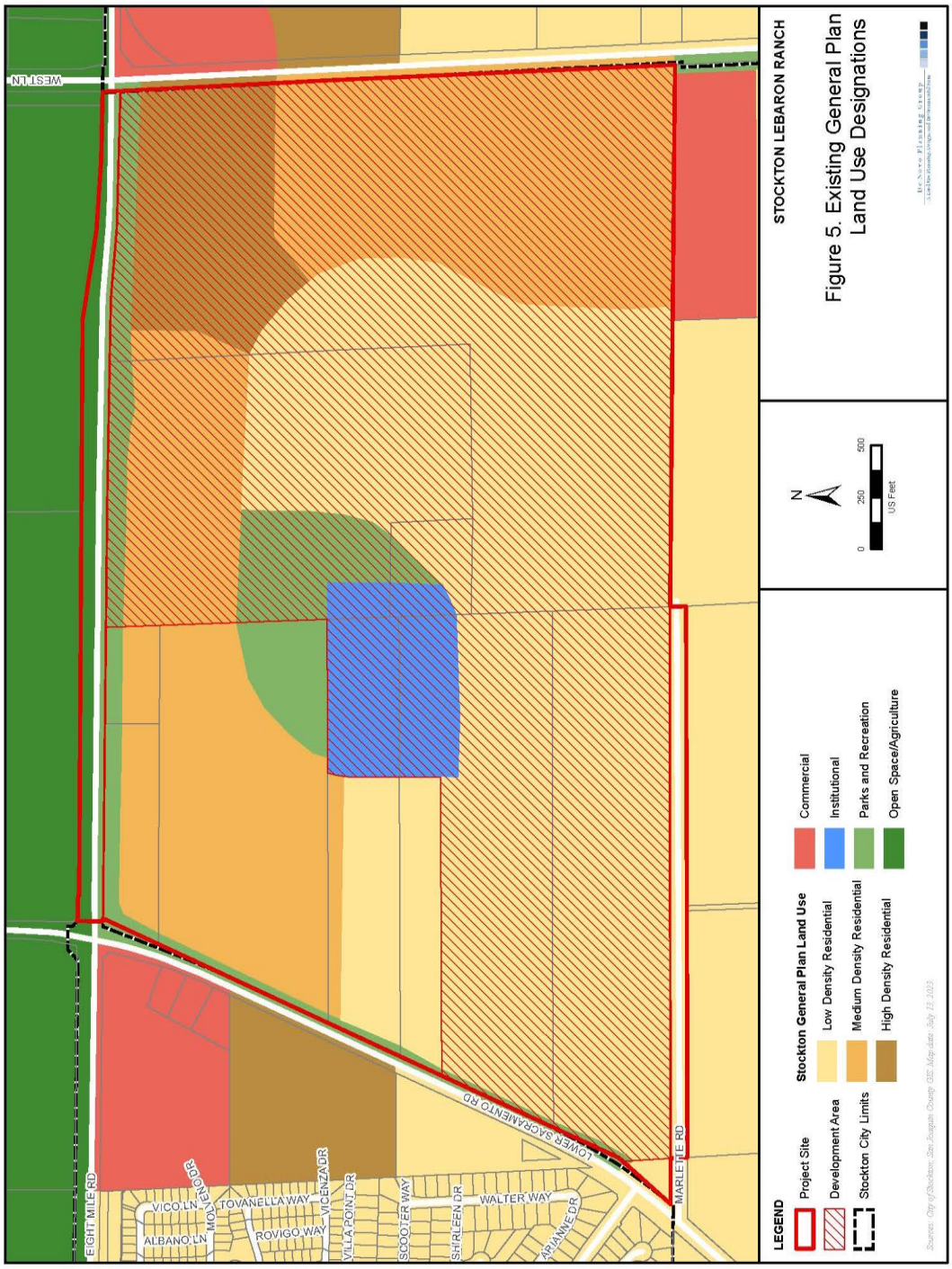
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STOCKTON LEBARON RANCH
Figure 3. APN Map
LEGEND
Project Site
Development Area
Project Parcels
Stockton City Limits
US Feet
N
WEST LN
EIGHT MILE RD
LOWER SACRAMENTO RD
MARLETTE RD
084-050-08
084-050-07
084-050-06
084-050-27
084-050-02
084-050-01
084-050-03
084-050-25
084-050-26
084-050-28
084-050-14
084-030-04
VICO LN
MONTENO DR
TOVANELLA WAY
VICENZA DR
ALBANO LN
ROVIGO WAY
VILLA POINT DR
SCOOTER WAY
SHIRLEEN DR
WALTER WAY
ARIANNE DR

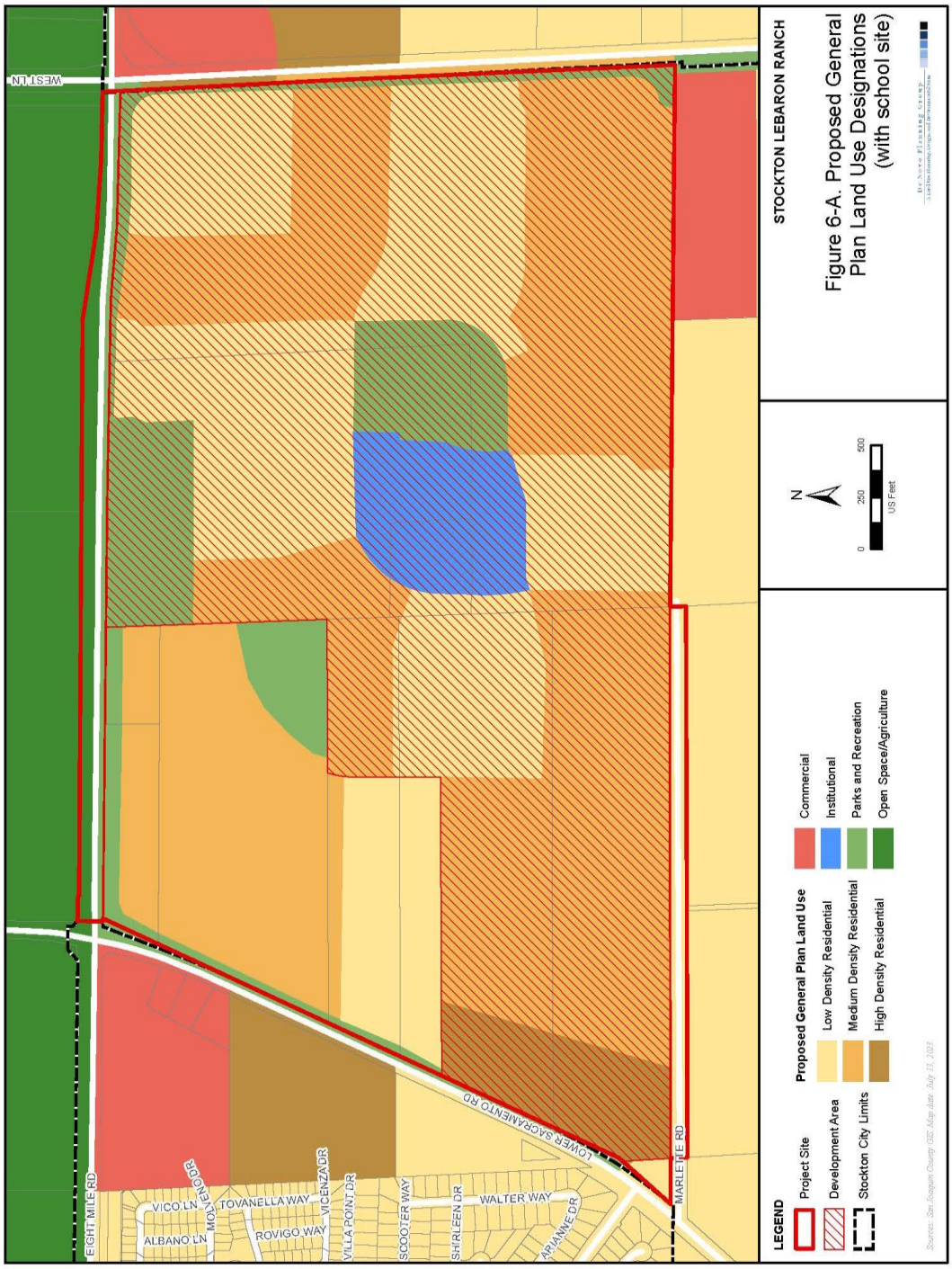
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STOCKTON LEBARON RANCH
Figure 4 Aerial Map
N
0
250
500
US Feet
LEGEND
Project Site
Development Area
Stockton City Limits
WEST LN
EIGHT MILE RD
LOWER SACRAMENTO RD
MARLETTE RD
VICO LN
MONTONE DR
TOVANELLA WAY
VICENZA DR
ALBANO LN
ROVIGO WAY
VILLA POINT DR
SCOOTER WAY
SHIRLEEN DR
WALTER WAY
ARIANNE DR

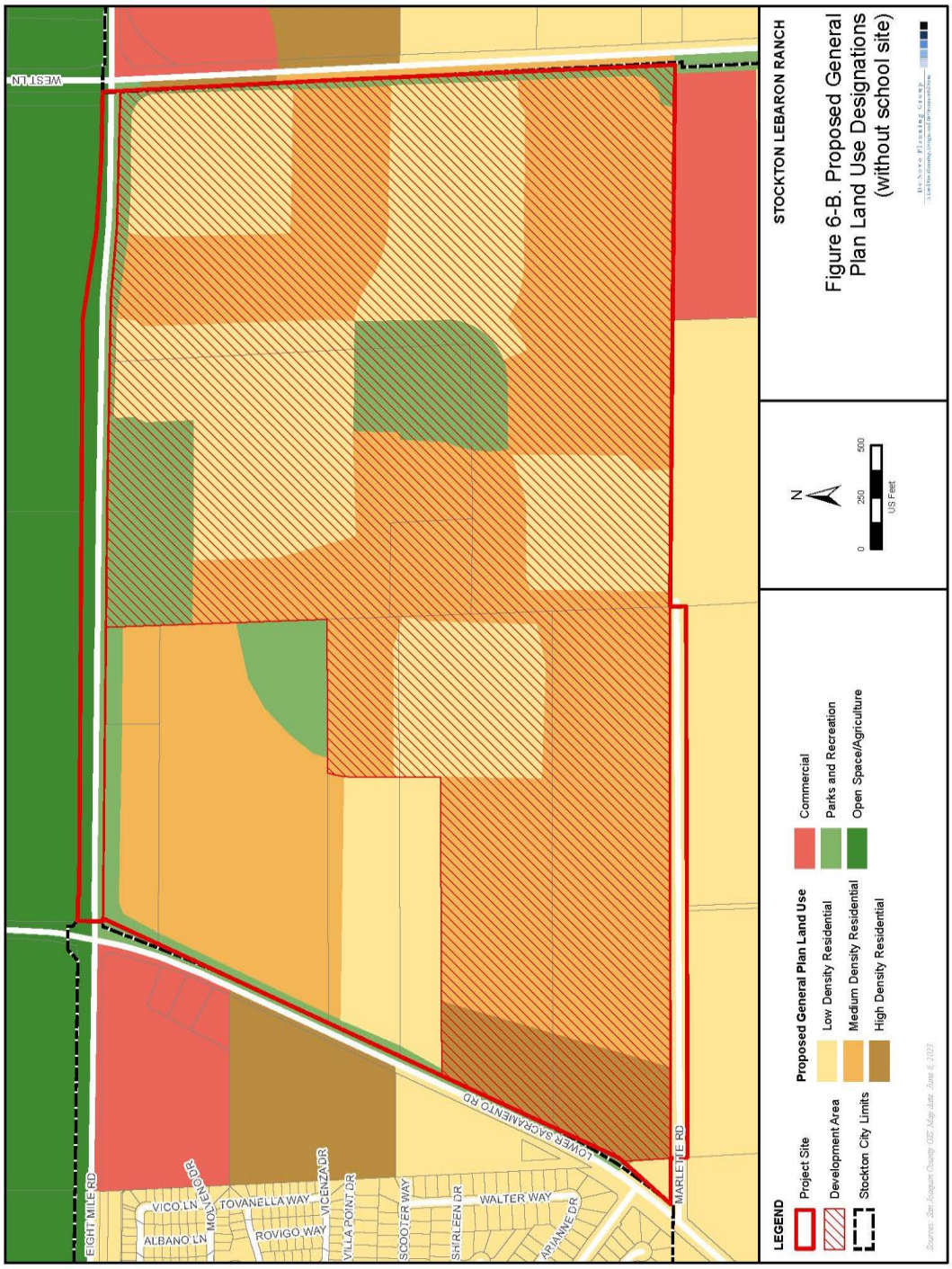
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STOCKTON LEBARON RANCH
Figure 5. Existing General Plan Land Use Designations
LEGEND
Project Site
Development Area
Stockton City Limits
Stockton General Plan Land Use
Low Density Residential
Medium Density Residential
High Density Residential
Commercial
Institutional
Parks and Recreation
Open Space/Agriculture
N
0
250
500
US Feet
WEST LN
EIGHT MILE RD
LOWER SACRAMENTO RD
MARLETTE RD
VICO LN
MOLFENO DR
TOVANELLA WAY
ALBANO LN
ROVIGO WAY
VICENZA DR
VILLA POINT DR
SCOOTER WAY
SHIRLEEN DR
WALTER WAY
ARIANNE DR

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STOCKTON LEBARON RANCH
Figure 6-A. Proposed General Plan Land Use Designations (with school site)
LEGEND
Project Site
Development Area
Stockton City Limits
Proposed General Plan Land Use
Low Density Residential
Medium Density Residential
High Density Residential
Commercial
Institutional
Parks and Recreation
Open Space/Agriculture
N
0
250
500
US Feet
WEST LN
EIGHT MILE RD
VICO LN
MOJENO DR
TOVANELLA WAY
ALBANO LN
ROVIGO WAY
VICENZA DR
VILLA POINT DR
SCOOTER WAY
SHIRLEEN DR
WALTER WAY
ARIANNE DR
LOWER SACRAMENTO RD
MARLETTE RD

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STOCKTON LEBARON RANCH
Figure 6-B. Proposed General Plan Land Use Designations (without school site)
N
0
250
500
US Feet
LEGEND
Project Site
Development Area
Stockton City Limits
Proposed General Plan Land Use
Low Density Residential
Medium Density Residential
High Density Residential
Commercial
Parks and Recreation
Open Space/Agriculture
WEST LN
EIGHT MILE RD
LOWER SACRAMENTO RD
MARLETTE RD
VICO LN
MONTENO DR
TOVANELLA WAY
VICENZA DR
ALBANO LN
ROVIGO WAY
VILLA POINT DR
SCOOTER WAY
SHIRLEEN DR
WALTER WAY
ARIANNE DR

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STOCKTON LEBARON RANCH
Figure 7-A. Proposed Prezone
(with school site)
N
0
250
500
US Feet
LEGEND
Project Site
Development Area
Stockton City Limits
Proposed Prezone
RL
RM
RH
PF
City of Stockton Zoning
RLP
RL
RH
CG
ROW
San Joaquin County Zoning
AG-40
AU-20
WEST LN
EIGHT MILE RD
LOWER SACRAMENTO RD
MARLETTE RD
VICO LN
ALBANO LN
MOLFENO DR
TOVANELLA WAY
ROVIGO WAY
VICENZA DR
VILLA POINT DR
SCOOTER WAY
SHIRLEEN DR
WALTER WAY
ARIANNE DR

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STOCKTON LEBARON RANCH
Figure 7-B. Proposed Prezone
(without school site)
LEGEND
Project Site
Development Area
Stockton City Limits
Proposed Prezone
RL
RM
RH
PF
City of Stockton Zoning
RLP
RL
RH
CG
ROW
San Joaquin County Zoning
AG-40
AU-20
N
0
250
500
US Feet
WEST LN
EIGHT MILE RD
LOWER SACRAMENTO RD
MARLETTE RD
VICO LN
MOLFENO DR
TOVANELLA WAY
ALBANO LN
ROVIGO WAY
VICENZA DR
VILLA POINT DR
SCOOTER WAY
SHIRLEEN DR
WALTER WAY
ARIANNE DR

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Figure 8-A. Tentative Map (with school site)

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Figure 8-B. Tentative Map (without school site)

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AUGUST 28, 2023

VIA EMAIL: NICOLE.MOORE.CTR@STOCKTONCA.GOV
CITY OF STOCKTON
NICOLE MOORE, PLANNING CONSULTANT
345 N. EL DORADO STREET
STOCKTON, CA 95202

Dear Nicole Moore:

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE LEBARON RANCH PROJECT, SCH# 2023070657

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Notice of Preparation of a Draft Environmental Impact Report for the Lebaron Ranch Project (Project).

The Division monitors and maps farmland conversion on a statewide basis, provides technical assistance regarding the Williamson Act, and administers various agricultural land conservation programs. Public Resources Code, section 614, subdivision (b) authorizes the Department to provide soil conservation advisory services to local governments, including review of CEQA documents.

Protection of the state's agricultural land resources is part of the Department's mission and central to many of its programs. The CEQA process gives the Department an opportunity to acknowledge the value of the resource, identify areas of Department interest, and offer information on how to assess potential impacts or mitigation opportunities.

The Department respects local decision-making by informing the CEQA process, and is not taking a position or providing legal or policy interpretation.

We offer the following comments for consideration with respect to the project's potential impacts on agricultural land and resources within the Department's purview.

PROJECT ATTRIBUTES

The proposed Project is primarily a residential development anticipated to provide up to 1,411 units (assuming school site is developed with single-family residential units). Total parkland and open space areas total 24.7 acres. Part of the open space acreage will come from a series of streets with an enhanced right of way to accommodate a pedestrian "wellness walk." Other uses to support and compliment the proposed residential development include underground wet and dry utility infrastructure,

roadways, curb/gutters/sidewalks, bicycle/pedestrian facilities, street lighting, and street signage. The project site contains Prime Farmland, and Farmland of Statewide Importance as designated by DOC's Farmland Mapping and Monitoring Program. A portion of the project site is subject to a Williamson Act contract.

PROJECT CONSIDERATIONS

The conversion of agricultural land represents a permanent reduction and impact to California's agricultural land resources. The Department generally advises discussion of the following in any environmental review for the loss or conversion of agricultural land:

- Type, amount, and location of farmland conversion resulting directly and indirectly from implementation of the proposed project.
- Impacts on any current and future agricultural operations in the vicinity; e.g., land-use conflicts, increases in land values and taxes, loss of agricultural support infrastructure such as processing facilities, etc.
- Incremental impacts leading to cumulative impacts on agricultural land. This would include impacts from the proposed project, as well as impacts from past, current, and likely future projects.
- Proposed mitigation measures for impacted agricultural lands within the proposed project area.
- The project's compatibility with lands within an agricultural preserve and/or enrolled in a Williamson Act contract.

WILLIAMSON ACT

Where, as here, the project site is located on land subject to a Williamson Act contract, the Department advises that the environmental review discuss the compatibility of the project with the contract and local Williamson Act program requirements.

MITIGATING AGRICULTURAL LAND LOSS OR CONVERSION

Consistent with CEQA Guidelines, the Department advises that the environmental review address mitigation for the loss or conversion of agricultural land. An agricultural conservation easement is one potential method for mitigating loss or conversion of agricultural land. (*See* Cal. Code Regs., tit. 14, § 15370 [mitigation includes "compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of such resources in the form of conservation easements."]; *see also King and Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814.)

Mitigation through agricultural conservation easements can take at least two forms: the outright purchase of easements or the donation of mitigation fees to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural easements. The conversion of agricultural land may be viewed as an impact of at least regional significance. Hence, the search for

replacement lands may not need to be limited strictly to lands within the project's surrounding area.

A helpful source for regional and statewide agricultural mitigation banks is the California Council of Land Trusts. They provide helpful insight into farmland mitigation policies and implementation strategies, including a guidebook with model policies and a model local ordinance. The guidebook can be found at:

California Council of Land Trusts

Of course, the use of conservation easements is only one form of mitigation, and the Department urges consideration of any other feasible measures necessary to mitigate project impacts.

Thank you for giving us the opportunity to comment on the Notice of Preparation of a Draft Environmental Impact Report for the Lebaron Ranch Project. Please provide the Department with notices of any future hearing dates as well as any staff reports pertaining to this project. If you have any questions regarding our comments, please contact Farl Grundy, Associate Environmental Planner via email at Farl.Grundy@conservation.ca.gov.

Sincerely,

Kealii Bright

Keali'i Bright

Division Director

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670-4599
916-358-2900
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

August 29, 2023

Nicole Moore
Senior Planner
City of Stockton
345 N. El Dorado Street
Stockton, CA 95202
Nicole.Moore.CTR@stocktonca.gov

Subject: LeBaron Ranch - Notice of Preparation of an Environmental Impact Report
SCH# 2023070657

Dear Nicole Moore:

The California Department of Fish and Wildlife (CDFW) received and reviewed the Notice of Preparation of an Environmental Impact Report (EIR) from City Stockton for the LeBaron Ranch (Project) in San Joaquin County pursuant the California Environmental Quality Act (CEQA) statute and guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish, wildlife, plants and their habitats. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may need to exercise its own regulatory authority under the Fish and Game Code (Fish & G. Code).

CDFW ROLE

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802.). Similarly, for purposes of CEQA, CDFW provides, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

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CDFW may also act as a Responsible Agency under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code.

PROJECT DESCRIPTION SUMMARY

The Project site is located in the San Joaquin County in the City of Stockton, at approximately Latitude: 38.054709, and Longitude: -121.304528

The Project consists of a residential development comprised of up to 1,411 units. Parkland and open space areas will total 24.7 acres. The open space acreage will include a series of streets and pedestrian access and include the installation of underground wet and dry utility infrastructure, roadways, sidewalks, bicycle and pedestrian facilities, street lighting, and street signage to support the proposed residential development.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations presented below to assist the City of Stockton in adequately identifying and/or mitigating the Project's significant, or potentially significant, impacts on biological resources. The comments and recommendations are also offered to enable CDFW to adequately review and comment on the proposed Project with respect to impacts on biological resources. CDFW recommends that the forthcoming EIR address the following:

Project Description

The Project description should include the whole action as defined in the CEQA Guidelines § 15378 and should include appropriate detailed exhibits disclosing the Project area including temporary impacted areas such as equipment stage area, spoils areas, adjacent infrastructure development, staging areas and access and haul roads if applicable.

As required by § 15126.6 of the CEQA Guidelines, the EIR should include an appropriate range of reasonable and feasible alternatives that would attain most of the basic Project objectives and avoid or minimize significant impacts to resources under CDFW's jurisdiction.

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Assessment of Biological Resources

Section 15125(c) of the CEQA Guidelines states that knowledge of the regional setting of a project is critical to the assessment of environmental impacts and that special emphasis should be placed on environmental resources that are rare or unique to the region. To enable CDFW staff to adequately review and comment on the Project, the EIR should include a complete assessment of the flora and fauna within and adjacent to the Project footprint, with emphasis on identifying rare, threatened, endangered, and other sensitive species and their associated habitats. CDFW recommends the EIR specifically include:

1. An assessment of all habitat types located within the Project footprint, and a map that identifies the location of each habitat type. CDFW recommends that floristic, alliance- and/or association-based mapping and assessment be completed following, *The Manual of California Vegetation*, second edition (Sawyer 2009). Adjoining habitat areas should also be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions.

2. A general biological inventory of the fish, amphibian, reptile, bird, and mammal species that are present or have the potential to be present within each habitat type onsite and within adjacent areas that could be affected by the Project. CDFW recommends that the California Natural Diversity Database (CNDDB), as well as previous studies performed in the area, be consulted to assess the potential presence of sensitive species and habitats. A nine United States Geologic Survey 7.5-minute quadrangle search is recommended to determine what may occur in the region, larger if the Project area extends past one quad (see *Data Use Guidelines* on the Department webpage www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data). Please review the webpage for information on how to access the database to obtain current information on any previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code, in the vicinity of the Project. CDFW recommends that CNDDB Field Survey Forms be completed and submitted to CNDDB to document survey results. Online forms can be obtained and submitted at: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data.

   Please note that CDFW's CNDDB is not exhaustive in terms of the data it houses, nor is it an absence database. CDFW recommends that it be used as a starting point in gathering information about the *potential presence* of species within the general area of the Project site. Other sources for identification of species and habitats near or adjacent to the Project area should include, but may not be limited to, State and federal resource agency lists, California Wildlife Habitat Relationship System, California Native Plant Society Inventory, agency contacts, environmental documents for other projects in the vicinity, academics, and professional or scientific organizations.

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3. A complete and recent inventory of rare, threatened, endangered, and other sensitive species located within the Project footprint and within offsite areas with the potential to be affected, including California Species of Special Concern and California Fully Protected Species (Fish & G. Code § § 3511, 4700, 5050, and 5515). Species to be addressed should include all those which meet the CEQA definition (CEQA Guidelines § 15380). The inventory should address seasonal variations in use of the Project area and should not be limited to resident species. The EIR should include the results of focused species-specific surveys, completed by a qualified biologist and conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable. Species-specific surveys should be conducted in order to ascertain the presence of species with the potential to be directly, indirectly, on or within a reasonable distance of the Project activities. CDFW recommends the City of Stockton rely on survey and monitoring protocols and guidelines available at: www.wildlife.ca.gov/Conservation/Survey-Protocols. Alternative survey protocols may be warranted; justification should be provided to substantiate why an alternative protocol is necessary. Acceptable species-specific survey procedures should be developed in consultation with CDFW and the U.S. Fish and Wildlife Service, where necessary. Some aspects of the Project may warrant periodic updated surveys for certain sensitive taxa, particularly if the Project is proposed to occur over a protracted time frame, or in phases, or if surveys are completed during periods of drought or deluge.

4. A thorough, recent (within the last two years), floristic-based assessment of special-status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (see www.wildlife.ca.gov/Conservation/Plants).

5. Information on the regional setting that is critical to an assessment of environmental impacts, with special emphasis on resources that are rare or unique to the region (CEQA Guidelines § 15125[c]).

Analysis of Direct, Indirect, and Cumulative Impacts to Biological Resources

The EIR should provide a thorough discussion of the Project's potential direct, indirect, and cumulative impacts on biological resources. To ensure that Project impacts on biological resources are fully analyzed, the following information should be included in the EIR:

1. The EIR should define the threshold of significance for each impact and describe the criteria used to determine whether the impacts are significant (CEQA Guidelines, § 15064, subd. (f)). The EIR must demonstrate that the significant environmental impacts of the Project were adequately investigated and discussed, and it must permit the significant effects of the Project to be considered in the full environmental context.

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2. The Public Trust Doctrine imposes a distinct obligation to consider how groundwater management affects public trust resources, including navigable surface waters and fisheries. Groundwater hydrologically connected to surface waters is also subject to the Public Trust Doctrine to the extent that groundwater extractions or diversions affect or may affect public trust uses. (*Environmental Law Foundation v. State Water Resources Control Board* (2018), 26 Cal. App. 5th 844; *National Audubon Society v. Superior Court* (1983), 33 Cal. 3d 419.) The City, as a Groundwater Sustainability Agency (GSA), has "an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible." (*National Audubon Society, supra*, 33 Cal. 3d at 446.)

   The Stockton East Water District submitted a final Groundwater Sustainability Plan (GSP) to the Department of Water Resources (DWR) in 2022. The EIR should include a discussion of each subbasin GSP's sustainable management criteria, and the EIR's thresholds of significance related to potential Project impacts on groundwater resources should be at least as protective as the management criteria identified in the GSPs. The EIR should consider and discuss the Project's potential impact on the ability of the subbasins within San Joaquin County to achieve groundwater sustainability as defined in their GSPs.

   The EIR should also include a thorough discussion of the Project's potential impacts on public trust resources that may result from proposed zoning, subsequent approval of domestic and agricultural wells, and the resulting increase in groundwater pumping from development. Analysis should assess potential localized reduction in groundwater levels and associated reduction in groundwater availability, and propose mitigation measures, if warranted, to prevent groundwater-related project impacts from adversely affecting public trust resources.

   Tools to support this analysis may include the Natural Communities Commonly Associated with Groundwater (NCCAG) dataset, which identifies locations of potential GDEs, available at: https://gis.water.ca.gov/app/NCDatasetViewer/#; The Nature Conservancy's GDE Pulse tool, which identifies trends in groundwater dependent ecosystem's health through the Normalized Difference Vegetation Index (NDVI), Normalized Difference Moisture Index (NDMI), precipitation, and groundwater, available at: https://gde.codefornature.org/#/map; and The Nature Conservancy's Plant Rooting Depth Database, which can support an assessment of vegetation's groundwater reliance, available at: https://groundwaterresourcehub.org/sgma-tools/gde-rooting-depths-database-for-gdes

3. A discussion of potential impacts from lighting, noise, human activity, and wildlife-human interactions created by Project activities especially those adjacent to natural areas, exotic and/or invasive species occurrences, and drainages. The EIR should address Project-related changes to drainage patterns and water

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quality within, upstream, and downstream of the Project site, including: volume, velocity, and frequency of existing and post-Project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and post-Project fate of runoff from the Project site.

4. A discussion of potential indirect Project impacts on biological resources, including resources in areas adjacent to the Project footprint, such as nearby public lands (e.g., National Forests, State Parks, etc.), open space, adjacent natural habitats, riparian ecosystems, wildlife corridors, and any designated and/or proposed reserve or mitigation lands (e.g., preserved lands associated with a Conservation or Recovery Plan, or other conserved lands).

5. A cumulative effects analysis developed as described under CEQA Guidelines section 15130. The EIR should discuss the Project's cumulative impacts to natural resources and determine if that contribution would result in a significant impact. The EIR should include a list of present, past, and probable future projects producing related impacts to biological resources or shall include a summary of the projections contained in an adopted local, regional, or statewide plan, that consider conditions contributing to a cumulative effect. The cumulative analysis shall include impact analysis of vegetation and habitat reductions within the area and their potential cumulative effects. Please include all potential direct and indirect Project-related impacts to riparian areas, wetlands, wildlife corridors or wildlife movement areas, aquatic habitats, sensitive species and/or special-status species, open space, and adjacent natural habitats in the cumulative effects analysis.

Mitigation Measures for Project Impacts to Biological Resources

The EIR should include appropriate and adequate avoidance, minimization, and/or mitigation measures for all direct, indirect, and cumulative impacts that are expected to occur as a result of the construction and long-term operation and maintenance of the Project. CDFW also recommends the environmental documentation provide scientifically supported discussion regarding adequate avoidance, minimization, and/or mitigation measures to address the Project's significant impacts upon fish and wildlife and their habitat. For individual projects, mitigation must be roughly proportional to the level of impacts, including cumulative impacts, in accordance with the provisions of CEQA (Guidelines § § 15126.4 (a)(4)(B), 15064, 15065, and 16355). In order for mitigation measures to be effective, they must be specific, enforceable, and feasible actions that will improve environmental conditions. When proposing measures to avoid, minimize, or mitigate impacts, CDFW recommends consideration of the following:

1. *Fully Protected Species*: Several Fully Protected Species (Fish & G. Code § 3511) have the potential to occur within or adjacent to the Project area, including, but not limited to: white-tailed kite (*Elanus leucurus*). CDFW may only issue incidental take permits for Fully Protected species for specified projects if certain conditions are satisfied per SB 147. Project activities described in the EIR should

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be designed to completely avoid any fully protected species that have the potential to be present within or adjacent to the Project area. CDFW also recommends the EIR fully analyze potential adverse impacts to fully protected species due to habitat modification, loss of foraging habitat, and/or interruption of migratory and breeding behaviors. CDFW recommends that the City of Stockton include in the analysis how appropriate avoidance, minimization and mitigation measures will reduce indirect impacts to fully protected species.

2. *Species of Special Concern*: Several Species of Special Concern (SSC) have the potential to occur within or adjacent to the Project area, including, but not limited to: Tricolored Blackbird (*Agelaius tricolor*) and Burrowing Owl (*Athene cunicularia*). Project activities described in the EIR should be designed to avoid any SSC that have the potential to be present within or adjacent to the Project area. CDFW also recommends that the EIR fully analyze potential adverse impacts to SSC due to habitat modification, loss of foraging habitat, and/or interruption of migratory and breeding behaviors. CDFW recommends the City of Stockton include in the analysis how appropriate avoidance, minimization and mitigation measures will reduce impacts to SSC.

3. *Sensitive Plant Communities*: CDFW considers sensitive plant communities to be imperiled habitats having both local and regional significance. Plant communities, alliances, and associations with a statewide ranking of S-1, S-2, S-3, and S-4 should be considered sensitive and declining at the local and regional level. These ranks can be obtained by querying the CNDDB and are included in *The Manual of California Vegetation* (Sawyer 2009). The EIR should include measures to fully avoid and otherwise protect sensitive plant communities from Project-related direct and indirect impacts.

4. *Mitigation*: CDFW considers adverse Project-related impacts to sensitive species and habitats to be significant to both local and regional ecosystems, and the EIR should include mitigation measures for adverse Project-related impacts to these resources. Mitigation measures should emphasize avoidance and reduction of Project impacts. For unavoidable impacts, onsite habitat restoration, enhancement, or permanent protection should be evaluated and discussed in detail. If onsite mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological functions and values, offsite mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed.

   The EIR should include measures to perpetually protect the targeted habitat values within mitigation areas from direct and indirect adverse impacts in order to meet mitigation objectives to offset Project-induced qualitative and quantitative losses of biological values. Specific issues that should be addressed include restrictions on access, proposed land dedications, long-term monitoring and management programs, control of illegal dumping, water pollution, increased human intrusion, etc.

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5. *Habitat Revegetation/Restoration Plans*: Plans for restoration and revegetation should be prepared by persons with expertise in the regional ecosystems and native plant restoration techniques. Plans should identify the assumptions used to develop the proposed restoration strategy. Each plan should include, at a minimum: (a) the location of restoration sites and assessment of appropriate reference sites; (b) the plant species to be used, sources of local propagules, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) a local seed and cuttings and planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity. Monitoring of restoration areas should extend across a sufficient time frame to ensure that the new habitat is established, self-sustaining, and capable of surviving drought.

   CDFW recommends that local onsite propagules from the Project area and nearby vicinity be collected and used for restoration purposes. Onsite seed collection should be appropriately timed to ensure the viability of the seeds when planted. Onsite vegetation mapping at the alliance and/or association level should be used to develop appropriate restoration goals and local plant palettes. Reference areas should be identified to help guide restoration efforts. Specific restoration plans should be developed for various Project components as appropriate. Restoration objectives should include protecting special habitat elements or re-creating them in areas affected by the Project. Examples may include retention of woody material, logs, snags, rocks, and brush piles. Fish and Game Code sections 1002, 1002.5 and 1003 authorize CDFW to issue permits for the take or possession of plants and wildlife for scientific, educational, and propagation purposes. Please see our website for more information on Scientific Collecting Permits at www.wildlife.ca.gov/Licensing/Scientific-Collecting#53949678-regulations-.

6. *Nesting Birds:* Please note that it is the Project proponent's responsibility to comply with all applicable laws related to nesting birds and birds of prey. Migratory non-game native bird species are protected by international treaty under the federal Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 *et seq.*). CDFW implemented the MBTA by adopting the Fish and Game Code section 3513. Fish and Game Code sections 3503, 3503.5 and 3800 provide additional protection to nongame birds, birds of prey, their nests and eggs. Sections 3503, 3503.5, and 3513 of the Fish and Game Code afford protective measures as follows: section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the Fish and Game Code or any regulation made pursuant thereto; section 3503.5 states that is it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as

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otherwise provided by the Fish and Game Code or any regulation adopted pursuant thereto; and section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Potential habitat for nesting birds and birds of prey is present within the Project area. The Project should disclose all potential activities that may incur a direct or indirect take to nongame nesting birds within the Project footprint and its vicinity. Appropriate avoidance, minimization, and/or mitigation measures to avoid take must be included in the EIR.

CDFW recommends the EIR include specific avoidance and minimization measures to ensure that impacts to nesting birds or their nests do not occur. Project-specific avoidance and minimization measures may include, but not be limited to: Project phasing and timing, monitoring of Project-related noise (where applicable), sound walls, and buffers, where appropriate. The EIR should also include specific avoidance and minimization measures that will be implemented should a nest be located within the Project site. In addition to larger, protocol level survey efforts (e.g., Swainson's hawk surveys) and scientific assessments, CDFW recommends a final preconstruction survey be required no more than three (3) days prior to vegetation clearing or ground disturbance activities, as instances of nesting could be missed if surveys are conducted earlier.

7. *Moving out of Harm's Way:* The Project is anticipated to result in the clearing of natural habitats that support native species. To avoid direct mortality, the City of Stockton should state in the EIR a requirement for a qualified biologist with the proper handling permits, will be retained to be onsite prior to and during all ground- and habitat-disturbing activities. Furthermore, the EIR should describe that the qualified biologist with the proper permits may move out of harm's way special-status species or other wildlife of low or limited mobility that would otherwise be injured or killed from Project-related activities, as needed. The EIR should also describe qualified biologist qualifications and authorities to stop work to prevent direct mortality of special-status species. CDFW recommends fish and wildlife species be allowed to move out of harm's way on their own volition, if possible, and to assist their relocation as a last resort. It should be noted that the temporary relocation of onsite wildlife does not constitute effective mitigation for habitat loss.

8. *Translocation of Species*: CDFW generally does not support the use of relocation, salvage, and/or transplantation as the sole mitigation for impacts to rare, threatened, or endangered species as these efforts are generally experimental in nature and largely unsuccessful. Therefore, the EIR should describe additional mitigation measures utilizing habitat restoration, conservation, and/or preservation, in addition to avoidance and minimization measures, if it is determined that there may be impacts to rare, threatened, or endangered species.

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The EIR should incorporate mitigation performance standards that would ensure that impacts are reduced to a less-than-significant level. Mitigation measures proposed in the EIR should be made a condition of approval of the Project. Please note that obtaining a permit from CDFW by itself with no other mitigation proposal may constitute mitigation deferral. CEQA Guidelines section 15126.4, subdivision (a)(1)(B) states that formulation of mitigation measures should not be deferred until some future time. To avoid deferring mitigation in this way, the EIR should describe avoidance, minimization and mitigation measures that would be implemented should the impact occur.

California Endangered Species Act

CDFW is responsible for ensuring appropriate conservation of fish and wildlife resources including threatened, endangered, and/or candidate plant and animal species, pursuant to CESA. CDFW recommends that a CESA Incidental Take Permit (ITP) be obtained if the Project has the potential to result in "take" (Fish & G. Code § 86 defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") of State-listed CESA species, either through construction or over the life of the Project.

State-listed species with the potential to occur in the area include, but are not limited to: Swainson's Hawk (*Buteo swainsoni*) & giant gartersnake (*Thamnophis gigas*).

The EIR should disclose the potential of the Project to take State-listed species and how the impacts will be avoided, minimized, and mitigated. Please note that mitigation measures that are adequate to reduce impacts to a less-than significant level to meet CEQA requirements may not be enough for the issuance of an ITP. To facilitate the issuance of an ITP, if applicable, CDFW recommends the EIR include measures to minimize and fully mitigate the impacts to any State-listed species the Project has potential to take. CDFW encourages early consultation with staff to determine appropriate measures to facilitate future permitting processes and to engage with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service to coordinate specific measures if both State and federally listed species may be present within the Project vicinity.

Native Plant Protection Act

The Native Plant Protection Act (Fish & G. Code §1900 *et seq*.) prohibits the take or possession of State-listed rare and endangered plants, including any part or product thereof, unless authorized by CDFW or in certain limited circumstances. Take of State-listed rare and/or endangered plants due to Project activities may only be permitted through an ITP or other authorization issued by CDFW pursuant to California Code of Regulations, Title 14, section 786.9 subdivision (b).

Lake and Streambed Alteration Program

The EIR should identify all perennial, intermittent, and ephemeral rivers, streams, lakes, other hydrologically connected aquatic features, and any associated biological

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resources/habitats present within the entire Project footprint (including utilities, access and staging areas). The environmental document should analyze all potential temporary, permanent, direct, indirect and/or cumulative impacts to the above-mentioned features and associated biological resources/habitats that may occur because of the Project. If it is determined the Project will result in significant impacts to these resources the EIR shall propose appropriate avoidance, minimization and/or mitigation measures to reduce impacts to a less-than-significant level.

Section 1602 of the Fish and Game Code requires an entity to notify CDFW prior to commencing any activity that may do one or more of the following:

1. Substantially divert or obstruct the natural flow of any river, stream or lake;

2. Substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or

3. Deposit debris, waste or other materials where it may pass into any river, stream or lake.

Please note that "any river, stream or lake" includes those that are episodic (i.e., those that are dry for periods of time) as well as those that are perennial (i.e., those that flow year-round). This includes ephemeral streams and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water.

If upon review of an entity's notification, CDFW determines that the Project activities may substantially adversely affect an existing fish or wildlife resource, a Lake and Streambed Alteration (LSA) Agreement will be issued which will include reasonable measures necessary to protect the resource. CDFW's issuance of an LSA Agreement is a "project" subject to CEQA (see Pub. Resources Code 21065). To facilitate issuance of an LSA Agreement, if one is necessary, the EIR should fully identify the potential impacts to the lake, stream, or riparian resources, and provide adequate avoidance, mitigation, and monitoring and reporting commitments. Early consultation with CDFW is recommended, since modification of the Project may avoid or reduce impacts to fish and wildlife resources. Notifications for projects involving (1) sand, gravel or rock extraction, (2) timber harvesting operations, or (3) routine maintenance operations must be submitted using paper notification forms. All other LSA Notification types must be submitted online through CDFW's Environmental Permit Information Management System (EPIMS). For more information about EPIMS, please visit https://wildlife.ca.gov/Conservation/Environmental-Review/EPIMS. More information about LSA Notifications, paper forms and fees may be found at https://www.wildlife.ca.gov/Conservation/Environmental-Review/LSA.

Please note that other agencies may use specific methods and definitions to determine impacts to areas subject to their authorities. These methods and definitions often do not include all needed information for CDFW to determine the extent of fish and wildlife resources affected by activities subject to Notification under Fish and Game Code

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section 1602. Therefore, CDFW does not recommend relying solely on methods developed specifically for delineating areas subject to other agencies' jurisdiction (such as United States Army Corps of Engineers) when mapping lakes, streams, wetlands, floodplains, riparian areas, etc. in preparation for submitting a Notification of an LSA.

CDFW relies on the lead agency environmental document analysis when acting as a responsible agency issuing an LSA Agreement. CDFW recommends lead agencies coordinate with us as early as possible, since potential modification of the proposed Project may avoid or reduce impacts to fish and wildlife resources and expedite the Project approval process.

The following information will be required for the processing of an LSA Notification and CDFW recommends incorporating this information into any forthcoming CEQA document(s) to avoid subsequent documentation and Project delays:

1. Mapping and quantification of lakes, streams, and associated fish and wildlife habitat (e.g., riparian habitat, freshwater wetlands, etc.) that will be temporarily and/or permanently impacted by the Project, including impacts from access and staging areas. Please include an estimate of impact to each habitat type.

2. Discussion of specific avoidance, minimization, and mitigation measures to reduce Project impacts to fish and wildlife resources to a less-than-significant level. Please refer to section 15370 of the CEQA Guidelines.

Based on review of Project materials, aerial photography and observation of the site from public roadways, the Project site supports unnamed drainages which may have hydrologic connectivity to Pixley Slough. CDFW recommends the EIR fully identify the Project's potential impacts to the stream and/or its associated vegetation and wetlands.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database, which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to CNDDB. The CNNDB field survey form can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be submitted online or mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov.

FILING FEES

The Project, as proposed, would have an effect on fish and wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be

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operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

Pursuant to Public Resources Code sections 21092 and 21092.2, CDFW requests written notification of proposed actions and pending decisions regarding the Project. Written notifications shall be directed to: California Department of Fish and Wildlife North Central Region, 1701 Nimbus Road, Rancho Cordova, CA 95670.

CDFW appreciates the opportunity to comment on the Notice of Preparation of the EIR for the LeBaron Ranch Project and recommends that the City of Stockton address CDFW's comments and concerns in the forthcoming EIR. CDFW personnel are available for consultation regarding biological resources and strategies to minimize impacts.

If you have any questions regarding the comments provided in this letter, or wish to schedule a meeting and/or site visit, please contact Zach Kearns, Environmental Scientist at (916) 358-1134 or zachary.kearns@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Tanya Sheya
1ABC45303752499...

Tanya Sheya
Environmental Program Manager

ec: Jennifer Rippert, Acting Senior Environmental Scientist (Supervisory)
jennifer.rippert@wildlife.ca.gov
Zach Kearns, Environmental Scientist
zachary.kearns@wildlife.ca.gov
Department of Fish and Wildlife

Office of Planning and Research, State Clearinghouse, Sacramento

Literature Cited

Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens. 2009. A Manual of California Vegetation, 2nd ed. California Native Plant Society Press, Sacramento, California. http://vegetation.cnps.org/

30 August 2023

Nicole D. Moore
City of Stockton
345 North El Dorado Street
Stockton, CA 95202
Nicole.Moore.CTR@stocktonca.gov

COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, LEBARON RANCH PROJECT, SCH#2023070657, SAN JOAQUIN COUNTY

Pursuant to the State Clearinghouse's 31 July 2023 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for the Lebaron Ranch Project, located in San Joaquin County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of

Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at:

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at:
https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at:
https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will

require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4684 or Peter.Minkel2@waterboards.ca.gov.

Peter Minkel

Peter Minkel
Engineering Geologist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

Re: City of Stockton - P22-0139 (LeBaron Ranch) - Notice of Preparation

Melvin Corren <melharco@gmail.com>

Mon 7/31/2023 2:19 PM

To:Nicole Moore.Ctr <Nicole.Moore.Ctr@stocktonca.gov>

CAUTION: This email originated from outside the City of Stockton. Do not click any links or open attachments if this is unsolicited email.

To whom it may concern:
I don't know how pertinent this is at this time, but I propose the future school mentioned herein be named after
Eddie LeBaron, the renowned former quarterback of the COP/UOP Tigers Champion football team and on to be
heralded a great in the professional leagues.
Eddie was not only the above but was "down to earth" and a born leader as well.
Thank you for your consideration,
Mel Corren
melharco@Gmail.com

On Mon, Jul 31, 2023 at 11:59 AM Nicole Moore.Ctr <Nicole.Moore.Ctr@stocktonca.gov> wrote:

> Good morning,
>
> Please find the attached Notice of Preparation (NOP) of the LeBaron Ranch Environmental Impact Report. A link to the NOP is provided below, where you can also find a copy of the public notice. At this City webpage, you can also find information related to other development projects within the City.
>
> Environmental/Other Projects - City of Stockton, CA (stocktonca.gov)
>
> A virtual public scoping meeting will be held on August 22, 2023 at 6:00 via Microsoft Teams, which can be accessed via this link: Join a Microsoft Teams Meeting by ID | Microsoft Teams
>
> Meeting ID: 218-705-533-802;
> Passcode: sPWX5Wg
> Call in: 209-232-4684
> Phone Conference ID: 132 293-944#
>
> Should you have any questions or comments, please don't hesitate to contact me.
>
> Regards,
>
> **Nicole D. Moore, LEED-AP**
>
> **Contract Planner**
>
> Community Development Department
>
> 345 N. El Dorado Street, Stockton CA 95202

Office: 209.937.8266 Direct: 323-955-5501

For City of Stockton Updates on COVID-19 please visit:
Twitter @stocktonUpdates
Facebook @CityofStockton
City Website http://www.stocktonca.gov



NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
[VAVANT]

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Sara Dutschke
Miwok

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

COMMISSIONER
Wayne Nelson
Luiseño

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
[VAVANT]

COMMISSIONER
[VACANT]

EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok/Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

August 24, 2023

Nicole Moore
City of Stockton

Via Email to: nicole.moore.CTR@stocktonca.gov

Re: LeBaron Ranch (P22-0139) Project, San Joaquin County

Dear Ms. Moore:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Pricilla.Torres-Fuentes@nahc.ca.gov.

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

Attachment

NATIVE AMERICAN HERITAGE COMMISSION

Received
AUG 08 2023
City of Stockton
Community Development

August 2, 2023

Nicole Moore
City of Stockton
345 N El Dorado St.
Stockton, CA 95202

Re: 2023070657, LeBaron Ranch Project, San Joaquin County

Dear Ms. Moore:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

SECRETARY
Sara Dutschke
Miwok

PARLIAMENTARIAN
Wayne Nelson
Luiseño

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
Vacant

COMMISSIONER
Vacant

COMMISSIONER
Vacant

EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok, Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating 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:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Pricilla.Torres-Fuentes@nahc.ca.gov

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

cc: State Clearinghouse

Pacific Gas and Electric Company

Plan Review Team
Land Management

PGEPlanReview@pge.com

August 17, 2023

Nicole Moore
City of Stockton
345 N El Dorado St
Stockton, CA 95202

Re: P22-0139 LeBaron Ranch

Dear Nicole:

Thank you for giving us the opportunity to review the proposed LeBaron Ranch. The installation of new gas and electric facilities and/or relocation of existing PG&E facilities will be performed in accordance with common law or Rules and Tariffs as authorized by the California Public Utilities Commission.

Following our review, PG&E recommends the following language be expressly stated for the offer to dedicate Public Utility Easements (PUE):

> I/We the undersigned, as Owner(s) of the land shown hereon, do hereby state that I/we am/are the only person(s) whose consent is necessary to pass clear title to said land and do hereby consent to the preparation and recordation of this map and offer for dedication and do hereby dedicate for public uses the Public Utility Easements (PUEs) shown on this map for public utility purposes including electric, gas, communication facilities and all other public utility purposes; together with any and all appurtenances thereto, including the right from time to time to trim and to cut down and clear away or otherwise control any trees or brush. The PUEs hereby offered for dedication are to be kept open and free of buildings, structures and wells of any kind.

The final map must contain a statement setting forth dedications and offers to dedicate interests in real property for public utility purposes. If the offer of dedication has terminated, or the local agency declines to accept it, the applicant maybe required to provide an easement in gross satisfactory to PG&E. Please note that this is our preliminary review and PG&E reserves the right for future review as needed.

Please work with PG&E's Service Planning department at www.pge.com/cco for additional services you may require, or for any modification and/or relocation requests.

Sincerely,



Justin Newell
Land Management
916-594-4068

Pacific Gas and Electric Company

Plan Review Team
Land Management

PGEPlanReview@pge.com

August 1, 2023

Nicole Moore
City of Stockton
345 N El Dorado St
Stockton, CA 95202

Ref: Gas and Electric Transmission and Distribution

Dear Nicole Moore,

Thank you for submitting the P22-0139 plans for our review. PG&E will review the submitted plans in relationship to any existing Gas and Electric facilities within the project area. If the proposed project is adjacent/or within PG&E owned property and/or easements, we will be working with you to ensure compatible uses and activities near our facilities.

Attached you will find information and requirements as it relates to Gas facilities (Attachment 1) and Electric facilities (Attachment 2). Please review these in detail, as it is critical to ensure your safety and to protect PG&E's facilities and its existing rights.

Below is additional information for your review:

1. This plan review process does not replace the application process for PG&E gas or electric service your project may require. For these requests, please continue to work with PG&E Service Planning: https://www.pge.com/en_US/business/services/building-and-renovation/overview/overview.page.

2. If the project being submitted is part of a larger project, please include the entire scope of your project, and not just a portion of it. PG&E's facilities are to be incorporated within any CEQA document. PG&E needs to verify that the CEQA document will identify any required future PG&E services.

3. An engineering deposit may be required to review plans for a project depending on the size, scope, and location of the project and as it relates to any rearrangement or new installation of PG&E facilities.

Any proposed uses within the PG&E fee strip and/or easement, may include a California Public Utility Commission (CPUC) Section 851 filing. This requires the CPUC to render approval for a conveyance of rights for specific uses on PG&E's fee strip or easement. PG&E will advise if the necessity to incorporate a CPUC Section 851filing is required.

This letter does not constitute PG&E's consent to use any portion of its easement for any purpose not previously conveyed. PG&E will provide a project specific response as required.

Sincerely,

Plan Review Team
Land Management

Attachment 1 – Gas Facilities

There could be gas transmission pipelines in this area which would be considered critical facilities for PG&E and a high priority subsurface installation under California law. Care must be taken to ensure safety and accessibility. So, please ensure that if PG&E approves work near gas transmission pipelines it is done in adherence with the below stipulations. Additionally, the following link provides additional information regarding legal requirements under California excavation laws: https://www.usanorth811.org/images/pdfs/CA-LAW-2018.pdf

1. Standby Inspection: A PG&E Gas Transmission Standby Inspector must be present during any demolition or construction activity that comes within 10 feet of the gas pipeline. This includes all grading, trenching, substructure depth verifications (potholes), asphalt or concrete demolition/removal, removal of trees, signs, light poles, etc. This inspection can be coordinated through the Underground Service Alert (USA) service at 811. A minimum notice of 48 hours is required. Ensure the USA markings and notifications are maintained throughout the duration of your work.

2. Access: At any time, PG&E may need to access, excavate, and perform work on the gas pipeline. Any construction equipment, materials, or spoils may need to be removed upon notice. Any temporary construction fencing installed within PG&E's easement would also need to be capable of being removed at any time upon notice. Any plans to cut temporary slopes exceeding a 1:4 grade within 10 feet of a gas transmission pipeline need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

3. Wheel Loads: To prevent damage to the buried gas pipeline, there are weight limits that must be enforced whenever any equipment gets within 10 feet of traversing the pipe.

Ensure a list of the axle weights of all equipment being used is available for PG&E's Standby Inspector. To confirm the depth of cover, the pipeline may need to be potholed by hand in a few areas.

Due to the complex variability of tracked equipment, vibratory compaction equipment, and cranes, PG&E must evaluate those items on a case-by-case basis prior to use over the gas pipeline (provide a list of any proposed equipment of this type noting model numbers and specific attachments).

No equipment may be set up over the gas pipeline while operating. Ensure crane outriggers are at least 10 feet from the centerline of the gas pipeline. Transport trucks must not be parked over the gas pipeline while being loaded or unloaded.

4. Grading: PG&E requires a minimum of 36 inches of cover over gas pipelines (or existing grade if less) and a maximum of 7 feet of cover at all locations. The graded surface cannot exceed a cross slope of 1:4.

5. Excavating: Any digging within 2 feet of a gas pipeline must be dug by hand. Note that while the minimum clearance is only 24 inches, any excavation work within 24 inches of the edge of a pipeline must be done with hand tools. So to avoid having to dig a trench entirely with hand tools, the edge of the trench must be over 24 inches away. (Doing the math for a 24 inch

wide trench being dug along a 36 inch pipeline, the centerline of the trench would need to be at least 54 inches [24/2 + 24 + 36/2 = 54] away, or be entirely dug by hand.)

Water jetting to assist vacuum excavating must be limited to 1000 psig and directed at a 40° angle to the pipe. All pile driving must be kept a minimum of 3 feet away.

Any plans to expose and support a PG&E gas transmission pipeline across an open excavation need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

6. Boring/Trenchless Installations: PG&E Pipeline Services must review and approve all plans to bore across or parallel to (within 10 feet) a gas transmission pipeline. There are stringent criteria to pothole the gas transmission facility at regular intervals for all parallel bore installations.

For bore paths that cross gas transmission pipelines perpendicularly, the pipeline must be potholed a minimum of 2 feet in the horizontal direction of the bore path and a minimum of 24 inches in the vertical direction from the bottom of the pipe with minimum clearances measured from the edge of the pipe in both directions. Standby personnel must watch the locator trace (and every ream pass) the path of the bore as it approaches the pipeline and visually monitor the pothole (with the exposed transmission pipe) as the bore traverses the pipeline to ensure adequate clearance with the pipeline. The pothole width must account for the inaccuracy of the locating equipment.

7. Substructures: All utility crossings of a gas pipeline should be made as close to perpendicular as feasible (90° +/- 15°). All utility lines crossing the gas pipeline must have a minimum of 24 inches of separation from the gas pipeline. Parallel utilities, pole bases, water line ‘kicker blocks’, storm drain inlets, water meters, valves, back pressure devices or other utility substructures are not allowed in the PG&E gas pipeline easement.

If previously retired PG&E facilities are in conflict with proposed substructures, PG&E must verify they are safe prior to removal. This includes verification testing of the contents of the facilities, as well as environmental testing of the coating and internal surfaces. Timelines for PG&E completion of this verification will vary depending on the type and location of facilities in conflict.

8. Structures: No structures are to be built within the PG&E gas pipeline easement. This includes buildings, retaining walls, fences, decks, patios, carports, septic tanks, storage sheds, tanks, loading ramps, or any structure that could limit PG&E’s ability to access its facilities.

9. Fencing: Permanent fencing is not allowed within PG&E easements except for perpendicular crossings which must include a 16 foot wide gate for vehicular access. Gates will be secured with PG&E corporation locks.

10. Landscaping: Landscaping must be designed to allow PG&E to access the pipeline for maintenance and not interfere with pipeline coatings or other cathodic protection systems. No trees, shrubs, brush, vines, and other vegetation may be planted within the easement area. Only those plants, ground covers, grasses, flowers, and low-growing plants that grow unsupported to a maximum of four feet (4’) in height at maturity may be planted within the easement area.

11. Cathodic Protection: PG&E pipelines are protected from corrosion with an “Impressed Current” cathodic protection system. Any proposed facilities, such as metal conduit, pipes, service lines, ground rods, anodes, wires, etc. that might affect the pipeline cathodic protection system must be reviewed and approved by PG&E Corrosion Engineering.

12. Pipeline Marker Signs: PG&E needs to maintain pipeline marker signs for gas transmission pipelines in order to ensure public awareness of the presence of the pipelines. With prior written approval from PG&E Pipeline Services, an existing PG&E pipeline marker sign that is in direct conflict with proposed developments may be temporarily relocated to accommodate construction work. The pipeline marker must be moved back once construction is complete.

13. PG&E is also the provider of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E’s facilities must be reviewed and approved by PG&E to ensure that no impact occurs which may endanger the safe operation of its facilities.

Attachment 2 – Electric Facilities

It is PG&E's policy to permit certain uses on a case by case basis within its electric transmission fee strip(s) and/or easement(s) provided such uses and manner in which they are exercised, will not interfere with PG&E's rights or endanger its facilities. Some examples/restrictions are as follows:

1. Buildings and Other Structures: No buildings or other structures including the foot print and eave of any buildings, swimming pools, wells or similar structures will be permitted within fee strip(s) and/or easement(s) areas. PG&E's transmission easement shall be designated on subdivision/parcel maps as "**RESTRICTED USE AREA – NO BUILDING."**

2. Grading: Cuts, trenches or excavations may not be made within 25 feet of our towers. Developers must submit grading plans and site development plans (including geotechnical reports if applicable), signed and dated, for PG&E's review. PG&E engineers must review grade changes in the vicinity of our towers. No fills will be allowed which would impair ground-to-conductor clearances. Towers shall not be left on mounds without adequate road access to base of tower or structure.

3. Fences: Walls, fences, and other structures must be installed at locations that do not affect the safe operation of PG&'s facilities. Heavy equipment access to our facilities must be maintained at all times. Metal fences are to be grounded to PG&E specifications. No wall, fence or other like structure is to be installed within 10 feet of tower footings and unrestricted access must be maintained from a tower structure to the nearest street. Walls, fences and other structures proposed along or within the fee strip(s) and/or easement(s) will require PG&E review; submit plans to PG&E Centralized Review Team for review and comment.

4. Landscaping: Vegetation may be allowed; subject to review of plans. On overhead electric transmission fee strip(s) and/or easement(s), trees and shrubs are limited to those varieties that do not exceed 10 feet in height at maturity. PG&E must have access to its facilities at all times, including access by heavy equipment. No planting is to occur within the footprint of the tower legs. Greenbelts are encouraged.

5. Reservoirs, Sumps, Drainage Basins, and Ponds: Prohibited within PG&E's fee strip(s) and/or easement(s) for electric transmission lines.

6. Automobile Parking: Short term parking of movable passenger vehicles and light trucks (pickups, vans, etc.) is allowed. The lighting within these parking areas will need to be reviewed by PG&E; approval will be on a case by case basis. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications. Blocked-up vehicles are not allowed. Carports, canopies, or awnings are not allowed.

7. Storage of Flammable, Explosive or Corrosive Materials: There shall be no storage of fuel or combustibles and no fueling of vehicles within PG&E's easement. No trash bins or incinerators are allowed.

8. Streets and Roads: Access to facilities must be maintained at all times. Street lights may be allowed in the fee strip(s) and/or easement(s) but in all cases must be reviewed by PG&E for proper clearance. Roads and utilities should cross the transmission easement as nearly at right angles as possible. Road intersections will not be allowed within the transmission easement.

9. Pipelines: Pipelines may be allowed provided crossings are held to a minimum and to be as nearly perpendicular as possible. Pipelines within 25 feet of PG&E structures require review by PG&E. Sprinklers systems may be allowed; subject to review. Leach fields and septic tanks are not allowed. Construction plans must be submitted to PG&E for review and approval prior to the commencement of any construction.

10. Signs: Signs are not allowed except in rare cases subject to individual review by PG&E.

11. Recreation Areas: Playgrounds, parks, tennis courts, basketball courts, barbecue and light trucks (pickups, vans, etc.) may be allowed; subject to review of plans. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications.

12. Construction Activity: Since construction activity will take place near PG&E's overhead electric lines, please be advised it is the contractor's responsibility to be aware of, and observe the minimum clearances for both workers and equipment operating near high voltage electric lines set out in the High-Voltage Electrical Safety Orders of the California Division of Industrial Safety (https://www.dir.ca.gov/Title8/sb5g2.html), as well as any other safety regulations. Contractors shall comply with California Public Utilities Commission General Order 95 (http://www.cpuc.ca.gov/gos/GO95/go_95_startup_page.html) and all other safety rules. No construction may occur within 25 feet of PG&E's towers. All excavation activities may only commence after 811 protocols has been followed.

Contractor shall ensure the protection of PG&E's towers and poles from vehicular damage by (installing protective barriers) Plans for protection barriers must be approved by PG&E prior to construction.

13. PG&E is also the owner of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E's facilities must be reviewed and approved by PG&E to ensure that no impact occurs that may endanger the safe and reliable operation of its facilities.

SAN JOAQUIN COUNTY
Greatness grows here.

Environmental Health Department
Jasjit Kang, REHS, Director
Muniappa Naidu, REHS, Assistant Director
PROGRAM COORDINATORS
Jeff Carruesco, REHS, RDI
Willy Ng, REHS
Steven Shih, REHS
Elena Manzo, REHS
Natalia Subbotnikova, REHS

August 11, 2023

To: City of Stockton Planning Consultant
Attention: Nicole D. Moore, LEED AP

From: Naseem Ahmed; (209) 616-3018
Senior Registered Environmental Health Specialist

RE: **Notice of Preparation for Draft EIR - LeBaron Ranch Project (P22-0139), SU0015751**

The San Joaquin County Environmental Health Department (EHD) is supportive of this project in regards to the provision of full public services. The EHD requests the following comments be added to the above project for consideration:

1. Any existing wells or septic systems to be abandoned shall be destroyed under permit and inspection by the EHD (San Joaquin County Development Title, Section 9-605.010 & 9-601.020).

2. Any geotechnical drilling shall be conducted under permit and inspection by The Environmental Health Department (San Joaquin County Development Title, Section 9-601.010(b) and 9-601.020(i)).

3. Before any hazardous materials/waste can be stored or used onsite, the owner/operator must report the use or storage of these hazardous materials to the California Environmental Reporting System (CERS) at cers.calepa.ca.gov/ and comply with the laws and regulations for the programs listed below (based on quantity of hazardous material in some cases). The applicant may contact the Program Coordinator of the CUPA program, Elena Manzo (209) 953-7699, with any questions.

   a. Any amount but not limited to the following hazardous waste; hazardous material spills, used oil, used oil filters, used oil-contaminated absorbent/debris, waste antifreeze, used batteries or other universal waste, etc. – **Hazardous Waste Program** (Health &Safety Code (HSC) Sections 25404 & 25180 et sec.)

   b. Onsite treatment of hazardous waste – **Hazardous Waste Treatment Tiered Permitting Program** (HSC Sections 25404 & 25200 et sec. & California Code of Regulations (CCR), Title 22, Section 67450.1 et sec.)

   c. Reportable quantities of hazardous materials-reportable quantities are 55 gallons or more of liquids, 500 pounds for solids, or 200 cubic feet for compressed gases, with some exceptions. Carbon dioxide is a regulated substance and is required to be reported as a hazardous material if storing 1,200 cubic feet (137 pounds) or more onsite in San Joaquin County – **Hazardous Materials Business Plan Program** (HSC Sections 25508 & 25500 et sec.)

   d. Any amount of hazardous material stored in an Underground Storage Tank – **Underground Storage Tank Program** (HSC Sections 25286 & 25280 et sec.)

      i. If an underground storage tank (UST) system will be installed, a permit is required to be submitted to, and approved by, the San Joaquin County Environmental Health Department (EHD) before any UST installation work can begin.

ii. Additionally, an EHD UST permit to operate is required once the approved UST system is installed.

e. Storage of at least 1,320 gallons of petroleum aboveground or any amount of petroleum stored below grade in a vault – **Aboveground Petroleum Storage Program** (HSC Sections 25270.6 & 25270 et sec.)

i. **Spill Prevention, Countermeasures and Control (SPCC) Plan requirement**

f. Threshold quantities of regulated substances stored onsite - **California Accidental Release Prevention (CalARP) Program** (Title 19, Section 2735.4 & HSC Section 25531 et sec.)

i. **Risk Management Plan requirement for covered processes**

S J C O G, Inc.

555 East Weber Avenue ● Stockton, CA 95202 ● (209) 235-0574 ● Email: boyd@sjcog.org

San Joaquin County Multi-Species Habitat Conservation & Open Space Plan (SJMSCP)

SJMSCP RESPONSE TO LOCAL JURISDICTION (RTLJ)
ADVISORY AGENCY NOTICE TO SJCOG, Inc.

To: Nicole Moore, City of Stockton, Community Development Department

From: Laurel Boyd, SJCOG, Inc. Phone: (209) 235-0574 Email: boyd@sjcog.org

Date: August 1, 2023

-Local Jurisdiction Project Title: LeBaron Ranch Project (P22-0139)

Assessor Parcel Number(s): 084-050-01 to -03, -06 to -08, -14, -25 to -28, 084-030-04

Local Jurisdiction Project Number: P22-0139

Total Acres to be converted from Open Space Use: Unknown

Habitat Types to be Disturbed: Agricultural Habitat Land

Species Impact Findings: Findings to be determined by SJMSCP biologist.

Dear Ms. Moore:

SJCOG, Inc. has reviewed the project referral for the LeBaron Ranch Project (P22-0139). The proposed project is primarily a residential development anticipated to provide up to 1,411 units (assuming a proposed school site is developed with single-family residential units). Total parkland and open space areas to total 24.7 acres. Part of the open space acreage will come from a series of streets with an enhanced right of way to accommodate a pedestrian 'wellness walk'. Other uses to support and compliment the proposed residential development include underground wet and dry utility infrastructure, roadways, curb/gutters/sidewalks, bicycle/pedestrian facilities, street lighting, and street signage. The project site is located south of Eight Mile Road and east of Lower Sacramento Road, Stockton (APN: 084-050-01 to -03, -06 to -08, -14, -25 to -28, 084-030-04).

The City of Stockton is a signatory to San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). Participation in the SJMSCP satisfies requirements of both the state and federal endangered species acts, and ensures that the impacts are mitigated below a level of significance in compliance with the California Environmental Quality Act (CEQA). The LOCAL JURISDICTION retains responsibility for ensuring that the appropriate Incidental Take Minimization Measure are properly implemented and monitored and that appropriate fees are paid in compliance with the SJMSCP. Although participation in the SJMSCP is voluntary, Local Jurisdiction/Lead Agencies should be aware that if project applicants choose against participating in the SJMSCP, they will be required to provide alternative mitigation in an amount and kind equal to that provided in the SJMSCP.

This Project is subject to the SJMSCP. This can be up to a 30 day process and it is recommended that the project applicant contact SJMSCP staff as early as possible. It is also recommended that the project applicant obtain an information package. http://www.sjcog.org

Please contact SJMSCP staff regarding completing the following steps to satisfy SJMSCP requirements:

- Schedule a SJMSCP Biologist to perform a pre-construction survey ***prior to any ground disturbance***
- SJMSCP Incidental take Minimization Measures and mitigation requirement:

1. Incidental Take Minimization Measures (ITMMs) will be issued to the project and must be signed by the project applicant prior to any ground disturbance but no later than six (6) months from receipt of the ITMMs. If ITMMs are not signed within six months, the applicant must reapply for SJMSCP Coverage. Upon receipt of signed ITMMs from project applicant, SJCOG, Inc. staff will sign the ITMMs. This is the effective date of the ITMMs.
2. Under no circumstance shall ground disturbance occur without compliance and satisfaction of the ITMMs.
3. Upon issuance of fully executed ITMMs and prior to any ground disturbance, the project applicant must:
    a. Post a bond for payment of the applicable SJMSCP fee covering the entirety of the project acreage being covered (the bond should be valid for no longer than a 6 month period); or
    b. Pay the appropriate SJMSCP fee for the entirety of the project acreage being covered; or
    c. Dedicate land in-lieu of fees, either as conservation easements or fee title; or
    d. Purchase approved mitigation bank credits.

4. Within 6 months from the effective date of the ITMMs or issuance of a building permit, whichever occurs first, the project applicant must:
    a. Pay the appropriate SJMSCP for the entirety of the project acreage being covered; or
    b. Dedicate land in-lieu of fees, either as conservation easements or fee title; or
    c. Purchase approved mitigation bank credits.

Failure to satisfy the obligations of the mitigation fee shall subject the bond to be called.

- Receive your Certificate of Payment and release the required permit

It should be noted that if this project has any potential impacts to waters of the United States [pursuant to Section 404 Clean Water Act], it would require the project to seek voluntary coverage through the unmapped process under the SJMSCP which could take up to 90 days. It may be prudent to obtain a preliminary wetlands map from a qualified consultant. If waters of the United States are confirmed on the project site, the Corps and the Regional Water Quality Control Board (RWQCB) would have regulatory authority over those mapped areas [pursuant to Section 404 and 401 of the Clean Water Act respectively] and permits would be required from each of these resource agencies prior to grading the project site.

If you have any questions, please call (209) 235-0574.

S J C O G, Inc.

San Joaquin County Multi-Species Habitat Conservation & Open Space Plan

555 East Weber Avenue ● Stockton, CA 95202 ● (209) 235-0600 ● FAX (209) 235-0438

SJMSCP HOLD

TO: Local Jurisdiction: Community Development Department, Planning Department, Building Department, Engineering Department, Survey Department, Transportation Department, Other: _____

FROM: Laurel Boyd, SJCOG, Inc.

DO NOT AUTHORIZE SITE DISTURBANCE
DO NOT ISSUE A BUILDING PERMIT
DO NOT ISSUE _____ FOR THIS PROJECT

The landowner/developer for this site has requested coverage pursuant to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). In accordance with that agreement, the Applicant has agreed to:

1) SJMSCP Incidental Take Minimization Measures and mitigation requirement:

1. Incidental Take Minimization Measures (ITMMs) will be issued to the project and must be signed by the project applicant prior to any ground disturbance but no later than six (6) months from receipt of the ITMMs. If ITMMs are not signed within six months, the applicant must reapply for SJMSCP Coverage. Upon receipt of signed ITMMs from project applicant, SJCOG, Inc. staff will sign the ITMMs. This is the effective date of the ITMMs.
2. Under no circumstance shall ground disturbance occur without compliance and satisfaction of the ITMMs.
3. Upon issuance of fully executed ITMMs and prior to any ground disturbance, the project applicant must:
   a. Post a bond for payment of the applicable SJMSCP fee covering the entirety of the project acreage being covered (the bond should be valid for no longer than a 6 month period); or
   b. Pay the appropriate SJMSCP fee for the entirety of the project acreage being covered; or
   c. Dedicate land in-lieu of fees, either as conservation easements or fee title; or
   d. Purchase approved mitigation bank credits.
4. Within 6 months from the effective date of the ITMMs or issuance of a building permit, whichever occurs first, the project applicant must:
   a. Pay the appropriate SJMSCP for the entirety of the project acreage being covered; or
   b. Dedicate land in-lieu of fees, either as conservation easements or fee title; or
   c. Purchase approved mitigation bank credits.

   Failure to satisfy the obligations of the mitigation fee shall subject the bond to be called.

Project Title: The LeBaron Ranch Project (P22-0139)

Assessor Parcel #s: 084-050-01 to -03, -06 to -08, -14, -25 to -28, 084-030-04

T _____, R_____, Section(s): _____

Local Jurisdiction Contact: Nicole Moore

The LOCAL JURISDICTION retains responsibility for ensuring that the appropriate Incidental Take Minimization Measures are properly implemented and monitored and that appropriate fees are paid in compliance with the SJMSCP.

APPENDIX B

Air Quality, Greenhouse Gas, and Energy Appendices

City of Stockton - Lebaron Ranch v3 Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	City of Stockton - Lebaron Ranch v3
Construction Start Date	1/1/2025
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	0.40
Location	38.05434444439149, -121.30877263887623
County	San Joaquin
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2149
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.21

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

Single Family Housing	1,217	Dwelling Unit	192	2,373,150	14,254,547	0.00	3,931	Low Density Residential
Apartments Low Rise	194	Dwelling Unit	9.50	205,640	0.00	0.00	627	High Density Residential
City Park	30.7	Acre	30.7	0.00	0.00	0.00	—	Park and Open Space Areas
Other Asphalt Surfaces	4.50	Acre	4.50	0.00	0.00	0.00	—	Storm Basin

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Area Sources	LL-1	Replace Gas Powered Landscape Equipment with Zero-Emission Landscape Equipment
Area Sources	AS-2	Use Low-VOC Paints

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.	4.40	166	29.7	46.7	0.06	1.23	9.37	10.6	1.14	3.69	4.83	—	12,817	12,817	0.43	0.88	31.6	13,114
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.02	166	31.7	40.2	0.06	1.37	19.8	21.2	1.26	10.1	11.4	—	12,228	12,228	0.34	0.90	0.82	12,504
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	2.84	46.4	17.0	26.6	0.04	0.62	7.11	7.73	0.57	2.83	3.40	—	8,172	8,172	0.21	0.61	8.72	8,367
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.52	8.46	3.09	4.86	0.01	0.11	1.30	1.41	0.10	0.52	0.62	—	1,353	1,353	0.03	0.10	1.44	1,385

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.19	3.68	29.7	45.0	0.06	1.23	9.37	10.6	1.14	3.69	4.83	—	12,013	12,013	0.43	0.85	31.6	12,310
2026	3.96	3.47	16.4	42.5	0.05	0.44	6.01	6.44	0.41	1.46	1.86	—	11,824	11,824	0.28	0.84	28.3	12,109
2027	4.40	166	16.6	46.7	0.06	0.42	6.98	7.39	0.39	1.68	2.07	—	12,817	12,817	0.29	0.88	28.4	13,114
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.01	3.47	31.7	38.8	0.06	1.37	19.8	21.2	1.26	10.1	11.4	—	11,502	11,502	0.32	0.85	0.82	11,765
2026	3.81	3.30	17.1	36.8	0.05	0.44	6.01	6.44	0.41	1.46	1.86	—	11,324	11,324	0.31	0.85	0.73	11,587
2027	4.02	166	17.4	40.2	0.06	0.42	6.98	7.39	0.39	1.68	2.07	—	12,228	12,228	0.34	0.90	0.74	12,504
2028	0.87	0.85	6.67	10.4	0.01	0.26	0.13	0.38	0.24	0.03	0.26	—	1,630	1,630	0.06	0.02	0.01	1,636
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.84	2.44	17.0	25.1	0.04	0.62	7.11	7.73	0.57	2.83	3.40	—	6,488	6,488	0.20	0.35	5.35	6,602
2026	2.71	2.36	12.0	26.6	0.04	0.31	4.29	4.60	0.29	1.04	1.33	—	8,172	8,172	0.21	0.61	8.72	8,367
2027	2.20	46.4	10.2	22.6	0.03	0.27	3.55	3.83	0.25	0.86	1.11	—	6,712	6,712	0.17	0.48	6.33	6,865
2028	0.09	0.09	0.69	1.08	< 0.005	0.03	0.01	0.04	0.02	< 0.005	0.03	—	169	169	0.01	< 0.005	0.02	170
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.52	0.44	3.09	4.57	0.01	0.11	1.30	1.41	0.10	0.52	0.62	—	1,074	1,074	0.03	0.06	0.89	1,093

2026	0.50	0.43	2.19	4.86	0.01	0.06	0.78	0.84	0.05	0.19	0.24	—	1,353	1,353	0.03	0.10	1.44	1,385
2027	0.40	8.46	1.85	4.12	0.01	0.05	0.65	0.70	0.05	0.16	0.20	—	1,111	1,111	0.03	0.08	1.05	1,137
2028	0.02	0.02	0.13	0.20	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	0.01	—	28.0	28.0	< 0.005	< 0.005	< 0.005	28.2

2.3. Construction Emissions by Year, Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.19	3.68	29.7	45.0	0.06	1.23	9.37	10.6	1.14	3.69	4.83	—	12,013	12,013	0.43	0.85	31.6	12,310
2026	3.96	3.47	16.4	42.5	0.05	0.44	6.01	6.44	0.41	1.46	1.86	—	11,824	11,824	0.28	0.84	28.3	12,109
2027	4.40	166	16.6	46.7	0.06	0.42	6.98	7.39	0.39	1.68	2.07	—	12,817	12,817	0.29	0.88	28.4	13,114
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.01	3.47	31.7	38.8	0.06	1.37	19.8	21.2	1.26	10.1	11.4	—	11,502	11,502	0.32	0.85	0.82	11,765
2026	3.81	3.30	17.1	36.8	0.05	0.44	6.01	6.44	0.41	1.46	1.86	—	11,324	11,324	0.31	0.85	0.73	11,587
2027	4.02	166	17.4	40.2	0.06	0.42	6.98	7.39	0.39	1.68	2.07	—	12,228	12,228	0.34	0.90	0.74	12,504
2028	0.87	0.85	6.67	10.4	0.01	0.26	0.13	0.38	0.24	0.03	0.26	—	1,630	1,630	0.06	0.02	0.01	1,636
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.84	2.44	17.0	25.1	0.04	0.62	7.11	7.73	0.57	2.83	3.40	—	6,488	6,488	0.20	0.35	5.35	6,602
2026	2.71	2.36	12.0	26.6	0.04	0.31	4.29	4.60	0.29	1.04	1.33	—	8,172	8,172	0.21	0.61	8.72	8,367
2027	2.20	46.4	10.2	22.6	0.03	0.27	3.55	3.83	0.25	0.86	1.11	—	6,712	6,712	0.17	0.48	6.33	6,865
2028	0.09	0.09	0.69	1.08	< 0.005	0.03	0.01	0.04	0.02	< 0.005	0.03	—	169	169	0.01	< 0.005	0.02	170
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.52	0.44	3.09	4.57	0.01	0.11	1.30	1.41	0.10	0.52	0.62	—	1,074	1,074	0.03	0.06	0.89	1,093
2026	0.50	0.43	2.19	4.86	0.01	0.06	0.78	0.84	0.05	0.19	0.24	—	1,353	1,353	0.03	0.10	1.44	1,385

2027	0.40	8.46	1.85	4.12	0.01	0.05	0.65	0.70	0.05	0.16	0.20	—	1,111	1,111	0.03	0.08	1.05	1,137
2028	0.02	0.02	0.13	0.20	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	0.01	—	28.0	28.0	< 0.005	< 0.005	< 0.005	28.2

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.	57.4	85.3	46.1	420	0.86	1.45	69.0	70.5	1.40	17.6	19.0	—	100,457	100,457	5.44	3.85	252	101,992
Mit.	50.1	74.8	45.3	340	0.86	1.41	69.0	70.4	1.37	17.6	18.9	—	100,264	100,264	5.44	3.85	252	101,799
% Reduced	13%	12%	2%	19%	< 0.5%	3%	—	< 0.5%	2%	—	< 0.5%	—	< 0.5%	< 0.5%	< 0.5%	< 0.5%	—	< 0.5%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	46.5	74.6	50.8	304	0.80	1.41	69.0	70.4	1.37	17.6	18.9	—	94,437	94,437	5.91	4.15	24.5	95,847
Mit.	46.5	71.1	50.8	304	0.80	1.41	69.0	70.4	1.37	17.6	18.9	—	94,437	94,437	5.91	4.15	24.5	95,847
% Reduced	—	5%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	50.2	78.2	48.8	340	0.82	1.43	69.0	70.4	1.39	17.5	18.9	—	95,899	95,899	5.68	4.01	119	97,356
Mit.	46.6	71.2	48.4	301	0.82	1.41	69.0	70.4	1.37	17.5	18.9	—	95,805	95,805	5.68	4.01	119	97,261
% Reduced	7%	9%	1%	12%	< 0.5%	1%	—	< 0.5%	1%	—	< 0.5%	—	< 0.5%	< 0.5%	< 0.5%	—	—	< 0.5%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.16	14.3	8.90	62.1	0.15	0.26	12.6	12.9	0.25	3.20	3.46	—	15,877	15,877	0.94	0.66	19.7	16,118
Mit.	8.50	13.0	8.84	54.9	0.15	0.26	12.6	12.8	0.25	3.20	3.45	—	15,862	15,862	0.94	0.66	19.7	16,103

% Reduced	7%	9%	1%	12%	< 0.5%	1%	—	< 0.5%	1%	—	< 0.5%	—	< 0.5%	< 0.5%	< 0.5%	< 0.5%	—	< 0.5%

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	48.9	45.7	35.6	335	0.80	0.63	69.0	69.6	0.59	17.6	18.1	—	81,329	81,329	3.27	3.69	233	82,745
Area	7.37	39.0	0.76	80.2	< 0.005	0.04	—	0.04	0.03	—	0.03	—	214	214	0.01	< 0.005	—	215
Energy	1.13	0.57	9.68	4.12	0.06	0.78	—	0.78	0.78	—	0.78	—	18,571	18,571	2.10	0.15	—	18,668
Water	—	—	—	—	—	—	—	—	—	—	—	—	342	342	0.06	0.01	—	346
Waste	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.5	18.5
Total	57.4	85.3	46.1	420	0.86	1.45	69.0	70.5	1.40	17.6	19.0	—	100,457	100,457	5.44	3.85	252	101,992
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	45.4	42.0	41.1	300	0.74	0.63	69.0	69.6	0.59	17.6	18.1	—	75,524	75,524	3.75	4.00	6.05	76,815
Area	—	32.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	1.13	0.57	9.68	4.12	0.06	0.78	—	0.78	0.78	—	0.78	—	18,571	18,571	2.10	0.15	—	18,668
Water	—	—	—	—	—	—	—	—	—	—	—	—	342	342	0.06	0.01	—	346
Waste	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.5	18.5
Total	46.5	74.6	50.8	304	0.80	1.41	69.0	70.4	1.37	17.6	18.9	—	94,437	94,437	5.91	4.15	24.5	95,847
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	45.4	42.1	38.7	296	0.75	0.63	69.0	69.6	0.59	17.5	18.1	—	76,880	76,880	3.52	3.86	101	78,218

Area	3.63	35.5	0.37	39.5	< 0.005	0.02	—	0.02	0.01	—	0.01	—	106	106	< 0.005	< 0.005	—	106
Energy	1.13	0.57	9.68	4.12	0.06	0.78	—	0.78	0.78	—	0.78	—	18,571	18,571	2.10	0.15	—	18,668
Water	—	—	—	—	—	—	—	—	—	—	—	—	342	342	0.06	0.01	—	346
Waste	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.5	18.5
Total	50.2	78.2	48.8	340	0.82	1.43	69.0	70.4	1.39	17.5	18.9	—	95,899	95,899	5.68	4.01	119	97,356
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.29	7.69	7.07	54.1	0.14	0.11	12.6	12.7	0.11	3.20	3.31	—	12,728	12,728	0.58	0.64	16.7	12,950
Area	0.66	6.48	0.07	7.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.5	17.5	< 0.005	< 0.005	—	17.5
Energy	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	3,075	3,075	0.35	0.02	—	3,091
Water	—	—	—	—	—	—	—	—	—	—	—	—	56.7	56.7	0.01	< 0.005	—	57.3
Waste	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.06	3.06
Total	9.16	14.3	8.90	62.1	0.15	0.26	12.6	12.9	0.25	3.20	3.46	—	15,877	15,877	0.94	0.66	19.7	16,118

2.6. Operations Emissions by Sector, Mitigated

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	48.9	45.7	35.6	335	0.80	0.63	69.0	69.6	0.59	17.6	18.1	—	81,329	81,329	3.27	3.69	233	82,745
Area	—	28.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	1.13	0.57	9.68	4.12	0.06	0.78	—	0.78	0.78	—	0.78	—	18,593	18,593	2.11	0.15	—	18,689
Water	—	—	—	—	—	—	—	—	—	—	—	—	342	342	0.06	0.01	—	346
Waste	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.5	18.5
Total	50.1	74.8	45.3	340	0.86	1.41	69.0	70.4	1.37	17.6	18.9	—	100,264	100,264	5.44	3.85	252	101,799

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	45.4	42.0	41.1	300	0.74	0.63	69.0	69.6	0.59	17.6	18.1	—	75,524	75,524	3.75	4.00	6.05	76,815
Area	—	28.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	1.13	0.57	9.68	4.12	0.06	0.78	—	0.78	0.78	—	0.78	—	18,571	18,571	2.10	0.15	—	18,668
Water	—	—	—	—	—	—	—	—	—	—	—	—	342	342	0.06	0.01	—	346
Waste	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.5	18.5
Total	46.5	71.1	50.8	304	0.80	1.41	69.0	70.4	1.37	17.6	18.9	—	94,437	94,437	5.91	4.15	24.5	95,847
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	45.4	42.1	38.7	296	0.75	0.63	69.0	69.6	0.59	17.5	18.1	—	76,880	76,880	3.52	3.86	101	78,218
Area	—	28.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	1.13	0.57	9.68	4.12	0.06	0.78	—	0.78	0.78	—	0.78	—	18,582	18,582	2.11	0.15	—	18,678
Water	—	—	—	—	—	—	—	—	—	—	—	—	342	342	0.06	0.01	—	346
Waste	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.5	18.5
Total	46.6	71.2	48.4	301	0.82	1.41	69.0	70.4	1.37	17.5	18.9	—	95,805	95,805	5.68	4.01	119	97,261
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.29	7.69	7.07	54.1	0.14	0.11	12.6	12.7	0.11	3.20	3.31	—	12,728	12,728	0.58	0.64	16.7	12,950
Area	—	5.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	3,076	3,076	0.35	0.02	—	3,092
Water	—	—	—	—	—	—	—	—	—	—	—	—	56.7	56.7	0.01	< 0.005	—	57.3
Waste	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.06	3.06
Total	8.50	13.0	8.84	54.9	0.15	0.26	12.6	12.8	0.25	3.20	3.45	—	15,862	15,862	0.94	0.66	19.7	16,103

3. Construction Emissions Details

3.1. Site Preparation (2025) - 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	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
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	0.65	0.54	5.20	4.96	0.01	0.22	—	0.22	0.21	—	0.21	—	870	870	0.04	0.01	—	873
Dust From Material Movement	—	—	—	—	—	—	3.23	3.23	—	1.66	1.66	—	—	—	—	—	—	—
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	0.12	0.10	0.95	0.91	< 0.005	0.04	—	0.04	0.04	—	0.04	—	144	144	0.01	< 0.005	—	145

Dust From Material Movement	—	—	—	—	—	—	0.59	0.59	—	0.30	0.30	—	—	—	—	—	—	—
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	0.07	0.07	0.07	0.72	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	146	146	< 0.005	0.01	0.02	148
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	0.01	0.01	0.01	0.12	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	24.6	24.6	< 0.005	< 0.005	0.04	25.0
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	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.08	4.08	< 0.005	< 0.005	0.01	4.14
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

3.2. Site Preparation (2025) - Mitigated

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	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
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	0.65	0.54	5.20	4.96	0.01	0.22	—	0.22	0.21	—	0.21	—	870	870	0.04	0.01	—	873
Dust From Material Movement	—	—	—	—	—	—	3.23	3.23	—	1.66	1.66	—	—	—	—	—	—	—
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	0.12	0.10	0.95	0.91	< 0.005	0.04	—	0.04	0.04	—	0.04	—	144	144	0.01	< 0.005	—	145
Dust From Material Movement	—	—	—	—	—	—	0.59	0.59	—	0.30	0.30	—	—	—	—	—	—	—
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	0.07	0.07	0.07	0.72	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	146	146	< 0.005	0.01	0.02	148
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	0.01	0.01	0.01	0.12	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	24.6	24.6	< 0.005	< 0.005	0.04	25.0
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	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.08	4.08	< 0.005	< 0.005	0.01	4.14
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

3.3. Grading (2025) - 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	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622

Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
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	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
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	0.63	0.53	4.88	4.65	0.01	0.20	—	0.20	0.19	—	0.19	—	1,085	1,085	0.04	0.01	—	1,088
Dust From Material Movement	—	—	—	—	—	—	1.51	1.51	—	0.60	0.60	—	—	—	—	—	—	—
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	0.11	0.10	0.89	0.85	< 0.005	0.04	—	0.04	0.03	—	0.03	—	180	180	0.01	< 0.005	—	180
Dust From Material Movement	—	—	—	—	—	—	0.28	0.28	—	0.11	0.11	—	—	—	—	—	—	—
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	0.09	0.08	0.06	1.04	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	185	185	0.01	0.01	0.69	188
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	0.83	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	167	167	< 0.005	0.01	0.02	169
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	0.01	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.2	28.2	< 0.005	< 0.005	0.05	28.6
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	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.66	4.66	< 0.005	< 0.005	0.01	4.73
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

3.4. Grading (2025) - Mitigated

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	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
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	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
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	0.63	0.53	4.88	4.65	0.01	0.20	—	0.20	0.19	—	0.19	—	1,085	1,085	0.04	0.01	—	1,088
Dust From Material Movement	—	—	—	—	—	—	1.51	1.51	—	0.60	0.60	—	—	—	—	—	—	—
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	0.11	0.10	0.89	0.85	< 0.005	0.04	—	0.04	0.03	—	0.03	—	180	180	0.01	< 0.005	—	180
Dust From Material Movement	—	—	—	—	—	—	0.28	0.28	—	0.11	0.11	—	—	—	—	—	—	—

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	0.09	0.08	0.06	1.04	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	185	185	0.01	0.01	0.69	188
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	0.83	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	167	167	< 0.005	0.01	0.02	169
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	0.01	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.2	28.2	< 0.005	< 0.005	0.05	28.6
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	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.66	4.66	< 0.005	< 0.005	0.01	4.73
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 (2025) - 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	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
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	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
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	0.52	0.43	4.03	5.03	0.01	0.17	—	0.17	0.15	—	0.15	—	924	924	0.04	0.01	—	928
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	0.09	0.08	0.73	0.92	< 0.005	0.03	—	0.03	0.03	—	0.03	—	153	153	0.01	< 0.005	—	154
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	2.62	2.42	1.63	30.1	0.00	0.00	4.85	4.85	0.00	1.14	1.14	—	5,345	5,345	0.25	0.20	19.9	5,432
Vendor	0.23	0.14	5.31	1.81	0.03	0.06	1.15	1.21	0.06	0.32	0.38	—	4,270	4,270	0.08	0.63	11.7	4,473
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	2.44	2.21	2.18	23.9	0.00	0.00	4.85	4.85	0.00	1.14	1.14	—	4,830	4,830	0.14	0.20	0.52	4,894
Vendor	0.21	0.13	5.66	1.84	0.03	0.06	1.15	1.21	0.06	0.32	0.38	—	4,274	4,274	0.08	0.63	0.30	4,465
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	0.94	0.86	0.70	9.44	0.00	0.00	1.87	1.87	0.00	0.44	0.44	—	1,909	1,909	0.05	0.08	3.31	1,936
Vendor	0.09	0.05	2.13	0.71	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,647	1,647	0.03	0.24	1.95	1,722
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	0.17	0.16	0.13	1.72	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	316	316	0.01	0.01	0.55	321
Vendor	0.02	0.01	0.39	0.13	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	273	273	0.01	0.04	0.32	285
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

3.6. Building Construction (2025) - Mitigated

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	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
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	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
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	0.52	0.43	4.03	5.03	0.01	0.17	—	0.17	0.15	—	0.15	—	924	924	0.04	0.01	—	928
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	0.09	0.08	0.73	0.92	< 0.005	0.03	—	0.03	0.03	—	0.03	—	153	153	0.01	< 0.005	—	154
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	2.62	2.42	1.63	30.1	0.00	0.00	4.85	4.85	0.00	1.14	1.14	—	5,345	5,345	0.25	0.20	19.9	5,432
Vendor	0.23	0.14	5.31	1.81	0.03	0.06	1.15	1.21	0.06	0.32	0.38	—	4,270	4,270	0.08	0.63	11.7	4,473
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	2.44	2.21	2.18	23.9	0.00	0.00	4.85	4.85	0.00	1.14	1.14	—	4,830	4,830	0.14	0.20	0.52	4,894
Vendor	0.21	0.13	5.66	1.84	0.03	0.06	1.15	1.21	0.06	0.32	0.38	—	4,274	4,274	0.08	0.63	0.30	4,465
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	0.94	0.86	0.70	9.44	0.00	0.00	1.87	1.87	0.00	0.44	0.44	—	1,909	1,909	0.05	0.08	3.31	1,936
Vendor	0.09	0.05	2.13	0.71	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,647	1,647	0.03	0.24	1.95	1,722

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	0.17	0.16	0.13	1.72	0.00	0.00	0.34	0.34	0.00	0.08	0.08	—	316	316	0.01	0.01	0.55	321
Vendor	0.02	0.01	0.39	0.13	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	273	273	0.01	0.04	0.32	285
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. Building Construction (2026) - 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	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
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	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
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	0.91	0.77	7.04	9.26	0.02	0.27	—	0.27	0.25	—	0.25	—	1,712	1,712	0.07	0.01	—	1,718
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	0.17	0.14	1.28	1.69	< 0.005	0.05	—	0.05	0.05	—	0.05	—	283	283	0.01	< 0.005	—	284
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	2.45	2.26	1.46	27.8	0.00	0.00	4.85	4.85	0.00	1.14	1.14	—	5,233	5,233	0.10	0.19	18.0	5,310
Vendor	0.22	0.13	5.08	1.71	0.03	0.06	1.15	1.21	0.06	0.32	0.38	—	4,193	4,193	0.08	0.63	10.3	4,394
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	2.31	2.10	1.83	22.0	0.00	0.00	4.85	4.85	0.00	1.14	1.14	—	4,730	4,730	0.13	0.20	0.47	4,794
Vendor	0.21	0.13	5.41	1.77	0.03	0.06	1.15	1.21	0.06	0.32	0.38	—	4,197	4,197	0.08	0.63	0.27	4,388
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	1.64	1.50	1.17	16.1	0.00	0.00	3.47	3.47	0.00	0.81	0.81	—	3,463	3,463	0.08	0.14	5.54	3,514
Vendor	0.16	0.10	3.78	1.24	0.02	0.04	0.82	0.87	0.04	0.23	0.27	—	2,996	2,996	0.06	0.45	3.18	3,135
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	0.30	0.27	0.21	2.94	0.00	0.00	0.63	0.63	0.00	0.15	0.15	—	573	573	0.01	0.02	0.92	582
Vendor	0.03	0.02	0.69	0.23	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	496	496	0.01	0.07	0.53	519
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

3.8. Building Construction (2026) - Mitigated

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	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
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	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
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	0.91	0.77	7.04	9.26	0.02	0.27	—	0.27	0.25	—	0.25	—	1,712	1,712	0.07	0.01	—	1,718
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	0.17	0.14	1.28	1.69	< 0.005	0.05	—	0.05	0.05	—	0.05	—	283	283	0.01	< 0.005	—	284
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	2.45	2.26	1.46	27.8	0.00	0.00	4.85	4.85	0.00	1.14	1.14	—	5,233	5,233	0.10	0.19	18.0	5,310
Vendor	0.22	0.13	5.08	1.71	0.03	0.06	1.15	1.21	0.06	0.32	0.38	—	4,193	4,193	0.08	0.63	10.3	4,394
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	2.31	2.10	1.83	22.0	0.00	0.00	4.85	4.85	0.00	1.14	1.14	—	4,730	4,730	0.13	0.20	0.47	4,794
Vendor	0.21	0.13	5.41	1.77	0.03	0.06	1.15	1.21	0.06	0.32	0.38	—	4,197	4,197	0.08	0.63	0.27	4,388
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	1.64	1.50	1.17	16.1	0.00	0.00	3.47	3.47	0.00	0.81	0.81	—	3,463	3,463	0.08	0.14	5.54	3,514
Vendor	0.16	0.10	3.78	1.24	0.02	0.04	0.82	0.87	0.04	0.23	0.27	—	2,996	2,996	0.06	0.45	3.18	3,135
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	0.30	0.27	0.21	2.94	0.00	0.00	0.63	0.63	0.00	0.15	0.15	—	573	573	0.01	0.02	0.92	582
Vendor	0.03	0.02	0.69	0.23	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	496	496	0.01	0.07	0.53	519
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. Building Construction (2027) - 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	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
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	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
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	0.67	0.56	5.11	7.04	0.01	0.18	—	0.18	0.17	—	0.17	—	1,304	1,304	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.93	1.28	< 0.005	0.03	—	0.03	0.03	—	0.03	—	216	216	0.01	< 0.005	—	217
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	2.34	2.15	1.28	25.9	0.00	0.00	4.85	4.85	0.00	1.14	1.14	—	5,150	5,150	0.09	0.19	16.2	5,225
Vendor	0.22	0.13	4.85	1.64	0.03	0.06	1.15	1.21	0.06	0.32	0.38	—	4,106	4,106	0.08	0.63	9.04	4,305
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	2.04	1.98	1.66	20.4	0.00	0.00	4.85	4.85	0.00	1.14	1.14	—	4,657	4,657	0.13	0.20	0.42	4,720
Vendor	0.21	0.13	5.18	1.70	0.03	0.06	1.15	1.21	0.06	0.32	0.38	—	4,109	4,109	0.08	0.63	0.23	4,300
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	1.11	1.08	0.80	11.4	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,597	2,597	0.06	0.11	3.79	2,635
Vendor	0.12	0.07	2.76	0.90	0.02	0.03	0.63	0.66	0.03	0.17	0.21	—	2,234	2,234	0.04	0.34	2.12	2,340

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	0.20	0.20	0.15	2.08	0.00	0.00	0.48	0.48	0.00	0.11	0.11	—	430	430	0.01	0.02	0.63	436
Vendor	0.02	0.01	0.50	0.17	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	370	370	0.01	0.06	0.35	387
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

3.10. Building Construction (2027) - Mitigated

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	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
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	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
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	0.67	0.56	5.11	7.04	0.01	0.18	—	0.18	0.17	—	0.17	—	1,304	1,304	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.12	0.10	0.93	1.28	< 0.005	0.03	—	0.03	0.03	—	0.03	—	216	216	0.01	< 0.005	—	217
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	2.34	2.15	1.28	25.9	0.00	0.00	4.85	4.85	0.00	1.14	1.14	—	5,150	5,150	0.09	0.19	16.2	5,225
Vendor	0.22	0.13	4.85	1.64	0.03	0.06	1.15	1.21	0.06	0.32	0.38	—	4,106	4,106	0.08	0.63	9.04	4,305
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	2.04	1.98	1.66	20.4	0.00	0.00	4.85	4.85	0.00	1.14	1.14	—	4,657	4,657	0.13	0.20	0.42	4,720
Vendor	0.21	0.13	5.18	1.70	0.03	0.06	1.15	1.21	0.06	0.32	0.38	—	4,109	4,109	0.08	0.63	0.23	4,300
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	1.11	1.08	0.80	11.4	0.00	0.00	2.64	2.64	0.00	0.62	0.62	—	2,597	2,597	0.06	0.11	3.79	2,635
Vendor	0.12	0.07	2.76	0.90	0.02	0.03	0.63	0.66	0.03	0.17	0.21	—	2,234	2,234	0.04	0.34	2.12	2,340
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	0.20	0.20	0.15	2.08	0.00	0.00	0.48	0.48	0.00	0.11	0.11	—	430	430	0.01	0.02	0.63	436
Vendor	0.02	0.01	0.50	0.17	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	370	370	0.01	0.06	0.35	387
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

3.11. Paving (2027) - 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	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.15	0.13	1.18	1.69	< 0.005	0.05	—	0.05	0.05	—	0.05	—	257	257	0.01	< 0.005	—	258
Paving	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.03	0.02	0.22	0.31	< 0.005	0.01	—	0.01	0.01	—	0.01	—	42.6	42.6	< 0.005	< 0.005	—	42.7
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	0.05	0.05	0.04	0.53	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	121	121	< 0.005	0.01	0.01	123

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	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.1	21.1	< 0.005	< 0.005	0.03	21.4
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	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.49	3.49	< 0.005	< 0.005	0.01	3.54
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

3.12. Paving (2027) - Mitigated

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	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.15	0.13	1.18	1.69	< 0.005	0.05	—	0.05	0.05	—	0.05	—	257	257	0.01	< 0.005	—	258
Paving	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.03	0.02	0.22	0.31	< 0.005	0.01	—	0.01	0.01	—	0.01	—	42.6	42.6	< 0.005	< 0.005	—	42.7
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	0.05	0.05	0.04	0.53	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	121	121	< 0.005	0.01	0.01	123
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	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.1	21.1	< 0.005	< 0.005	0.03	21.4
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	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.49	3.49	< 0.005	< 0.005	0.01	3.54
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

3.13. Paving (2028) - 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	0.82	0.69	6.63	9.91	0.01	0.26	—	0.26	0.24	—	0.24	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.08	0.07	0.69	1.03	< 0.005	0.03	—	0.03	0.02	—	0.02	—	157	157	0.01	< 0.005	—	157
Paving	—	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	0.02	0.01	0.13	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.9	25.9	< 0.005	< 0.005	—	26.0
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	0.05	0.04	0.04	0.49	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	119	119	< 0.005	0.01	0.01	120
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	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.6	12.6	< 0.005	< 0.005	0.02	12.8
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.09	2.09	< 0.005	< 0.005	< 0.005	2.12
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

3.14. Paving (2028) - Mitigated

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	0.82	0.69	6.63	9.91	0.01	0.26	—	0.26	0.24	—	0.24	—	1,511	1,511	0.06	0.01	—	1,516
Paving	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	0.08	0.07	0.69	1.03	< 0.005	0.03	—	0.03	0.02	—	0.02	—	157	157	0.01	< 0.005	—	157
Paving	—	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	0.02	0.01	0.13	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.9	25.9	< 0.005	< 0.005	—	26.0
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	0.05	0.04	0.04	0.49	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	119	119	< 0.005	0.01	0.01	120
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	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.6	12.6	< 0.005	< 0.005	0.02	12.8
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.09	2.09	< 0.005	< 0.005	< 0.005	2.12

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

3.15. Architectural Coating (2027) - 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	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	162	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	162	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.04	0.03	0.23	0.31	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	36.6	36.6	< 0.005	< 0.005	—	36.7

Architectural Coatings	—	44.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.06	6.06	< 0.005	< 0.005	—	6.08
Architectural Coatings	—	8.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.47	0.43	0.26	5.17	0.00	0.00	0.97	0.97	0.00	0.23	0.23	—	1,030	1,030	0.02	0.04	3.23	1,045
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.41	0.40	0.33	4.07	0.00	0.00	0.97	0.97	0.00	0.23	0.23	—	931	931	0.03	0.04	0.08	944
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	0.11	0.11	0.08	1.15	0.00	0.00	0.27	0.27	0.00	0.06	0.06	—	262	262	0.01	0.01	0.38	265
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	0.02	0.02	0.01	0.21	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	43.3	43.3	< 0.005	< 0.005	0.06	43.9
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

3.16. Architectural Coating (2027) - Mitigated

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	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	162	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	162	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.04	0.03	0.23	0.31	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	36.6	36.6	< 0.005	< 0.005	—	36.7

Architect Coatings	—	44.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.06	6.06	< 0.005	< 0.005	—	6.08
Architectural Coatings	—	8.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.47	0.43	0.26	5.17	0.00	0.00	0.97	0.97	0.00	0.23	0.23	—	1,030	1,030	0.02	0.04	3.23	1,045
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.41	0.40	0.33	4.07	0.00	0.00	0.97	0.97	0.00	0.23	0.23	—	931	931	0.03	0.04	0.08	944
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	0.11	0.11	0.08	1.15	0.00	0.00	0.27	0.27	0.00	0.06	0.06	—	262	262	0.01	0.01	0.38	265
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	0.02	0.02	0.01	0.21	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	43.3	43.3	< 0.005	< 0.005	0.06	43.9

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

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.1.2. Mitigated

Mobile source emissions results are presented in Sections 2.5. No further detailed breakdown of emissions is available.

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	5,799	5,799	0.94	0.11	—	5,856
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	482	482	0.08	0.01	—	487
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	6,280	6,280	1.02	0.12	—	6,343

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	5,799	5,799	0.94	0.11	—	5,856
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	482	482	0.08	0.01	—	487
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	6,280	6,280	1.02	0.12	—	6,343
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	960	960	0.16	0.02	—	970
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	79.8	79.8	0.01	< 0.005	—	80.6
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,040	1,040	0.17	0.02	—	1,050

4.2.2. Electricity Emissions By Land Use - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	5,817	5,817	0.94	0.11	—	5,875
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	485	485	0.08	0.01	—	490
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	6,302	6,302	1.02	0.12	—	6,364
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	5,799	5,799	0.94	0.11	—	5,856
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	482	482	0.08	0.01	—	487
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	6,280	6,280	1.02	0.12	—	6,343
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	962	962	0.16	0.02	—	971
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	80.0	80.0	0.01	< 0.005	—	80.8
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,042	1,042	0.17	0.02	—	1,052

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.05	0.52	8.94	3.80	0.06	0.72	—	0.72	0.72	—	0.72	—	11,346	11,346	1.00	0.02	—	11,377
Apartments Low Rise	0.09	0.04	0.74	0.32	< 0.005	0.06	—	0.06	0.06	—	0.06	—	945	945	0.08	< 0.005	—	948
City Park	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
Other Asphalt Surfaces	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
Total	1.13	0.57	9.68	4.12	0.06	0.78	—	0.78	0.78	—	0.78	—	12,291	12,291	1.09	0.02	—	12,325
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.05	0.52	8.94	3.80	0.06	0.72	—	0.72	0.72	—	0.72	—	11,346	11,346	1.00	0.02	—	11,377
Apartments Low Rise	0.09	0.04	0.74	0.32	< 0.005	0.06	—	0.06	0.06	—	0.06	—	945	945	0.08	< 0.005	—	948
City Park	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

Other Asphalt Surfaces	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
Total	1.13	0.57	9.68	4.12	0.06	0.78	—	0.78	0.78	—	0.78	—	12,291	12,291	1.09	0.02	—	12,325
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.19	0.10	1.63	0.69	0.01	0.13	—	0.13	0.13	—	0.13	—	1,878	1,878	0.17	< 0.005	—	1,884
Apartments Low Rise	0.02	0.01	0.14	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	156	156	0.01	< 0.005	—	157
City Park	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
Other Asphalt Surfaces	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
Total	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	2,035	2,035	0.18	< 0.005	—	2,041

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.05	0.52	8.94	3.80	0.06	0.72	—	0.72	0.72	—	0.72	—	11,346	11,346	1.00	0.02	—	11,377
Apartments Low Rise	0.09	0.04	0.74	0.32	< 0.005	0.06	—	0.06	0.06	—	0.06	—	945	945	0.08	< 0.005	—	948
City Park	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
Other Asphalt Surfaces	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

Total	1.13	0.57	9.68	4.12	0.06	0.78	—	0.78	0.78	—	0.78	—	12,291	12,291	1.09	0.02	—	12,325
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.05	0.52	8.94	3.80	0.06	0.72	—	0.72	0.72	—	0.72	—	11,346	11,346	1.00	0.02	—	11,377
Apartments Low Rise	0.09	0.04	0.74	0.32	< 0.005	0.06	—	0.06	0.06	—	0.06	—	945	945	0.08	< 0.005	—	948
City Park	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
Other Asphalt Surfaces	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
Total	1.13	0.57	9.68	4.12	0.06	0.78	—	0.78	0.78	—	0.78	—	12,291	12,291	1.09	0.02	—	12,325
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.19	0.10	1.63	0.69	0.01	0.13	—	0.13	0.13	—	0.13	—	1,878	1,878	0.17	< 0.005	—	1,884
Apartments Low Rise	0.02	0.01	0.14	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	156	156	0.01	< 0.005	—	157
City Park	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
Other Asphalt Surfaces	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
Total	0.21	0.10	1.77	0.75	0.01	0.14	—	0.14	0.14	—	0.14	—	2,035	2,035	0.18	< 0.005	—	2,041

4.3. Area Emissions by Source

4.3.1. 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	—	27.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	4.44	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	7.37	6.98	0.76	80.2	< 0.005	0.04	—	0.04	0.03	—	0.03	—	214	214	0.01	< 0.005	—	215
Total	7.37	39.0	0.76	80.2	< 0.005	0.04	—	0.04	0.03	—	0.03	—	214	214	0.01	< 0.005	—	215
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	27.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	4.44	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	32.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	5.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.66	0.63	0.07	7.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.5	17.5	< 0.005	< 0.005	—	17.5
Total	0.66	6.48	0.07	7.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.5	17.5	< 0.005	< 0.005	—	17.5

4.3.2. Mitigated

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	—	27.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	28.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	27.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	28.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	5.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	5.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.1. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	328	328	0.05	0.01	—	331
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	14.4	14.4	< 0.005	< 0.005	—	14.5
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	342	342	0.06	0.01	—	346
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	328	328	0.05	0.01	—	331
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	14.4	14.4	< 0.005	< 0.005	—	14.5
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	342	342	0.06	0.01	—	346

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	54.3	54.3	0.01	< 0.005	—	54.9
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	2.38	2.38	< 0.005	< 0.005	—	2.40
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	56.7	56.7	0.01	< 0.005	—	57.3

4.4.2. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	328	328	0.05	0.01	—	331
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	14.4	14.4	< 0.005	< 0.005	—	14.5
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	342	342	0.06	0.01	—	346
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	328	328	0.05	0.01	—	331
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	14.4	14.4	< 0.005	< 0.005	—	14.5
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	342	342	0.06	0.01	—	346
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	54.3	54.3	0.01	< 0.005	—	54.9
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	2.38	2.38	< 0.005	< 0.005	—	2.40
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	56.7	56.7	0.01	< 0.005	—	57.3

4.5. Waste Emissions by Land Use

4.5.1. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.5.2. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.0	17.0
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.47	1.47
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.5	18.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.0	17.0
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.47	1.47
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.5	18.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.81	2.81
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.06	3.06

4.6.2. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.0	17.0

Apartments	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.47	1.47
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.5	18.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.0	17.0
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.47	1.47
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.5	18.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.81	2.81
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.06	3.06

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	1/1/2025	3/25/2025	5.00	60.0	—
Grading	Grading	3/26/2025	6/17/2025	5.00	60.0	—
Building Construction	Building Construction	6/18/2025	10/5/2027	5.00	600	—
Paving	Paving	10/6/2027	2/22/2028	5.00	100	—
Architectural Coating	Architectural Coating	5/19/2027	10/5/2027	5.00	100	—

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	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38

Grading	Tractors/Loaders/Backh	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
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	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT

Building Construction	—	—	—	—
Building Construction	Worker	578	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	151	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	116	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT

Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	578	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	151	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	116	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	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	5,222,050	1,740,683	0.00	0.00	11,761

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	90.0	0.00	—
Grading	0.00	0.00	180	0.00	—
Paving	0.00	0.00	0.00	0.00	17.9

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
Single Family Housing	13.4	0%
Apartments Low Rise	—	0%
City Park	0.00	0%
Other Asphalt Surfaces	4.50	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005
2028	0.00	204	0.03	< 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
Total all Land Uses	12,784	12,784	12,784	4,666,160	96,884	96,884	96,884	35,362,835

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	12,784	12,784	12,784	4,666,160	96,884	96,884	96,884	35,362,835

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

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)
5222049.75	1,740,683	0.00	0.00	11,761

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00

Summer Days	day/yr	180

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)
Single Family Housing	10,375,788	204	0.0330	0.0040	35,402,561
Apartments Low Rise	862,305	204	0.0330	0.0040	2,948,632
City Park	0.00	204	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00

5.11.2. Mitigated

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)
Single Family Housing	10,375,788	204	0.0330	0.0040	35,402,561
Apartments Low Rise	862,305	204	0.0330	0.0040	2,948,632
City Park	0.00	204	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	49,499,984	244,539,302
Apartments Low Rise	7,890,712	0.00
City Park	0.00	0.00

Other Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	49,499,984	244,539,302
Apartments Low Rise	7,890,712	0.00
City Park	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	1,076	—
Apartments Low Rise	144	—
City Park	2.64	—
Other Asphalt Surfaces	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	1,076	—
Apartments Low Rise	144	—
City Park	2.64	—
Other Asphalt Surfaces	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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

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

5.15.2. Mitigated

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	24.1	annual days of extreme heat
Extreme Precipitation	2.50	annual days with precipitation above 20 mm
Sea Level Rise	—	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 (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
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	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	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	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
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	47.0
AQ-PM	50.1
AQ-DPM	33.9

Drinking Water	99.8
Lead Risk Housing	28.5
Pesticides	87.0
Toxic Releases	21.8
Traffic	31.7
Effect Indicators	—
CleanUp Sites	4.12
Groundwater	52.4
Haz Waste Facilities/Generators	54.6
Impaired Water Bodies	66.7
Solid Waste	75.7
Sensitive Population	—
Asthma	50.8
Cardio-vascular	77.7
Low Birth Weights	86.8
Socioeconomic Factor Indicators	—
Education	68.8
Housing	12.0
Linguistic	61.9
Poverty	52.5
Unemployment	40.6

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	58.77069165

Employed	40.16424997
Median HI	63.15924548
Education	—
Bachelor's or higher	36.40446555
High school enrollment	20.46708585
Preschool enrollment	39.62530476
Transportation	—
Auto Access	84.51174131
Active commuting	29.75747466
Social	—
2-parent households	95.8937508
Voting	58.07776209
Neighborhood	—
Alcohol availability	93.60964969
Park access	27.678686
Retail density	8.700115488
Supermarket access	17.15642243
Tree canopy	58.29590658
Housing	—
Homeownership	88.78480688
Housing habitability	96.44552804
Low-inc homeowner severe housing cost burden	77.08199666
Low-inc renter severe housing cost burden	96.70216861
Uncrowded housing	52.3675093
Health Outcomes	—
Insured adults	47.32452201
Arthritis	82.7

Asthma ER Admissions	57.7
High Blood Pressure	39.5
Cancer (excluding skin)	82.6
Asthma	76.7
Coronary Heart Disease	87.2
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	55.5
Life Expectancy at Birth	57.0
Cognitively Disabled	28.0
Physically Disabled	26.6
Heart Attack ER Admissions	42.9
Mental Health Not Good	61.1
Chronic Kidney Disease	85.5
Obesity	74.1
Pedestrian Injuries	84.5
Physical Health Not Good	65.0
Stroke	75.8
Health Risk Behaviors	—
Binge Drinking	89.9
Current Smoker	51.2
No Leisure Time for Physical Activity	32.7
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	50.1
Elderly	24.7
English Speaking	36.6

Foreign-born	63.8
Outdoor Workers	62.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	76.9
Traffic Density	44.9
Traffic Access	0.0
Other Indices	—
Hardship	50.9
Other Decision Support	—
2016 Voting	35.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	72.0
Healthy Places Index Score for Project Location (b)	56.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
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

No Health & Equity Measures selected.

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	Land uses consistent with the land uses provided in Table 2.0-3 of the Draft EIR Chapter 2.0: Project Description. For the purposes of modeling: LDR and MDR assumed to be all single-family (total of 1,217 units, 191.6 acres), consistent with the Project Description; HDR assumed to be all Apartments Low Rise (194 units, 9.5 acres); Park area = 12.2 acres of parks and recreation plus 18.5 acres of open space and rights of way a= 30-.7 acres; Asphalt surfaces assumed for remainder of Development area = 4.5 acres. Total acreage = 236.3 total development area.
Construction: Construction Phases	No demolition. Construction schedule adjusted to reflect assumed buildout schedule of 2028. Start date for construction assumed to be beginning of 2025, based on current information. Architectual coating phase assumed to overlap with tail end of building construction phase.
Operations: Hearths	No hearths or wood stoves.
Operations: Consumer Products	Revised General Category consumer products emissions factor to reflect CARB adjustments applied to their Consumer and Commercial Product Survey Emission data, made after the 2008 consumer products emissions factor. Adjustment made to reflect average adjustment factor. See for further detail: https://ww2.arb.ca.gov/our-work/programs/consumer-products-program/consumer-products-emissions-inv 0.0000107

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: County
Region: San Joaquin
Calendar Year: 2023, 2025
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	Trips	Fuel Consumption	MPG	
San Joaquin	2023	All Other Buses	Aggregate	Aggregate	Diesel	63.39460475	3393.93922	564.2119822	0.391421545	**8.670803**	
San Joaquin	2023	LDA	Aggregate	Aggregate	Gasoline	246367.0682	9973102.47	1138235.391	349.3216614	**28.54991**	
San Joaquin	2023	LDA	Aggregate	Aggregate	Diesel	705.734891	23139.8254	3023.214022	0.543997543	**42.53664**	
San Joaquin	2023	LDT1	Aggregate	Aggregate	Gasoline	22016.87719	727225.714	95173.38769	30.52486616	**23.82404**	
San Joaquin	2023	LDT1	Aggregate	Aggregate	Diesel	6.309776167	72.3140659	18.53577151	0.002954101	**24.47922**	
San Joaquin	2023	LDT2	Aggregate	Aggregate	Gasoline	99986.64004	4006976.31	463638.6569	174.3583341	**22.98127**	
San Joaquin	2023	LDT2	Aggregate	Aggregate	Diesel	269.0353638	11767.7731	1277.639106	0.369317903	**31.86353**	
San Joaquin	2023	LHD1	Aggregate	Aggregate	Gasoline	9831.305478	343356.563	146471.803	37.0137846	**9.276451**	
San Joaquin	2023	LHD1	Aggregate	Aggregate	Diesel	8858.793592	311287.78	111432.479	19.67413691	**15.82218**	
San Joaquin	2023	LHD2	Aggregate	Aggregate	Gasoline	1172.202392	40932.8123	17464.06906	4.90823024	**8.339628**	
San Joaquin	2023	LHD2	Aggregate	Aggregate	Diesel	3130.564849	115648.086	39378.56755	8.863291415	**13.04798**	
San Joaquin	2023	MCY	Aggregate	Aggregate	Gasoline	12111.77426	65765.9483	24223.54852	1.643730409	**40.01018**	
San Joaquin	2023	MDV	Aggregate	Aggregate	Gasoline	94539.47242	3309649.73	427287.8869	178.486066	**18.5429**	
San Joaquin	2023	MDV	Aggregate	Aggregate	Diesel	1386.649679	54072.4946	6485.715736	2.267270858	**23.84916**	
San Joaquin	2023	MH	Aggregate	Aggregate	Gasoline	1507.494843	13134.1796	150.8097841	2.977418428	**4.411264**	
San Joaquin	2023	MH	Aggregate	Aggregate	Diesel	642.7961913	5646.6428	64.27961913	0.600452961	**9.403972**	
San Joaquin	2023	Motor Coach	Aggregate	Aggregate	Diesel	17.50069597	2493.47591	402.1659934	0.455354651	**5.475899**	
San Joaquin	2023	OBUS	Aggregate	Aggregate	Gasoline	184.2186442	8143.5346	3685.846633	1.733278965	**4.69834**	
San Joaquin	2023	PTO	Aggregate	Aggregate	Diesel	0	19769.5175	0	4.013121008	**4.92622**	
San Joaquin	2023	SBUS	Aggregate	Aggregate	Gasoline	127.6658449	7011.40481	510.6633795	0.69096273	**10.1473**	
San Joaquin	2023	SBUS	Aggregate	Aggregate	Diesel	488.0661519	10999.7571	7067.197879	1.346323697	**8.170217**	
San Joaquin	2023	T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	10.21525791	684.779876	234.7466267	0.077405114	**8.846701**	
San Joaquin	2023	T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	13.70885779	939.491781	315.0295519	0.106056052	**8.858446**	
San Joaquin	2023	T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	43.24157557	2453.39435	993.6914066	0.273109788	**8.98318**	
San Joaquin	2023	T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	74.64743229	15398.8197	1715.397994	1.609252898	**9.568925**	**MHD**
San Joaquin	2023	T6 Instate Delivery Class 4	Aggregate	Aggregate	Diesel	243.75384	8276.65194	3478.367297	1.005561316	**8.230877**	**8.579141**
San Joaquin	2023	T6 Instate Delivery Class 5	Aggregate	Aggregate	Diesel	156.2432876	5383.85911	2229.591714	0.657027122	**8.194272**	
San Joaquin	2023	T6 Instate Delivery Class 6	Aggregate	Aggregate	Diesel	682.6025228	23363.9411	9740.738001	2.839033489	**8.229541**	
San Joaquin	2023	T6 Instate Delivery Class 7	Aggregate	Aggregate	Diesel	122.4768589	6703.21055	1747.744776	0.802391793	**8.354037**	
San Joaquin	2023	T6 Instate Other Class 4	Aggregate	Aggregate	Diesel	449.8451938	18399.4289	5200.21044	2.166542487	**8.492531**	
San Joaquin	2023	T6 Instate Other Class 5	Aggregate	Aggregate	Diesel	1174.570894	51943.6226	13578.03953	6.096265009	**8.520565**	
San Joaquin	2023	T6 Instate Other Class 6	Aggregate	Aggregate	Diesel	912.5417949	38573.6428	10548.98315	4.50612298	**8.560273**	
San Joaquin	2023	T6 Instate Other Class 7	Aggregate	Aggregate	Diesel	553.092214	25667.2012	6393.745994	2.950154535	**8.70029**	
San Joaquin	2023	T6 Instate Tractor Class 6	Aggregate	Aggregate	Diesel	10.69132111	510.925844	123.591672	0.060247854	**8.480399**	
San Joaquin	2023	T6 Instate Tractor Class 7	Aggregate	Aggregate	Diesel	696.5366058	42802.4924	8051.963163	4.748833943	**9.013264**	
San Joaquin	2023	T6 OOS Class 4	Aggregate	Aggregate	Diesel	5.905142679	392.334655	135.7001788	0.044317954	**8.852725**	
San Joaquin	2023	T6 OOS Class 5	Aggregate	Aggregate	Diesel	7.890998517	538.212595	181.3351459	0.060737656	**8.861267**	
San Joaquin	2023	T6 OOS Class 6	Aggregate	Aggregate	Diesel	24.97157764	1406.36491	573.8468541	0.156409596	**8.991551**	
San Joaquin	2023	T6 OOS Class 7	Aggregate	Aggregate	Diesel	40.57354344	10226.0217	932.3800283	1.062980063	**9.620144**	
San Joaquin	2023	T6 Public Class 4	Aggregate	Aggregate	Diesel	32.09216486	1056.60486	164.6328057	0.140824099	**7.503012**	
San Joaquin	2023	T6 Public Class 5	Aggregate	Aggregate	Diesel	76.27568061	2776.64108	391.2942415	0.361173048	**7.687841**	
San Joaquin	2023	T6 Public Class 6	Aggregate	Aggregate	Diesel	126.4582156	4446.297	648.7306462	0.576020372	**7.718993**	
San Joaquin	2023	T6 Public Class 7	Aggregate	Aggregate	Diesel	152.7305258	6768.06936	783.5075973	0.883776286	**7.658125**	
San Joaquin	2023	T6 Utility Class 5	Aggregate	Aggregate	Diesel	33.47606031	1364.93307	428.493572	0.154770907	**8.819055**	
San Joaquin	2023	T6 Utility Class 6	Aggregate	Aggregate	Diesel	6.356456131	257.430851	81.36263848	0.029104667	**8.845002**	
San Joaquin	2023	T6 Utility Class 7	Aggregate	Aggregate	Diesel	7.230830053	358.500092	92.55462468	0.040337535	**8.887506**	
San Joaquin	2023	T6TS	Aggregate	Aggregate	Gasoline	560.525111	27400.6685	11214.98642	5.873758607	**4.664929**	
San Joaquin	2023	T7 CAIRP Class 8	Aggregate	Aggregate	Diesel	1500.771839	308143.872	34487.73687	51.00604804	**6.04132**	**HHD**
San Joaquin	2023	T7 NNOOS Class 8	Aggregate	Aggregate	Diesel	1343.474448	364734.036	30873.04281	59.83110996	**6.09606**	**5.596459**
San Joaquin	2023	T7 NOOS Class 8	Aggregate	Aggregate	Diesel	562.3598205	132501.396	12923.02868	21.97566159	**6.029461**	
San Joaquin	2023	T7 Other Port Class 8	Aggregate	Aggregate	Diesel	28.6781176	5381.65764	469.174004	0.90785985	**5.927851**	
San Joaquin	2023	T7 POAK Class 8	Aggregate	Aggregate	Diesel	131.1211785	13188.0173	2145.142481	2.26470624	**5.823279**	
San Joaquin	2023	T7 POLA Class 8	Aggregate	Aggregate	Diesel	139.588006	18353.09	2283.659779	3.154875131	**5.817374**	
San Joaquin	2023	T7 Public Class 8	Aggregate	Aggregate	Diesel	387.066761	16533.9411	1985.652484	3.205449572	**5.158072**	
San Joaquin	2023	T7 Single Concrete/Transit Mix Class 8	Aggregate	Aggregate	Diesel	118.1878034	8595.90453	1113.329108	1.467125303	**5.859012**	
San Joaquin	2023	T7 Single Dump Class 8	Aggregate	Aggregate	Diesel	486.5561857	30707.0394	4583.359269	5.327318734	**5.76407**	
San Joaquin	2023	T7 Single Other Class 8	Aggregate	Aggregate	Diesel	1040.735731	57042.4876	9803.730584	9.736964144	**5.858344**	
San Joaquin	2023	T7 SWCV Class 8	Aggregate	Aggregate	Diesel	175.044521	11346.9523	805.2047965	4.507153801	**2.517543**	
San Joaquin	2023	T7 Tractor Class 8	Aggregate	Aggregate	Diesel	2638.276559	211937.817	38334.1584	34.91925222	**6.069369**	
San Joaquin	2023	T7 Utility Class 8	Aggregate	Aggregate	Diesel	23.22093261	1080.67322	297.2279374	0.186573576	**5.792209**	
San Joaquin	2023	T7IS	Aggregate	Aggregate	Gasoline	2.419215607	60.0081934	48.40366587	0.018776223	**3.195967**	
San Joaquin	2023	UBUS	Aggregate	Aggregate	Gasoline	49.369827	3719.55506	197.479308	0.791708132	**4.698139**	
San Joaquin	2023	UBUS	Aggregate	Aggregate	Diesel	78.33872382	5427.523	313.3548953	0.602229331	**9.012386**	
San Joaquin	2025	All Other Buses	Aggregate	Aggregate	Diesel	67.92171408	3454.27959	604.5032553	0.395338932	**8.737514**	
San Joaquin	2025	LDA	Aggregate	Aggregate	Gasoline	247812.193	10065418.7	1143376.643	340.6379829	**29.54873**	
San Joaquin	2025	LDA	Aggregate	Aggregate	Diesel	620.8563183	19917.7375	2643.071074	0.459921869	**43.30678**	
San Joaquin	2025	LDT1	Aggregate	Aggregate	Gasoline	20969.62889	704503.526	90823.61908	28.55436416	**24.67236**	
San Joaquin	2025	LDT1	Aggregate	Aggregate	Diesel	5.057977491	54.7985719	14.33247387	0.002232746	**24.54313**	
San Joaquin	2025	LDT2	Aggregate	Aggregate	Gasoline	105887.2734	4297523.94	491668.9279	179.0193905	**24.00591**	
San Joaquin	2025	LDT2	Aggregate	Aggregate	Diesel	305.5941154	13558.4186	1463.961841	0.410704288	**33.01261**	
San Joaquin	2025	LHD1	Aggregate	Aggregate	Gasoline	9450.489324	335570.018	140798.2097	34.90157426	**9.614753**	
San Joaquin	2025	LHD1	Aggregate	Aggregate	Diesel	8447.684296	292201.982	106261.2413	18.38163512	**15.89641**	
San Joaquin	2025	LHD2	Aggregate	Aggregate	Gasoline	1129.168714	39496.2437	16822.93138	4.600897482	**8.584465**	
San Joaquin	2025	LHD2	Aggregate	Aggregate	Diesel	3098.911716	112092.227	38980.41096	8.493201579	**13.19788**	
San Joaquin	2025	MCY	Aggregate	Aggregate	Gasoline	12009.69999	64631.0827	24019.39998	1.598967718	**40.42051**	
San Joaquin	2025	MDV	Aggregate	Aggregate	Gasoline	92446.53152	3253692.9	417141.1232	169.0306745	**19.24913**	
San Joaquin	2025	MDV	Aggregate	Aggregate	Diesel	1393.091492	51951.9772	6420.977754	2.139013823	**24.28782**	
San Joaquin	2025	MH	Aggregate	Aggregate	Gasoline	1345.73466	11738.0981	134.6272954	2.660033836	**4.412763**	
San Joaquin	2025	MH	Aggregate	Aggregate	Diesel	631.6240768	5453.24118	63.16240768	0.580283559	**9.397546**	
San Joaquin	2025	Motor Coach	Aggregate	Aggregate	Diesel	18.80772922	2514.51501	432.2016174	0.452917647	**5.551815**	
San Joaquin	2025	OBUS	Aggregate	Aggregate	Gasoline	170.8324994	7309.03024	3418.016649	1.52248184	**4.800734**	

San Joaquin	2025	PTO	Aggregate	Aggregate	Diesel	0	20105.4227	0	3.98427046	**5.046199**		
San Joaquin	2025	SBUS	Aggregate	Aggregate	Gasoline	131.6189784	7271.29468	526.4759134	0.71341232	**10.19228**		
San Joaquin	2025	SBUS	Aggregate	Aggregate	Diesel	490.2787139	10849.6548	7099.235777	1.320741795	**8.214819**	**MHD**	
San Joaquin	2025	T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	10.57610418	697.742444	243.038874	0.077548733	**8.997471**	**8.711536**	
San Joaquin	2025	T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	14.00551629	958.755772	321.8467643	0.106617779	**8.992457**		
San Joaquin	2025	T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	47.29566683	2488.35531	1086.854424	0.272426579	**9.13404**		
San Joaquin	2025	T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	78.11014265	15772.0773	1794.971078	1.605687139	**9.822634**		
San Joaquin	2025	T6 Instate Delivery Class 4	Aggregate	Aggregate	Diesel	252.424868	8475.97193	3602.102866	1.019116289	**8.316982**		
San Joaquin	2025	T6 Instate Delivery Class 5	Aggregate	Aggregate	Diesel	162.4907366	5516.89416	2318.742812	0.666350411	**8.279269**		
San Joaquin	2025	T6 Instate Delivery Class 6	Aggregate	Aggregate	Diesel	708.1406495	23932.0747	10105.16707	2.87788442	**8.315857**		
San Joaquin	2025	T6 Instate Delivery Class 7	Aggregate	Aggregate	Diesel	127.2799027	6929.15534	1816.284212	0.825964977	**8.389164**		
San Joaquin	2025	T6 Instate Other Class 4	Aggregate	Aggregate	Diesel	457.3843802	18839.146	5287.363435	2.200026822	**8.563144**		
San Joaquin	2025	T6 Instate Other Class 5	Aggregate	Aggregate	Diesel	1233.945904	53254.2945	14264.41465	6.208167542	**8.578102**		
San Joaquin	2025	T6 Instate Other Class 6	Aggregate	Aggregate	Diesel	939.5521797	39531.7219	10861.2232	4.582174014	**8.627285**		
San Joaquin	2025	T6 Instate Other Class 7	Aggregate	Aggregate	Diesel	601.2468734	26326.7381	6950.413857	3.002944814	**8.766974**		
San Joaquin	2025	T6 Instate Tractor Class 6	Aggregate	Aggregate	Diesel	11.09411194	521.271565	128.2479341	0.060836197	**8.568444**		
San Joaquin	2025	T6 Instate Tractor Class 7	Aggregate	Aggregate	Diesel	742.8431118	44239.5012	8587.266373	4.878765067	**9.067766**		
San Joaquin	2025	T6 OOS Class 4	Aggregate	Aggregate	Diesel	6.191325924	405.515484	142.2766697	0.044545776	**9.103343**		
San Joaquin	2025	T6 OOS Class 5	Aggregate	Aggregate	Diesel	8.158025029	556.294323	187.4714152	0.061223253	**9.086324**		
San Joaquin	2025	T6 OOS Class 6	Aggregate	Aggregate	Diesel	27.75525515	1453.61298	637.8157633	0.156720574	**9.275189**		
San Joaquin	2025	T6 OOS Class 7	Aggregate	Aggregate	Diesel	42.05361037	10569.5739	966.3919663	1.066856767	**9.90721**		
San Joaquin	2025	T6 Public Class 4	Aggregate	Aggregate	Diesel	30.96340517	1050.77782	158.8422685	0.137051326	**7.667039**		
San Joaquin	2025	T6 Public Class 5	Aggregate	Aggregate	Diesel	77.40598482	2785.90976	397.0927021	0.357713881	**7.788095**		
San Joaquin	2025	T6 Public Class 6	Aggregate	Aggregate	Diesel	124.4648645	4446.56253	638.5047549	0.566454177	**7.849819**		
San Joaquin	2025	T6 Public Class 7	Aggregate	Aggregate	Diesel	148.2002736	6742.4666	760.2674038	0.856702113	**7.870258**		
San Joaquin	2025	T6 Utility Class 5	Aggregate	Aggregate	Diesel	33.80713566	1371.26265	432.7313364	0.154052822	**8.90125**		
San Joaquin	2025	T6 Utility Class 6	Aggregate	Aggregate	Diesel	6.404694197	258.753793	81.98008572	0.028984726	**8.927246**		
San Joaquin	2025	T6 Utility Class 7	Aggregate	Aggregate	Diesel	7.233394318	359.399463	92.58744727	0.039964166	**8.993043**		
San Joaquin	2025	T6TS	Aggregate	Aggregate	Gasoline	531.0756316	27321.54	10625.76124	5.695995374	**4.796623**	**HHD**	
San Joaquin	2025	T7 CAIRP Class 8	Aggregate	Aggregate	Diesel	1559.383676	317454.145	35834.63687	51.17555421	**6.203238**	**5.689878**	
San Joaquin	2025	T7 NNOOS Class 8	Aggregate	Aggregate	Diesel	1399.986354	379791.503	32171.68641	59.50406302	**6.382615**		
San Joaquin	2025	T7 NOOS Class 8	Aggregate	Aggregate	Diesel	592.9033383	137971.507	13624.91871	22.13949036	**6.231919**		
San Joaquin	2025	T7 Other Port Class 8	Aggregate	Aggregate	Diesel	31.09466321	5773.39367	508.7086901	0.965450648	**5.979999**		
San Joaquin	2025	T7 POAK Class 8	Aggregate	Aggregate	Diesel	137.4284865	13680.6366	2248.330039	2.333991731	**5.861476**		
San Joaquin	2025	T7 POLA Class 8	Aggregate	Aggregate	Diesel	157.478818	19849.822	2576.353462	3.419583803	**5.804748**		
San Joaquin	2025	T7 Public Class 8	Aggregate	Aggregate	Diesel	386.4284577	16615.451	1982.377988	3.157962941	**5.261446**		
San Joaquin	2025	T7 Single Concrete/Transit Mix Class 8	Aggregate	Aggregate	Diesel	121.0999578	8533.43151	1140.761603	1.428680336	**5.972947**		
San Joaquin	2025	T7 Single Dump Class 8	Aggregate	Aggregate	Diesel	518.3758674	30855.2217	4883.100671	5.328325632	**5.790791**		
San Joaquin	2025	T7 Single Other Class 8	Aggregate	Aggregate	Diesel	1163.187559	58572.1124	10957.22681	9.897066107	**5.918129**		
San Joaquin	2025	T7 SWCV Class 8	Aggregate	Aggregate	Diesel	167.5568448	10862.3368	770.7614863	4.227120943	**2.569677**		
San Joaquin	2025	T7 Tractor Class 8	Aggregate	Aggregate	Diesel	2947.082282	219605.844	42821.10556	35.73125002	**6.146044**		
San Joaquin	2025	T7 Utility Class 8	Aggregate	Aggregate	Diesel	24.5522509	1096.54573	314.2688115	0.187591616	**5.845388**		
San Joaquin	2025	T7IS	Aggregate	Aggregate	Gasoline	1.372290651	54.2951776	27.45679134	0.014900233	**3.643915**		
San Joaquin	2025	UBUS	Aggregate	Aggregate	Gasoline	50.67993554	3818.16315	202.7197421	0.812722391	**4.697992**		
San Joaquin	2025	UBUS	Aggregate	Aggregate	Diesel	73.34639924	4977.17265	293.3855969	0.526331001	**9.456355**		

On-road Mobile (Operational) Energy Usage

Unmitigated:

Step 1:

Therefore:

Average Daily VMT:

96,884	Source: WK Shijo Consulting, 2023

Step 2: Given:

Fleet Mix (CalEEMod Output)

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
37.37%	3.63%	11.71%	10.11%	1.74%	0.42%	0.87%	32.21%	0.03%	0.02%	1.58%	0.08%	0.23%

And:

Gasoline MPG Factors for each Vehicle Class - Year 2025 (EMFAC2021 Output)

LDA	LDT1	LDT2	MDV	MCY	MH
29.549	24.672	24.006	19.249	40.421	4.413

Diesel MPG Factors for each Vehicle Class - Year 2023 (EMFAC2021 Output)

LHD1	LHD2	MHD	HHD	OBUS	UBUS	SBUS
15.896	13.198	8.712	5.690	4.801	9.456	8.215

Therefore:

Weighted Average MPG Factors

Gasoline:	**26.8**	Diesel:	**6.4**

Step 3: **Therefore:**

2,334	**daily gallons of gasoline**	**5,395**	**daily gallons of diesel**

or

851,728	**annual gallons of gasoline**	**1,969,247**	**annual gallons of diesel**

Off-road Mobile (Construction) Energy Usage

Note: For the sake of simplicity, and as a conservative estimation, it was assumed that all off-road vehicles use diesel fuel as an energy source.

Given Factor:	**1,054.8**	**metric tons**	**CO2**	**(provided in CalEEMod Output File)**
Conversion Factor:	2204.6262	pounds	per metric ton	
Intermediate Result:	**2,325,396**	**pounds**	**CO2**	
Conversion Factor:	22.38	pounds	CO2 per 1 gallon of diesel fuel	Source: U.S. EIA, 2016
Final Result:	**103,905**	**gallons**	**diesel fuel**	http://www.eia.gov/tools/faqs/faq.cfm?id=307&t=11

Mitigated Onsite Scenario	Total CO2 (MT/yr) (provided in CalEEMod Output File)
Site Preparation	145
Grading	180

On-road Mobile (Construction) Energy Usage - Site Preparation

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

18

Worker Trip Length (miles) (CalEEMod Output)

11.9

Therefore:

Average Worker Daily VMT:

214

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class (EMFAC2021 Output) - Year 2023

LDA	LDT1	LDT2
28.55	23.82	22.98

Therefore:

Weighted Average Worker MPG Factor

26.0

Step 3: **Therefore:**

8.2 **Worker daily gallons of gasoline**

Step 4: 60 **# of Days (CalEEMod Output)**

Therefore:

Result: **495** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Grading

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1:

Total Daily Worker Trips (CalEEMod Output)

20

Total Hauling Trips (CalEEMod Output)

-

Worker Trip Length (miles) (CalEEMod Output)

11.9

Hauling Trip Length (miles) (CalEEMod Output)

20

Therefore:

Average Worker Daily VMT:

238

Average Vendor Daily VMT:

-

Step 2:

Given:

Assumed Fleet Mix for Workers

LDA	LDT1	LDT2
0.5	0.25	0.25

(Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

Fleet Mix for Workers (Conservative Estimate)

MHD	HHD
0%	100%

And:

Gasoline MPG Factors for each Vehicle Class (EMFAC2021 Output) - Year 2023

LDA	LDT1	LDT2
28.55	23.82	22.98

Diesel:

MHD	HHD
8.58	5.60

Therefore:

Weighted Average Worker MPG Factor

26.0

Weighted Average Hauling (Diesel) MPG Factor

5.6

Step 3:

Therefore:

9.2 **Worker daily gallons of gasoline**

Step 4:

60 **# of Days (CalEEMod Output)**

Therefore:

Result: **550** **Total gallons of gasoline**

Therefore:

- **Total gallons of diesel**

On-road Mobile (Construction) Energy Usage - Building Construction

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1:

Total Daily Worker Trips (CalEEMod Output)

578

Note: Assumes 5% of workers are on-site on a given day.

Total Daily Vendor Trips (CalEEMod Output)

151

Note: Assumes 5% of workers are on-site on a given day.

Worker Trip Length (miles) (CalEEMod Output)

11.9

Vendor Trip Length (miles) (CalEEMod Output)

9.1

Therefore:

Average Worker Daily VMT:

344

Average Vendor Daily VMT:

69

Step 2:

Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

Fleet Mix for Workers (CalEEMod Output)

MHD	HHD
100%	0%

Assumed Fleet Mix for Vendors

And:

MPG Factors for each Vehicle Class (from EMFAC2021) - Year 2023

Gasoline:

LDA	LDT1	LDT2
28.55	23.82	22.98

Diesel:

MHD	HHD
8.58	5.60

Therefore:

Weighted Average Worker (Gasoline) MPG Factor

26.0

Weighted Average Vendor (Diesel) MPG Factor

8.6

Step 3:

Therefore:

13 Worker daily gallons of gasoline

Therefore:

8 Vendor daily gallons of diesel

Step 4:

600 **# of Days (CalEEMod Output)**

Therefore:

7,944 Total gallons of gasoline

Therefore:

4,805 Total gallons of diesel

On-road Mobile (Construction) Energy Usage - Paving

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

15

Worker Trip Length (miles) (CalEEMod Output)

11.9

Therefore:

Average Worker Daily VMT:

179

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class (EMFAC2021 Output) - Year 2023

LDA	LDT1	LDT2
28.55	23.82	22.98

Therefore:

Weighted Average Worker MPG Factor

26.0

Step 3: **Therefore:**

6.9 **Worker daily gallons of gasoline**

Step 4: 100 **# of Days (CalEEMod Output)**

Therefore:

Result: **687** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Architectural Coating

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

116

Worker Trip Length (miles) (CalEEMod Output)

11.9

Therefore:

Average Worker Daily VMT:

1,380

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class (EMFAC2021 Output) - Year 2023

LDA	LDT1	LDT2
28.55	23.82	22.98

Therefore:

Weighted Average Worker MPG Factor

26.0

Step 3: **Therefore:**

53.1 **Worker daily gallons of gasoline**

Step 4: 100 **# of Days (CalEEMod Output)**

Therefore:

Result: **5,314** **Total gallons of gasoline**

APPENDIX C

Biological Records Searches

APPENDIX D

Cultural Resources Assessment

CULTURAL RESOURCE ASSESSMENT

FOR THE LE BARON RANCH PROJECT

SAN JOAQUIN COUNTY, CALIFORNIA

Prepared by

Melinda A. Peak
Peak & Associates, Inc.
3941 Park Drive, Suite 20-329
El Dorado Hills, CA 95762
(916) 939-2405

Prepared for

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762

August 2023
(Job #22-002)

INTRODUCTION

Project Location

The LeBaron Ranch Project site (proposed Project site) is located in the northern portion of the City of Stockton Metropolitan Area, within the unincorporated area of San Joaquin County. The Project site is adjacent to the City of Stockton's northern city limits, within the City of Stockton (City) Sphere of Influence (SOI) (as defined in the Envision Stockton 2040 General Plan), and within the City of Stockton Urban Services Boundary.

The Project site is bounded on the north by Eight Mile Road, to the east by West Lane, and to the west by Lower Sacramento Road. The future Marlette Road, between Lower Sacramento Road and West Lane, will form the property's southern boundary. The Project site is located within Section 3 of Township 2 North, Range 6 East Mount Diablo Base and Meridian. Figures 1 and 2 show the Project's regional location and vicinity.

Project Site Defined

The Project site includes several distinct planning boundaries, defined below. The following terms are used throughout this Draft Environmental Impact Report (DEIR) to describe the planning area boundaries within the Project Site:

- Project Site (or Annexation Area) – includes the whole of the Project (totaling 306.03 acres), including the proposed 236.30-acre Development Area, 56.03-acre Non-development Area, and 13.7 acres of existing right-of-way.

- Development Area – includes six parcels totaling 236.30 acres (APNs 084-050-06, -07, -08, -14, -27, and -28) that is intended for the development of up to 1,411 residential units, two parks, and public infrastructure.

- Non-development Area – includes six parcels totaling 56.03 acres with agricultural uses, a commercial use (1 building) and a church, situated in the northwestern portion of the Project Site.

- Right-of-Way Annexation Area – includes 13.7 acres of remaining right-of-way outside of areas of dedication owned by San Joaquin County and intended to be annexed into the City of Stockton.

Project Setting: Existing Site Conditions

The Project Site is 306.03 acres located on 11 assessor parcels (APNs) and remaining County right-of-way as follows: Development Area (six parcels totaling 236.30 acres), Non-development Area (six parcels totaling 56.03 acres), and Right-of-Way Annexation Area (13.7 acres of remaining County right-of-way). Figure 3 illustrates the APNs.

The Non-development Area is bordered on the north by Eight Mile Road, on the east and south by agricultural lands within the Development Area, and on the west by Lower Sacramento Road. The Non-development area consists of agricultural land, one existing residential home in the northwestern portion, a commercial use (single building), and a church.

The Right-of-Way Annexation Area includes Eight Mile Road, forming the northern border of the Project site.

Figure 4 shows aerial imagery of the current existing site uses within the Project site.

Cultural Resources

The following study has been prepared to meet the needs of a CEQA review. The project research included a records search, check of the Native American Heritage Commission Sacred Lands files, and a field survey of the Development Area.

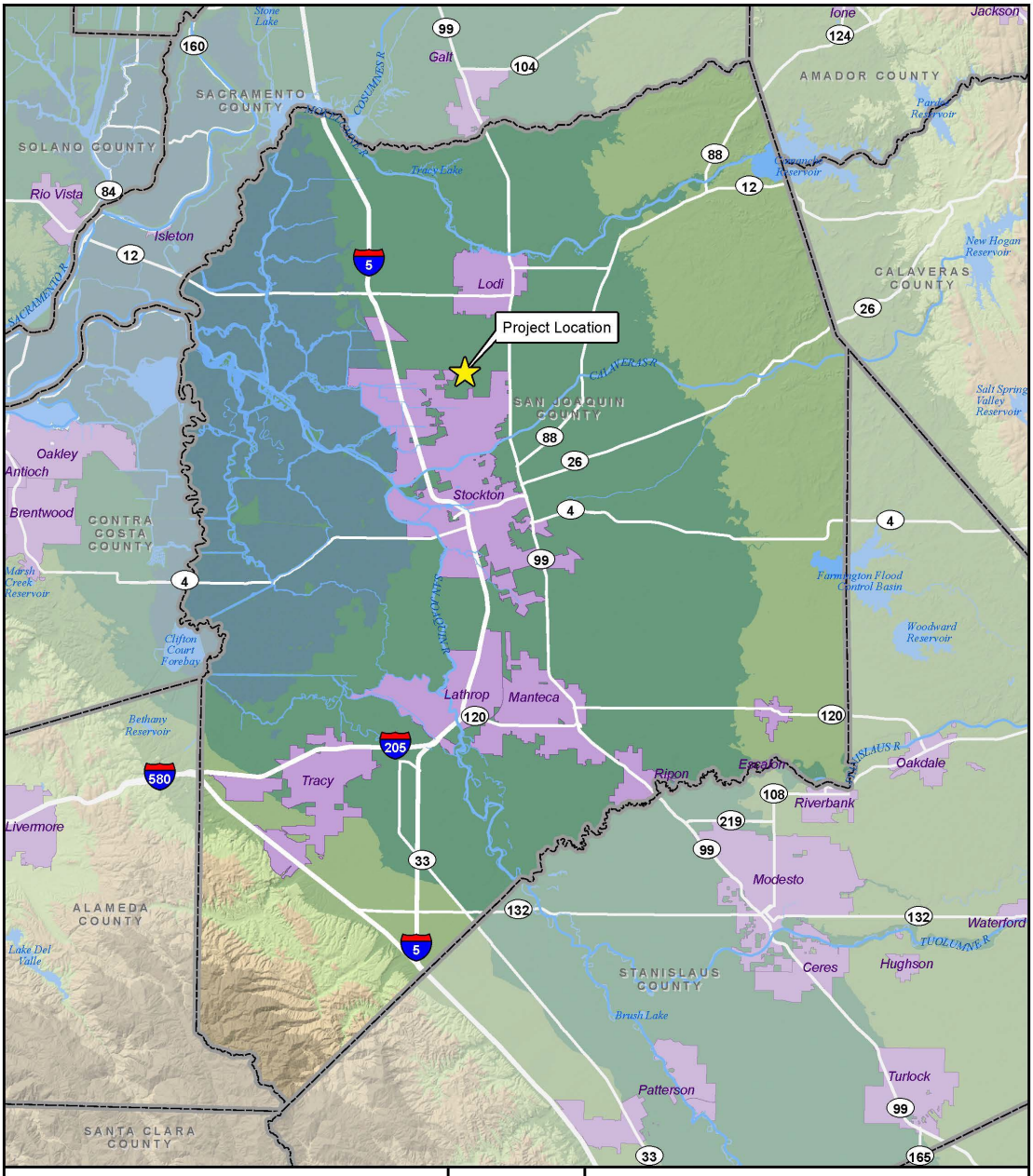
Melinda A. Peak, senior historian/archeologist with Peak & Associates, Inc. served as principal investigator for the study, with archeologist Michael Lawson completing the field survey (resumes, Appendix 1).

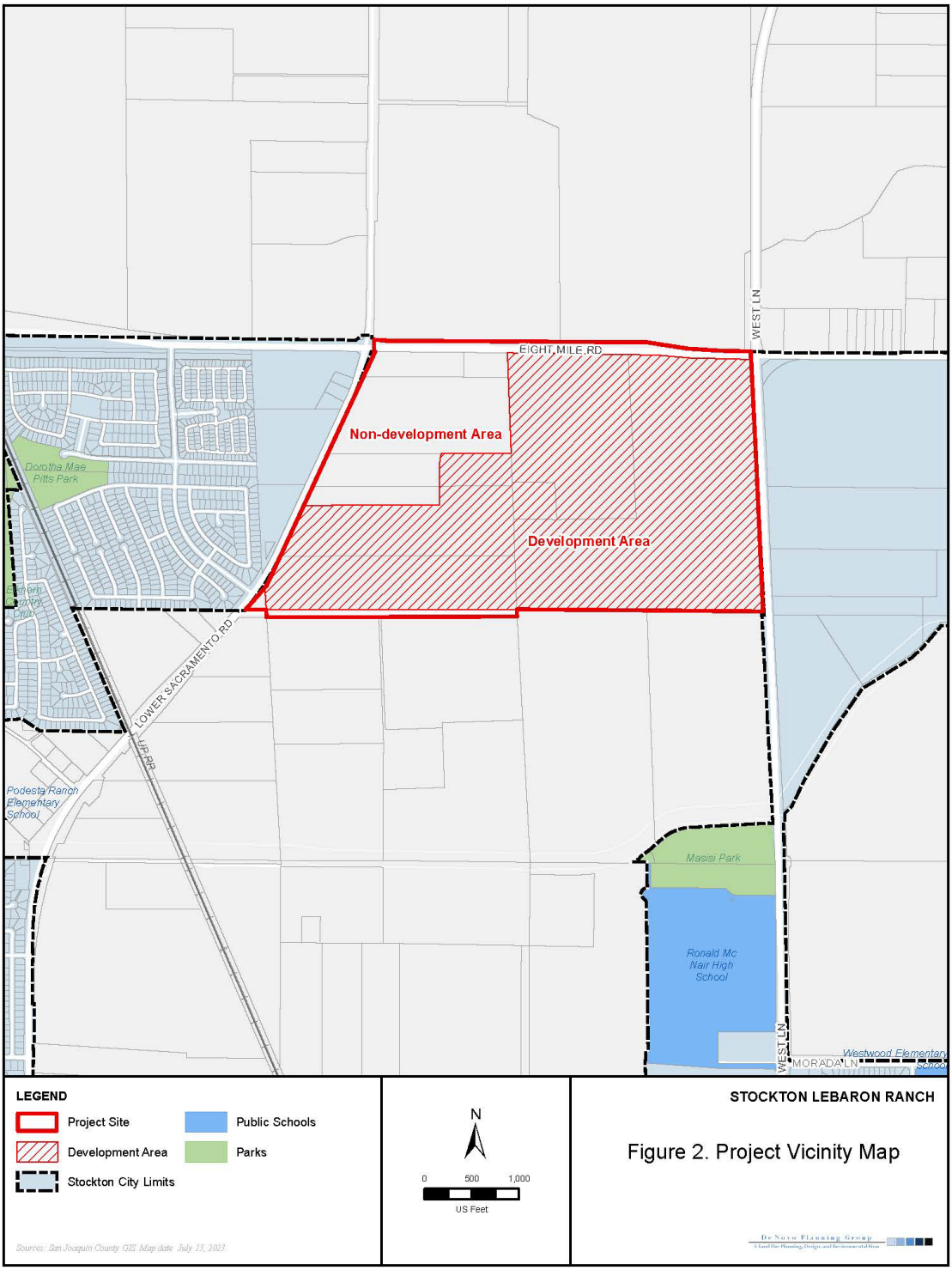
REGULATORY CONTEXT

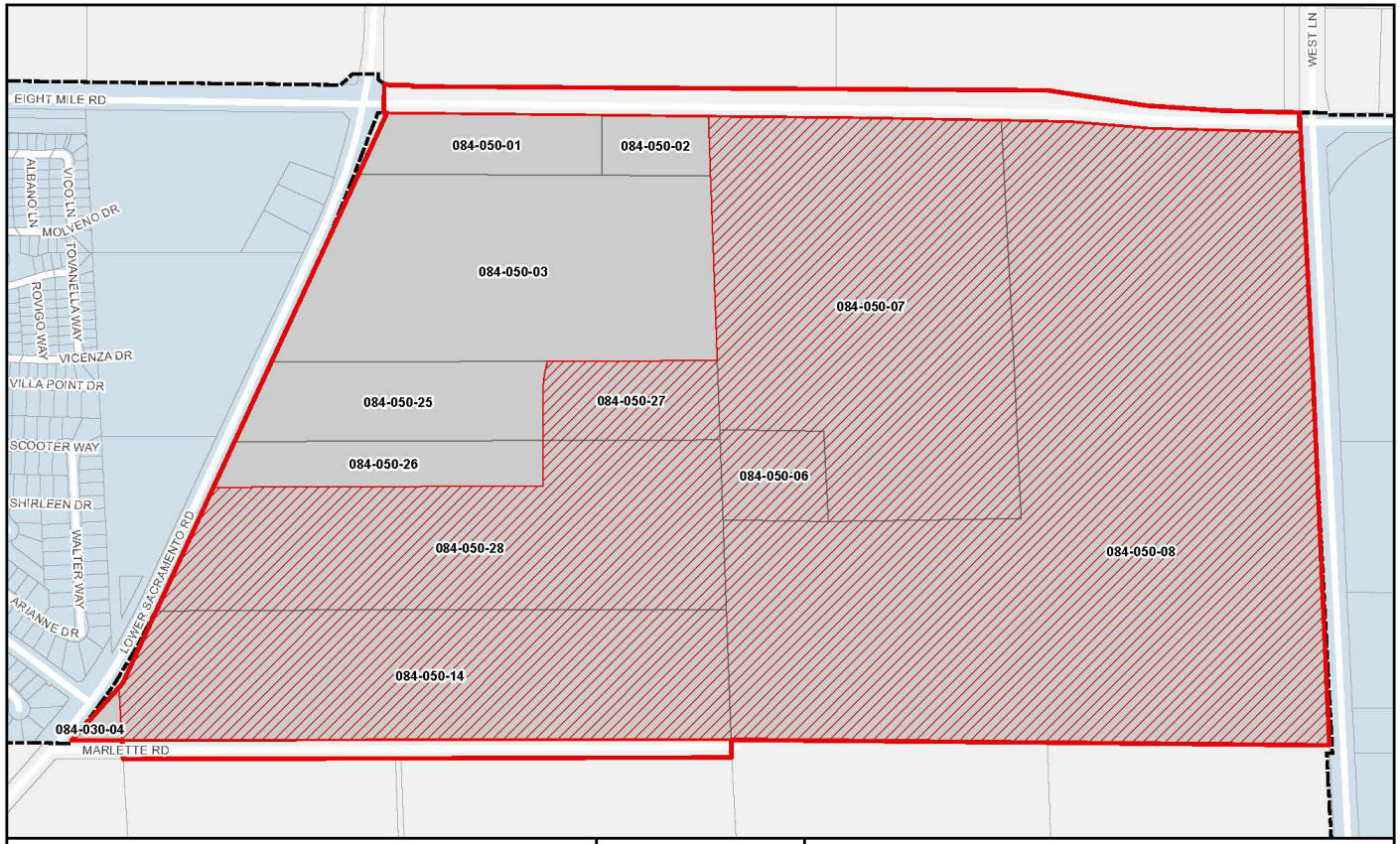
State historic preservation regulations affecting this project include the statutes and guidelines contained in the California Environmental Quality Act (CEQA; Public Resources Code sections 21083.2 and 21084.1 and sections 15064.5 and 15126.4 (b) of the CEQA Guidelines). CEQA Section 15064.5 requires that lead agencies determine whether projects may have a significant effect on archaeological and historical resources. Public Resources Code Section 21098.1 further cites: A project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

An "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript that is historically or archaeologically significant (Public Resources Code section 5020.1).

Advice on procedures to identify such resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research (OPR), *CEQA and Archaeological Resources,* 1994. The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including, but not limited to, museums, historical commissions, associations, and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of the antiquity and provides for the sensitive treatment and disposition of those remains (California Health and Safety Code Section 7050.5, California Public Resources Codes Sections 5097.94 et al).


Project Location
SACRAMENTO COUNTY
SOLANO COUNTY
AMADOR COUNTY
CALAVERAS COUNTY
SAN JOAQUIN COUNTY
CONTRA COSTA COUNTY
ALAMEDA COUNTY
STANISLAUS COUNTY
SANTA CLARA COUNTY
Galt
Lodi
Stockton
Manteca
Lathrop
Tracy
Ripon
Escalon
Riverbank
Oakdale
Modesto
Waterford
Hughson
Ceres
Turlock
Patterson
Oakley
Antioch
Brentwood
Livermore
Rio Vista
Isleton
Ione
Jackson
Tracy Lake
Brush Lake
Lake Del Valle
Bethany Reservoir
Clifton Court Forebay
Marsh Creek Reservoir
Farmington Flood Control Basin
Woodward Reservoir
New Hogan Reservoir
Salt Spring Valley Reservoir
Pardee Reservoir
Camanche Reservoir
Stone Lake
SACRAMENTO R
CALAVERAS R
STANISLAUS R
TUOLUMNE R
99
160
104
124
88
12
84
5
26
4
205
580
120
108
219
33
132
165
LEGEND
County Boundary
Incorporated Area
N
0 2½ 5
Miles
STOCKTON LEBARON RANCH
Figure 1. Regional Project Location
Sources: San Joaquin County GIS. Map date: July 13, 2023.
De Novo Planning Group


EIGHT MILE RD
WEST LN
Non-development Area
Development Area
Dorothia Mae Pitts Park
LOWER SACRAMENTO RD
UP RR
Podesta Ranch Elementary School
Masisi Park
Ronald Mc Nair High School
WEST LN
MORADA LN
Westwood Elementary School
LEGEND
Project Site
Development Area
Stockton City Limits
Public Schools
Parks
N
0
500
1,000
US Feet
Sources: San Joaquin County GIS. Map date: July 13, 2023.
STOCKTON LEBARON RANCH
Figure 2. Project Vicinity Map
De Novo Planning Group


EIGHT MILE RD
WEST LN
084-050-01
084-050-02
084-050-03
084-050-07
084-050-25
084-050-27
084-050-26
084-050-06
084-050-28
084-050-08
084-050-14
084-030-04
MARLETTE RD
LOWER SACRAMENTO RD
ALBANO LN
VICO LN
MOLVENO DR
TOVANELLA WAY
ROVIGO WAY
VICENZA DR
VILLA POINT DR
SCOOTER WAY
SHIRLEEN DR
WALTER WAY
ARIANNE DR
LEGEND
Project Site
Development Area
Project Parcels
Stockton City Limits
Sources: San Joaquin County GIS. Map date: July 13, 2023.
N
0
250
500
US Feet
STOCKTON LEBARON RANCH
Figure 3. APN Map
De Novo Planning Group



LEGEND

- Project Site
- Development Area
- Stockton City Limits

N

0 250 500

US Feet

Sources: ArcGIS Map Service; San Joaquin County GIS. Map date: July 13, 2023.

STOCKTON LEBARON RANCH

Figure 4 Aerial Map

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

CULTURAL SETTING

Prehistory

The Central Valley region was among the first in the state to attract intensive fieldwork, and research has continued to the present day. This has resulted in a substantial accumulation of data. In the early decades of the 1900s, E.J. Dawson explored numerous sites near Stockton and Lodi, later collaborating with W.E. Schenck (Schenck and Dawson 1929). By 1933, the focus of work was directed to the Cosumnes locality, where survey and excavation studies were conducted by the Sacramento Junior College (Lillard and Purves 1936).

Excavation data from the stratified Windmiller site (CA-Sac-107), suggested two temporally distinct cultural traditions. Later work at other mounds by Sacramento Junior College and the University of California, Berkeley, enabled the investigators to identify a third cultural tradition, intermediate between the previously postulated Early and Late Horizons. The three-horizon sequence, based on discrete changes in ornamental artifacts and mortuary practices, as well as on observed differences in soils within sites (Lillard, Heizer and Fenenga 1939), was later refined by Beardsley (1954). An expanded definition of artifacts diagnostic of each time period was developed, and its application extended to parts of the central California coast. Traits held in common allow the application of this system within certain limits of time and space to other areas of prehistoric central California.

The Windmiller Culture (Early Horizon) is characterized by ventrally-extended burials (some dorsal extensions are known), with westerly orientation of heads; a high percentage of burials with grave goods; frequent presence of red ocher in graves; large projectile points, of which 60 percent are of materials other than obsidian; rectangular *Haliotis* beads; *Olivella* shell beads (types A1a and L); rare use of bone; some use of baked clay objects; and well-fashioned charmstones, usually perforated.

The Cosumnes Culture (Middle Horizon) displays considerable changes from the preceding cultural expression. The burial mode is predominately flexed, with variable cardinal orientation and some cremations present. There are a lower percentage of burials with grave goods, and ocher staining is common in graves. *Olivella* beads of types C1, F and G predominate, and there is abundant use of green *Haliotis* sp. rather than red *Haliotis* sp. Other characteristic artifacts include perforated and canid teeth; asymmetrical and "fishtail" charmstones, usually unperforated; cobble mortars and evidence of wooden mortars; extensive use of bone for tools and ornaments; large projectile points, with considerable use of rock other than obsidian; and use of baked clay.

Hotchkiss Culture (Late Horizon) -- The burial pattern retains the use of the flexed mode, and there is wide spread evidence of cremation, lesser use of red ocher, heavy use of baked clay, *Olivella* beads of Types E and M, extensive use of *Haliotis* ornaments of many elaborate shapes and forms, shaped mortars and cylindrical pestles, bird-bone tubes with elaborate geometric designs, clam shell disc beads, small projectile points indicative of the introduction of the bow and arrow, flanged tubular pipes of steatite and schist, and use of magnesite (Moratto 1984:181-183). The characteristics noted are not all-inclusive, but cover the more important traits.

Schulz (1981), in an extensive examination of the central California evidence for the use of acorns, used the terms Early, Middle and Late Complexes, but the traits attributed to them remain generally the same. While it is not altogether clear, Schulz seemingly uses the term "Complex" to refer to the particular archeological entities (above called "Horizons") as defined in this region. Ragir's (1972) cultures are the same as Schulz's complexes.

Bennyhoff and Hughes (1984) have presented alternative dating schemes for the Central California Archeological Sequence. The primary emphasis is a more elaborate division of the horizons to reflect what is seen as cultural/temporal changes within the three horizons and a compression of the temporal span.

There have been other chronologies proposed, including Fredrickson (1973), and since it is correlated with Bennyhoff's (1977) work, it does merit discussion. The particular archeological cultural entities Fredrickson has defined, based upon the work of Bennyhoff, are patterns, phases and aspects. Bennyhoff's (1977) work in the Plains Miwok area is the best definition of the Cosumnes District, which likely conforms to Fredrickson's pattern. Fredrickson also proposed periods of time associated heavily with economic modes, which provides a temporal term for comparing contemporary cultural entities. It corresponds with Willey and Phillips' (1958) earlier "tradition", although it is tied more specifically to the archeological record in California.

Ethnography

The project area lies within the northern portion of the ethnographic territory of the Yokuts people. The Yokuts were members of the Penutian language family which held all of the Central Valley, San Francisco Bay Area, and the Pacific Coast from Marin County to near Point Sur. The Yokuts differed from other ethnographic groups in California as they had true tribal divisions with group names (Kroeber 1925; Latta 1949). Each tribe spoke a particular dialect, common to its members, but similar enough to other Yokuts that they were mutually intelligible (Kroeber 1925).

The Yokuts held portions of the San Joaquin Valley from the Tehachapi in the south to Stockton in the north. On the north they were bordered by the Plains Miwok, and on the west by the Saclan or Bay Miwok and Costonoan peoples. Although neighbors were often from distinct language families, differences between the people appear to have been more influenced by environmental factors as opposed to linguistic affinities. Thus, the Plains Miwok were more similar to the nearby Yokuts than to foothill members of their own language group. Similarities in cultural inventory co-varied with distance from other groups and proximity to culturally diverse people. The material culture of the southern San Joaquin Yokuts was therefore more closely related to that of their non-Yokuts neighbors than to that of Delta members of their own language group.

Trade was well developed, with mutually beneficial interchange of needed or desired goods. Obsidian, rare in the San Joaquin Valley, was obtained by trade with Paiute and Shoshoni groups on the eastern side of the Sierra Nevada, where numerous sources of this material are located, and to some extent from the Napa Valley to the north. Shell beads, obtained by the Yokuts from coastal

people, and acorns, rare in the Great Basin, were among many items exported to the east by Yokuts traders (Davis 1961).

Economic subsistence was based on the acorn, with substantial dependency on gathering and processing of wild seeds and other vegetable foods. The rivers, streams, and sloughs that formed a maze within the valley provided abundant food resources such as fish, shellfish, and turtles. Game, wild fowl, and small mammals were trapped and hunted to provide protein augmentation of the diet. In general, the eastern portion of the San Joaquin Valley provided a lush environment of varied food resources, with the estimated large population centers reflecting this abundance (Cook 1955; Baumhoff 1963).

Settlements were oriented along the water ways, with their village sites normally placed adjacent to these features for their nearby water and food resources. House structures varied in size and shape (Latta 1949; Kroeber 1925), with most constructed from the readily available tules found in the extensive marshes of the low-lying valley areas. The housepit depressions for the structures ranged in diameter from 3 meters to 18 meters (Wallace 1978:470).

Historical Background

The agricultural value of the San Joaquin Valley was recognized early in time, with much of the region used for dry land grain farming. The early completion of railroads through the region helped provide a ready means of shipping farm projects. The 1870 San Joaquin County map shows the Western Pacific railroad line west of the Project site. By 1883, the rail line had been acquired by the Central Pacific and by 1905, the Southern Pacific.

The land of the overall Development Area has been used for agricultural purposes, with many different owners over time. It is only now, with increasing urbanization in the region, in part spurred on by the expansion of population growth and increased real estate cost in the Bay Area, that development has also spread to the Stockton area, resulting in conversion of agricultural properties to residential uses.

The entire acreage in the northeastern quarter of section 3, the major portion of the Project site, was owned in 1879 by George H. Ashley. Ashley grew primarily wheat on his many holdings, with his residence in Woodbridge. The land of the east side of the Project site, located in the south half of the northwest quarter was owned by Walter Rundell.

In 1919, the northeast quarter, formerly owned by Ashley, had been divided into two parcels, with the eastern parcel 106 acres valued at $3185. The western sixty acres were valued at $1800. The southern 80 acres of the northwest quarter was owned by J.E. Williams, valued at $2400. It may be that during this era, crops that required irrigation were planted rather than the dry grain farming of previous landowners.

RESEARCH

A record search was conducted for the Project Site and a 0.25-mile radius through the Central California Information Center of the California Historical Resources Information System on April 11, 2022 (Record Search File No.: 12150L; Appendix 2). No resources have been reported in the Project area. Several resources have been found in the 0.25-mile search radius. There are three reports within the Project site, and eleven other studies in the 0.25-mile search radius. Covering the Development Area are studies by P. Jensen in 2004 (SJ 05488); Marvin and Breja in 2006 (SJ 06132); and ESA in 2007 (SJ 06843). Full citations for the reports are included in the Report List in Appendix 2.

NATIVE AMERICAN CONSULTATION

A letter was sent to the Native American Heritage Commission (NAHC) by the City of Stockton requesting a check of the Sacred Lands files for the project site. A reply from the NAHC was prepared on August 24, 2023 (Appendix 3). The NAHC letter indicated the results were negative for Sacred Lands and provided a list of eleven groups, several of which have multiple contacts, who might have knowledge of resources of concern in the Project Area. The City of Stockton appears to be conducting Native American consultation as required for government-to-government consultation.

FIELD ASSESSMENT

The Development Area of 236.30 acres was surveyed by Michael Lawson on April 1, 2, 15 and 16, 2022. The area is connecting square agricultural fields currently tilled and planted, bordered by Eight Mile Road on the north, Lower Sacramento Road on the west, West Lane on the East, and Marlette Road on the south. A natural drainage, Bear Creek, lies to the south of the overall Project Site.

The entire Development Area is flat and level. Dirt roadways running between fields are elevated to 6" to 12". A concrete junction box near 8 Mile Road, close to the entrance road may be the inlet for the supply of irrigation water. The various fields are in different stages of hay production from recent planting to 6" tall. Larger ditches lie on the north and south side of the Project area, with smaller ditches in the fields, appearing to have been re-routed depending upon the crop grown on the property over the many seasons of agricultural use.

Native live oaks, valley oaks and native plants are growing along the edges of the fields and ditches, as well as imported plants such as Russian thistle, common thistle, Star thistle and vetch.

The soil throughout fields is similar. The color is medium brown, silty loam in nature with light stone component mostly consisting of small pebbles of granitic components (quartzite, mica, and feldspar. Other noted stone types include meta-volcanic and unidentified crypto-crystalline

silicates. Soil within the likely previous building area is darker and with more loam component. Stains consistent in appearance with industrial oil are common in this area.

View of the ground was excellent due to recent tilling and other weed abatement, rodent excavation, as well as vehicular travel, and recent ditch clearing. The only areas where ground view was impinged upon was along ditches and roadways.

Due to known pre-contact and historical sites in the general area, parallel transects of no more than 3 to 5 meters were used, with the plow rows used for measurement. Closer overlapping inspection occurred within the excavated ditches and areas disturbed by burrowing animals, as well as fence lines and the area where buildings may have been.

No prehistoric period artifacts, features or other resources were observed during the survey. A few scattered historic period items were found, consisting of fragments of milk glass, aqua glass with bubbles, amber glass, porcelain, and brick fragments.

There is no evidence of cultural resources within the Development Area.

RECOMMENDATIONS

There is always a possibility that a site may exist in the project area and be obscured by vegetation, siltation, or historic activities, leaving no surface evidence. If artifacts, exotic rock, shell, or bone are uncovered during the construction, work should stop in that area immediately. A qualified archeologist should be contacted to examine and evaluate the deposit.

Discovery of Human Remains

In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area suspected to overlie adjacent remains until the San Joaquin County Coroner has determined that the remains are not subject to any provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative. The County Coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains.

If the San Joaquin County Coroner determines that the remains are not subject to his or her authority and if the County Coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission (NAHC).

After notification, the NAHC will follow the procedures outlines in Public Resources Code Section 5097.98. that include notifications of the most likely descendants (MLDs), and recommendations for the treatment of the remains. The MLDs will have 48 hours after notification by the NAHC to make their recommendations (PRC Section 5097.98).

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APPENDIX 1

Resumes

PEAK & ASSOCIATES, INC.
RESUME

MELINDA A. PEAK **January 2023**
Senior Historian/Archeologist
3941 Park Drive, Suite 20 #329
El Dorado Hills, CA 95762
(916) 939-2405

PROFESSIONAL EXPERIENCE

Ms. Peak has served as the principal investigator on a wide range of prehistoric and historic excavations throughout California. She has directed laboratory analyses of archeological materials, including the historic period. She has also conducted a wide variety of cultural resource assessments in California, including documentary research, field survey, Native American coordination and consultation, and report preparation.

In addition, Ms. Peak has developed a second field of expertise in applied history, specializing in site-specific research for historic period resources. She is a registered professional historian and has completed many historical research projects for a wide variety of site types.

Through her education and experience, Ms. Peak meets the Secretary of Interior Standards for historian, architectural historian, prehistoric archeologist, and historic archeologist.

EDUCATION

M.A. - History - California State University, Sacramento, 1989
Thesis: *The Bellevue Mine: A Historical Resources Management Site Study in Plumas and Sierra Counties, California*
B.A. - Anthropology - University of California, Berkeley

PROJECTS

In recent months, Ms. Peak has completed several determinations of eligibility and effect documents in coordination with the Corps of Engineers for projects requiring federal permits, assessing the eligibility of many sites for the National Register of Historic Places.

She has also completed historical research projects on a wide variety of topics for any projects including the development of navigation and landings on the Napa River, wineries, farmhouses dating to the 1860s, bridges, an early roadhouse, Folsom Dam, and a section of an electric railway line.

In recent years, Ms. Peak has prepared a number of cultural resource overviews and predictive models for blocks of land proposed for future development for general and specific plans. She has been able to direct several surveys of these areas, allowing the model to be tested.

She served as principal investigator for the multi-phase Twelve Bridges Golf Club project in Placer County. She served as liaison with the various agencies, helped prepare the historic properties treatment plan, managed the various phases of test and data recovery excavations, and completed the final report on the analysis of the test phase excavations of several prehistoric sites. She is currently involved as the principal investigator for the Teichert Quarry project adjacent to Twelve Bridges in the City of Rocklin, coordinating contacts with Native Americans, the Corps of Engineers, and the Office of Historic Preservation.

Ms. Peak has served as project manager for several major survey and excavation projects in recent years, including the many surveys and site definition excavations for the 172-mile-long Pacific Pipeline proposed for construction in Santa Barbara, Ventura, and Los Angeles counties. She also completed an archival study in the City of Los Angeles for the project. She also served as principal investigator for a major coaxial cable removal project for AT&T.

Additionally, she completed several small surveys, served as a construction monitor at several urban sites, and conducted emergency recovery excavations for sites found during monitoring. She has directed the excavations of several historic complexes in Sacramento, Placer, and El Dorado Counties.

Ms. Peak is the author of a chapter and two sections of a published history (1999) of Sacramento County, *Sacramento: Gold Rush Legacy, Metropolitan Legacy*. She served as the consultant for a children's book on California, published by Capstone Press in 2003 in the Land of Liberty series.

PEAK & ASSOCIATES, INC.
RESUME

MICHAEL LAWSON **January 2023**
Archeological Field Director
3941 Park Drive, Suite 20-329
El Dorado Hills, CA 95672
(916) 939-2405

PROFESSIONAL EXPERIENCE

Mr. Lawson has compiled an excellent record of undertaking excavation and survey projects for both the public and private sectors over the past thirty years. He has conducted numerous surveys throughout northern and central California and Hawaii, as well as serving as an archeological technician, site monitor, crew chief and field director for a number of excavation projects.

Mr. Lawson is qualified by the Bureau of Land Management as a field director for archeological surveys and excavations. In 2022, he led teams as the field director on several field surveys in the Sierras for the proposed undergrounding of PG&E transmission lines, dealing with both historic and prehistoric cultural resources. Lawson works for several firms based in the Sacramento Area and Bay Area.

EDUCATION

B.A. - Anthropology - California State University, Sacramento

Special Course: Comparative Osteology. University of Tennessee, Knoxville. Forensic Anthropology Center. January 2018.

The special course included: intensive lab and outdoor study with human example from outdoor research facility, including typical and non-metric examples, compared with fifty non-human species commonly confused with human remains. Work at the outdoor research facility "The Body Farm" study included survey, photography, collection, and identification of faunal and human bone fragments, with a Power Point presentation discussing finds.

EXPERIENCE

- Extensive monitoring of open space, streets and project development areas for prehistoric period and historic period resources. Areas monitored include Sutter Street in Folsom; Mud Creek Archeological District in Chico; Camp Roberts, San Luis Obispo County; Avila Beach, San Luis Obispo County; Edgewood Golf Course, South Lake Tahoe; Davis Water Project, Davis; Star Bend levee section, Sutter County; Feather River levees, Sutter County; Bodega Bay, Sonoma County; San Jose BART line extension, Santa Clara County; and numerous sites for PG&E in San Francisco.

- Over thirty years of experience working in cultural resource management, volunteer, and academic settings in California historic, proto-historic, and prehistoric archaeology.

- Expertise in pedestrian survey, excavation, feature (including burial) exposure, laboratory techniques, research. Field positions include field director, assistant field director, crew chief and lead technician.

APPENDIX 2

Record Search

CENTRAL CALIFORNIA INFORMATION CENTER

California Historical Resources Information System
Department of Anthropology – California State University, Stanislaus
One University Circle, Turlock, California 95382
(209) 667-3307

Alpine, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus & Tuolumne Counties

Date: 4/11/2022

Records Search File No.: 12150L
Access Agreement: #137
Project: Le Baron Ranches

Robert Gerry
Peak & Associates, Inc.
3941 Park Drive, Suite 30-329
El Dorado Hills, CA 95762
916-939-2405 peakinc@surewest.net

Dear Mr. Gerry:

The Central California Information Center received your record search request for the project area referenced above, located on the Lodi South 7.5' quadrangle in San Joaquin County. The following reflects the results of the records search for the project study area and radius:

As per data currently available at the CCaIC, the locations of resources/reports are provided in the following format: ☒ custom GIS maps ☐ GIS Data/shape files ☐ hand-drawn maps

Summary Data:

Resources within the project area:	None formally reported to the Information Center.
Resources within the 1/4-mile radius:	7: P-39-004489, 4870, 4871, 4872, 4873, 4874, 5250* *See copy of PDF with CCaIC 12149L data package
Reports within the project area:	3: SJ-05488, 6132, 6843* *See copy of PDF with CCaIC 12149L data package
Reports within the 1/4-mile radius:	11: SJ-00791, 1998, 2016, 3128, 5487, 5607, 6507, 6541, 6785, 7231, 8302

Resource Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed

Report Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Resource Record Copies:	☒ enclosed	☐ not requested	☐ nothing listed
Report Copies:	☒ enclosed	☐ not requested	☐ nothing listed

OHP Historic Properties Directory: New Excel File: Built Environment Resource Directory (BERD) Dated 11/17/2021

Not all resources listed in the BERD are mapped in GIS, nor do we have records on file for; if you identify additional resources in the BERD that you need copies of, contact the IC.

	☐ enclosed	☐ not requested	☒ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☐ not requested	☒ nothing listed
CA Inventory of Historic Resources (1976):	☐ enclosed	☒ not requested	☐ nothing listed
Caltrans Bridge Survey:	☐ enclosed	☒ not requested	☐ nothing listed
Ethnographic Information:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Literature:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Local Inventories:	☐ enclosed	☒ not requested	☐ nothing listed
GLO and/or Rancho Plat Maps:	☐ enclosed	☒ not requested	☐ nothing listed

Shipwreck Inventory: ☒ not available at CCIC; please go to http://shipwrecks.slc.ca.gov/ShipwrecksDatabase/Shipwrecks_Database.asp

Soil Survey Maps: ☒ not available at CCIC; please go to http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Note: Billing will be transmitted separately via email by our Financial Services office *($312.45), payable within 60 days of receipt of the invoice.

If you wish to include payment by Credit Card, you must wait to receive the official invoice from Financial Services so that you can reference the CMP # (Invoice Number), and then contact the link below:

https://commerce.cashnet.com/ANTHROPOLOGY

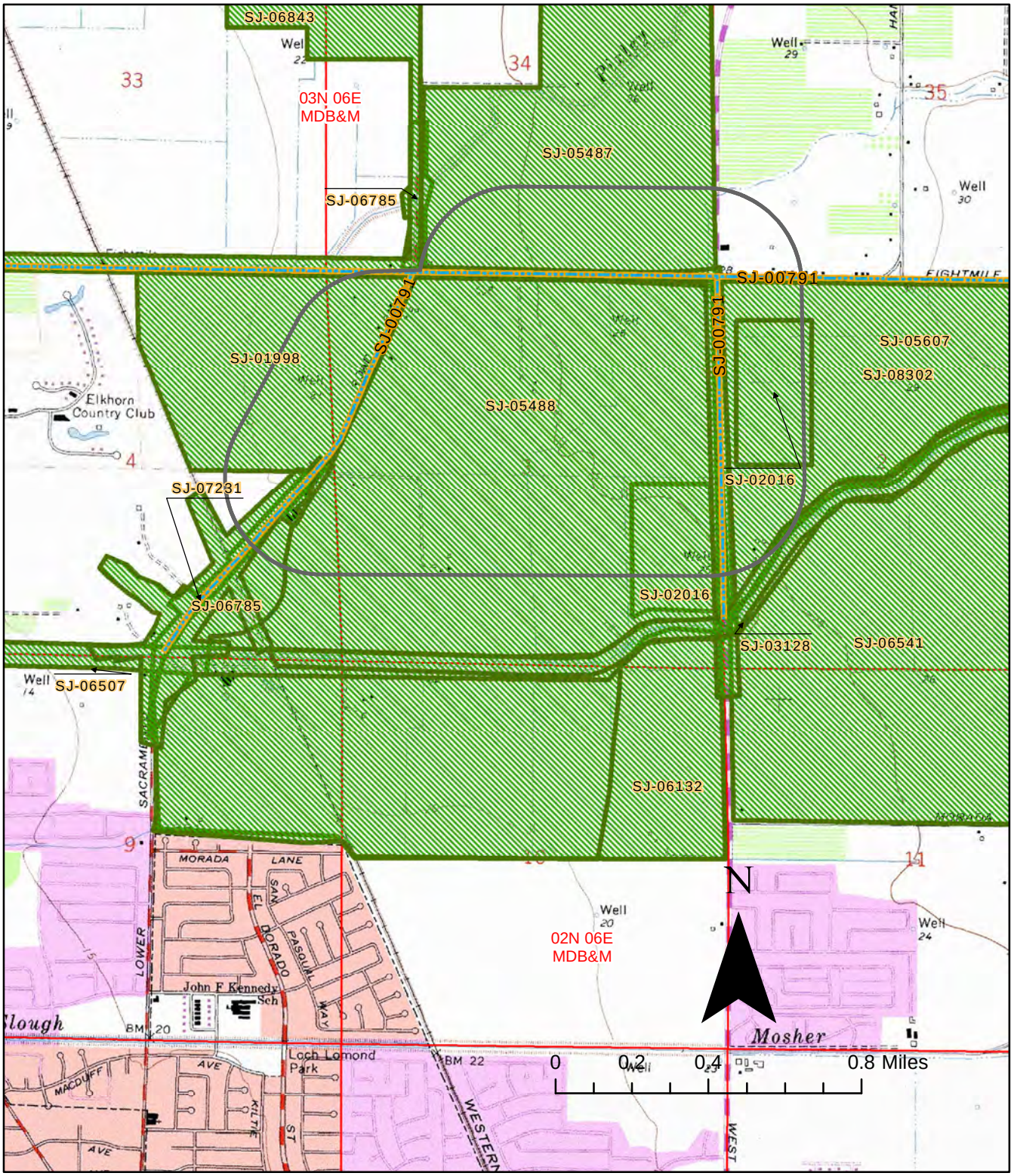
Sincerely,

E. A. Greathouse

E. A. Greathouse, Coordinator
Central California Information Center
California Historical Resources Information System

* Invoice Request sent to: ARBilling@csustan.edu, CSU Stanislaus Financial Services

CCaIC 12150L Le Baron Ranches
Reports 1/4-mile radius 1:24,000-scale
Lodi South USGS 7.5' Quadrangle



Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
SJ-00791	NADB-R - 1361613	1989	Napton, L. K.	Cultural Resource Investigation of the Preliminary Alternative Alignments for the Eight Mile Road Specific Plan, San Joaquin County, California.	CSDU Stanislaus, Institute for Archaeological Research; for Omni-Means	39-000226
SJ-01998	NADB-R - 1360419	1993	Byars, M. A. and R. H. Werner	A Cultural Resources Study of the North Stockton Projects Annexation, San Joaquin County.	Archaeological Services, Inc.	39-000049, 39-000050
SJ-02016	NADB-R - 1360522	1993	Hinshaw, J.	Cultural Resource Reconnaissance Survey of Three Possible High School Site Locations (Approx. 240 Acres) North of Stockton, San Joaquin County, California.	The Planning Center	39-000003, 39-000004, 39-000005
SJ-03128	NADB-R - 1363282	1996	Busby, C. I.	Letter to Ms. Cathy McAfee of EIP Associates, Regarding Cultural Resources Inventory in Compliance with Mitigation Measure 4.5-1(a), Middle Bear Creek and Two Detention Basins, San Joaquin Area Flood Control Restoration Plan.	Basin Research Associates	39-000226
SJ-05487	NADB-R - 1365371	2004	Jensen, Peter	Archaeological Inventory Survey, Proposed North Alpine Development Project, c. 369 Acres Along Eightmile Road, San Joaquin County, California.	Jensen & Associates	39-000283
SJ-05488	NADB-R - 1365372	2004	Jensen, Peter	Archaeological Inventory Survey, Alpine Packing Annexation and Specific Plan Project, c. 1,100 Acres Along Eightmile Road, San Joaquin County, California.	Jensen & Associates	39-000098, 39-004489, 39-004490, 39-004491
SJ-05607	NADB-R - 1365491	2004	Jensen, P.	Archaeological Inventory Survey, Proposed Bear Creek East Development Project, c. 315 Acres Along Eightmile Road, San Joaquin County, California.	Jensen & Associates	39-005250
SJ-06132	NADB-R - 1366151	2006	Marvin, J. and T. Brejla	Historical Resources Survey and Constraints Analysis for the Bear Creek West Development Project Area, Lower Sacramento Road, West Lane, and Eight Mile Road, San Joaquin County, California	LSA Associates	39-004489, 39-004490
SJ-06507	NADB-R - 1366739	2007	URS Corporation	Cultural Resources Report for Geotechnical Evaluations of the San Joaquin Area Flood Control Agency Project Levees	URS Corporation; for DWR	39-000220, 39-004639, 39-004640
SJ-06541	NADB-R - 1366774	2008	Jurich, D., J. Martinez, and S. Smith	A Phase I Cultural Resource Survey of Approximately 510 Acres For The Bear Creek South, Environmental Impact Report, San Joaquin County, California	PBS&J	39-000005, 39-004641, 39-004642, 39-004643

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
SJ-06785	NADB-R - 1367041	2008	Blind, H., M. Hibma, and C. Gerike	A Cultural and Paleontological Resources Study for the North Stockton Railroad Grade Separation and Bridge Replacement Project, North Stockton,San Joaquin County, California	LSA Associates, Inc.	39-000098, 39-000363, 39-004236, 39-004643, 39-004867, 39-004868, 39-004869, 39-004870, 39-004871, 39-004872, 39-004873, 39-004874, 39-004875, 39-004876
SJ-06843	NADB-R - 1367119	2007	ESA	Stockton Delta Water Supply Project Cultural Resources Inventory Report.	ESA; for the City of Stockton	
SJ-07231	NADB-R - 1367547	2009	Blind, H., M. R. Hibma, and C. Gerike	A Cultural Resources Study for the North Stockton RailRoad Grade Separation and Bridge Replacement Project: Lower Sacramento Road Bridge Replacement at Bear Creek North Stockton, San Joaquin County California LSA Project No. MKT531	LSA Associates, Inc.	39-000002, 39-000098, 39-000363, 39-004870, 39-004871, 39-004875
SJ-08302		2005	Jensen, S.	Letter to: The Matthews Company; RE: Status Report upon Completion of Delineation/Evaluation of Areas 1 and 2, and Initiation of Monitoring of Structure Demolition at Area 2.	Genesis Society	39-005250
SJ-08302A		2005	Jensen, S.	Letter to The Matthews Company RE: Bear Creek East, Completion of Burial Recovery.	Genesis Society	
SJ-08302B		2006	Jensen, S.	Letter to The Matthews Company RE: Status Report upon Continuation of Monitoring of Ground Disturbing Activities at Area 2.	Genesis Society	
SJ-08302C		2005	Jensen, S.	Letter to The Matthews Company RE: Status Report for Monitoring of Structure Demolition and Shovel Test Pit Work in Vicinity of Potential Prehistoric Site.	Genesis Society	
SJ-08302D		2011	Unknown	8. Cultural Resources (120384/STO11R233)	Unknown; Cultural Resources Element of an EIR	

APPENDIX 3

Native American Heritage Commission

Sacred Lands File Review

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
[VAVANT]

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Sara Dutschke
Miwok

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Buffy McQuillen
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COMMISSIONER
Wayne Nelson
Luiseño

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
[VAVANT]

COMMISSIONER
[VACANT]

EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok/Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

August 24, 2023

Nicole Moore
City of Stockton

Via Email to: nicole.moore.CTR@stocktonca.gov

Re: LeBaron Ranch (P22-0139) Project, San Joaquin County

Dear Ms. Moore:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Pricilla.Torres-Fuentes@nahc.ca.gov.

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

Attachment

APPENDIX E

Environmental Noise Assessment

Environmental Noise Assessment

LeBaron Ranches Residential

City of Stockton, California

October 31, 2023

Project #220712

Prepared for:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762

Prepared by:

Saxelby Acoustics LLC





Luke Saxelby, INCE Bd. Cert.
Principal Consultant
Board Certified, Institute of Noise Control Engineering (INCE)

(916) 760-8821
www.SaxNoise.com | Luke@SaxNoise.com
915 Highland Pointe Drive, Suite 250
Roseville, CA 95678

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INTRODUCTION

The LeBaron Ranches Residential project is located in the City of Stockton, California. The project includes the construction of single-family residences, multifamily residential buildings, and community parks. The project site is bordered by agricultural land to the north, south, and east, and residential land uses to the west.

Figure 1 shows the project site plan. **Figure 2** shows an aerial photo of the project site.

ENVIRONMENTAL SETTING

BACKGROUND INFORMATION ON NOISE

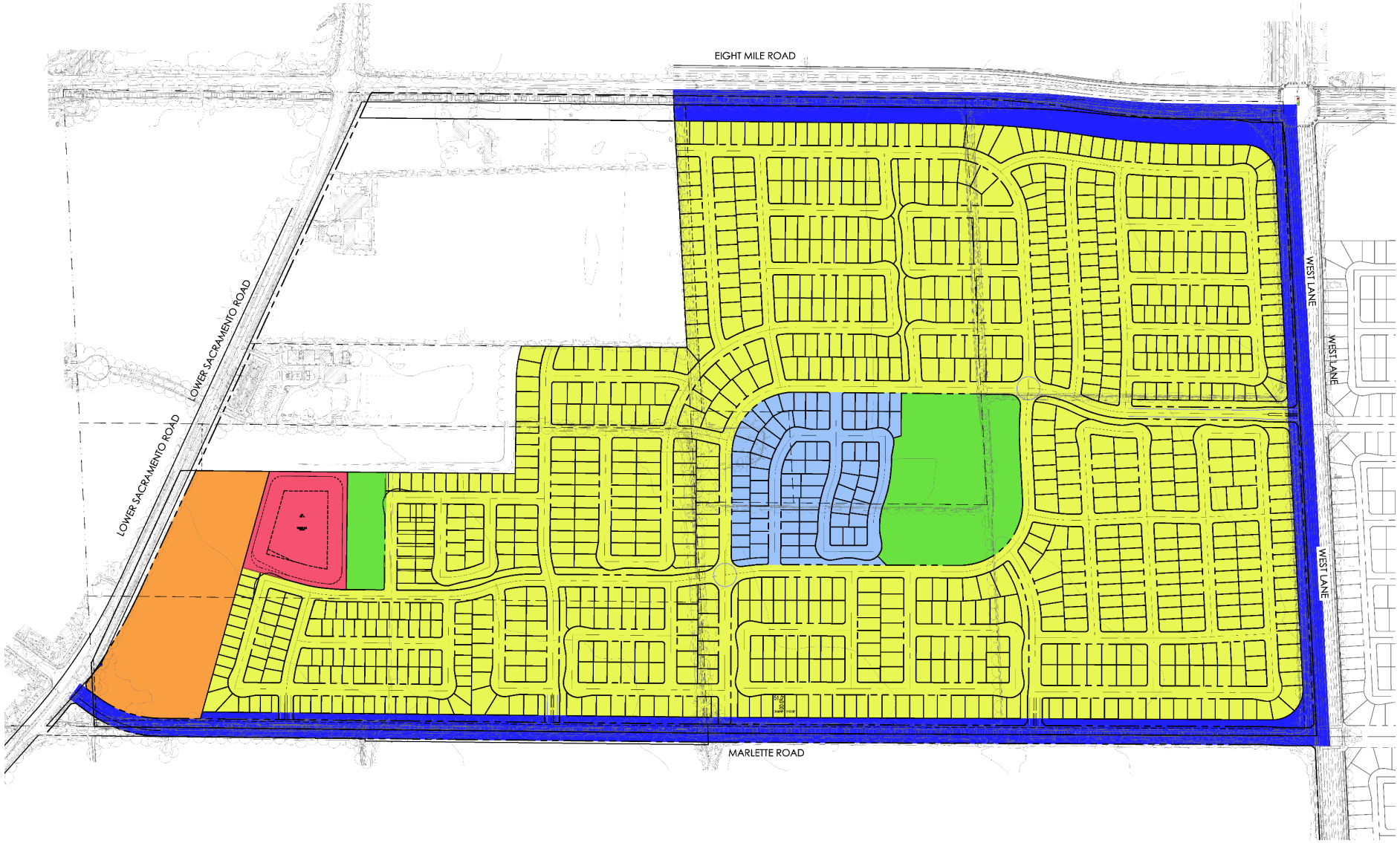
Fundamentals of Acoustics

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment.



LeBaron Ranches

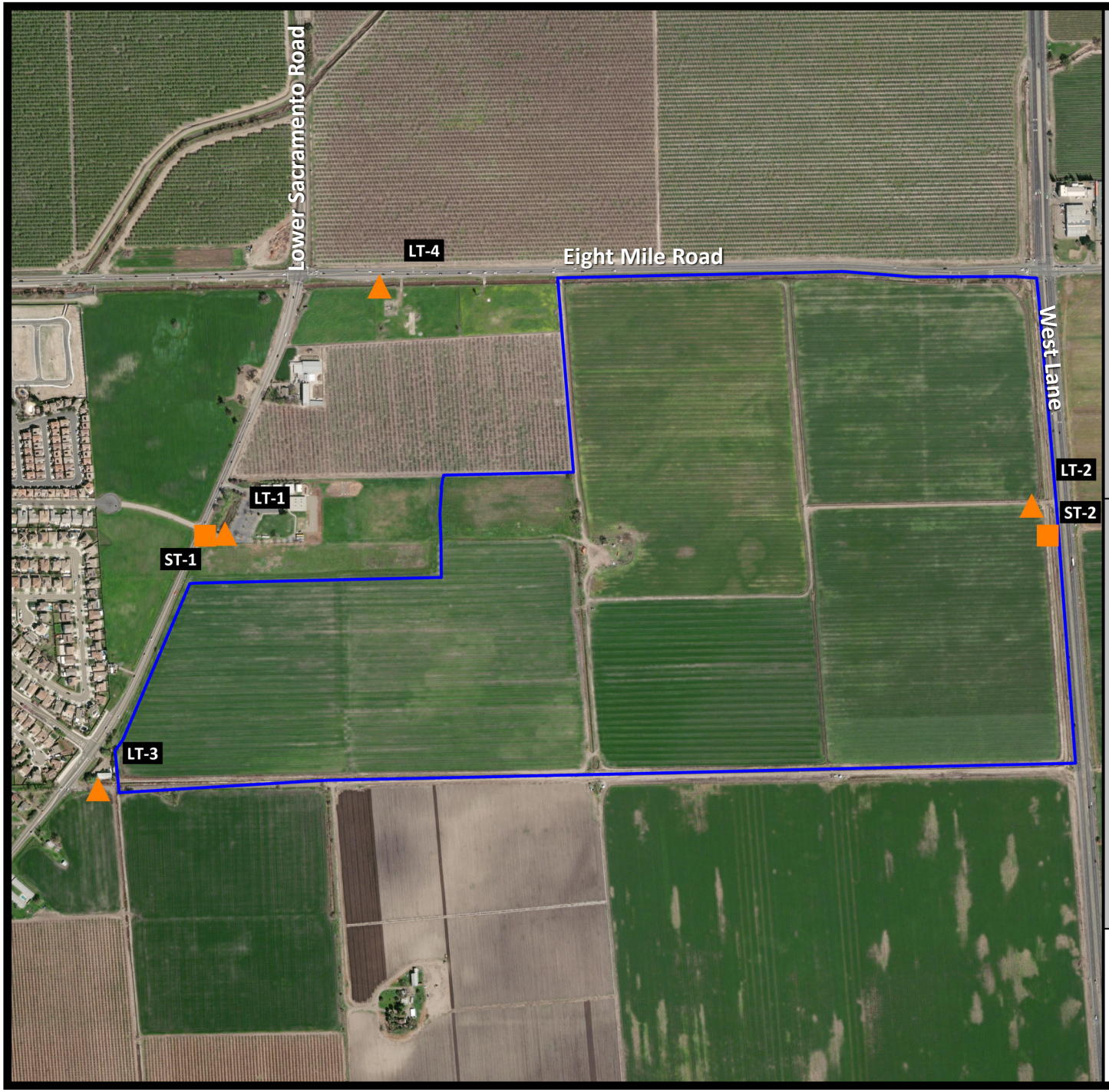
City of Stockton, California

Figure 1

Project Site Plan



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City of Stockton, California

Figure 2

Noise Measurement Sites

Legend

- Project Site
- Noise Measurement Site - Long Term
- Noise Measurement Site - Short Term

250 ft 750 ft 1250 ft

Projection: UTM Zone 10 / WGS84 / meters
Rev. Date: 08/29/2022

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The decibel scale is logarithmic, not linear. In other words, two sound levels 10-dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10-dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (DNL or L_{dn}) is based upon the average noise level over a 24-hour day, with a +10-decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Table 1 lists several examples of the noise levels associated with common situations. **Appendix A** provides a summary of acoustical terms used in this report.

TABLE 1: TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft.)	--100--	
Gas Lawn Mower at 1 m (3 ft.)	--90--	
Diesel Truck at 15 m (50 ft.), at 80 km/hr. (50 mph)	--80--	Food Blender at 1 m (3 ft.) Garbage Disposal at 1 m (3 ft.)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft.)	--70--	Vacuum Cleaner at 3 m (10 ft.)
Commercial Area Heavy Traffic at 90 m (300 ft.)	--60--	Normal Speech at 1 m (3 ft.)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: *Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. September 2013.*

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1-dBA cannot be perceived;
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- A change in level of at least 5-dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6-dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING NOISE AND VIBRATION ENVIRONMENTS

EXISTING NOISE RECEPTORS

Some land uses are considered more sensitive to noise than others. Land uses often associated with sensitive receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise.

Sensitivity is a function of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities involved. In the vicinity of the project site, sensitive land uses include existing single-family residential uses to the west, south, and northeast of the project site as well as a church directly west of the project site.

EXISTING GENERAL AMBIENT NOISE LEVELS

To quantify the existing ambient noise environment in the project vicinity, Saxelby Acoustics conducted continuous (24-hr.) noise level measurements at four locations on the project site and short-term noise level measurements at two locations. Noise measurement locations are shown on **Figure 2**. A summary of the noise level measurement survey results is provided in **Table 2**. **Appendix B** contains the complete results of the noise monitoring.

The sound level meters were programmed to record the maximum, median, and average noise levels at each site during the survey. The maximum value, denoted L_{max}, represents the highest noise level measured. The average value, denoted L_{eq}, represents the energy average of all of the noise received by the sound level meter microphone during the monitoring period. The median value, denoted L_{50}, represents the sound level exceeded 50 percent of the time during the monitoring period.

Larson Davis Laboratories (LDL) model 820 and 831 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with a CAL 200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

TABLE 2: SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA

Location	Date	L_{dn}	Daytime L_{eq}	Daytime L_{50}	Daytime L_{max}	Nighttime L_{eq}	Nighttime L_{50}	Nighttime L_{max}
LT-1: 100 ft. to CL of Lower Sacramento Rd.	8/25/2022	65	60	59	74	59	51	75
LT-2: 100 ft. to CL of West Ln.	8/25/2022	69	68	59	84	61	51	79
LT-3: 100 ft. to CL of Lower Sacramento Rd.	8/25/2022	61	56	53	76	54	53	66
LT-4: 100 ft. to CL of Eight Mile Rd.	8/25/2022	61	56	53	76	54	53	66
ST-1: 100 ft. to CL of Lower Sacramento Rd.	8/24/2022	N/A	58	56	70	N/A	N/A	N/A
ST-2: 100 ft. to CL of West Ln.	8/24/2022	N/A	65	61	76	N/A	N/A	N/A

Notes:

- *All values shown in dBA*
- *Daytime hours: 7:00 a.m. to 10:00 p.m.*
- *Nighttime Hours: 10:00 p.m. to 7:00 a.m.*
- *Source: Saxelby Acoustics 2022*

FUTURE TRAFFIC NOISE ENVIRONMENT AT OFF-SITE RECEPTORS

Off-Site Traffic Noise Impact Assessment Methodology

To assess noise impacts due to project-related traffic increases on the local roadway network, traffic noise levels are predicted at sensitive receptors for existing and future, project and no-project conditions.

Existing, Existing Plus Approved Projects (EPAP), and Cumulative noise levels due to traffic are calculated using the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108). The model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. To predict traffic noise levels in terms of L_{dn}, it is necessary to adjust the input volume to account for the day/night distribution of traffic.

Project trip generation volumes were provided by the project traffic engineer (WK Shijo Consulting 2023). Truck usage and vehicle speeds on the local area roadways were estimated from field observations. The predicted increases in traffic noise levels on the local roadway network for Existing, EPAP, and Cumulative conditions which would result from the project are provided in terms of L_{dn}.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segment. In some locations, sensitive receptors may not receive full shielding from noise barriers or may be located at distances which vary from the assumed calculation distance.

Tables 3-5 summarize the modeled traffic noise levels at the nearest sensitive receptors along each roadway segment in the Project area. **Appendix C** provides the complete inputs and results of the FHWA traffic modeling.

TABLE 3: PREDICTED TRAFFIC NOISE LEVEL AND PROJECT-RELATED TRAFFIC NOISE LEVEL INCREASES

Roadway	Segment	Predicted Exterior Noise Level (dBA L_{dn}) at Closest Sensitive Receptors		
		Existing No Project	Existing + Project	Change
Interstate 5	Eight Mile Road to SR 12	69.5	69.5	0.0
Interstate 5	Eight Mile Road to Hammer Lane	71.5	71.5	0.0
Eight Mile Road	Marlette Road to Lower Sacramento Road	61.2	61.3	0.1
Lower Sacramento Road	Eight Mile Road to Marlette Road	64.4	64.5	0.1
Lower Sacramento Road	Marlette Road to Grider Way	71.3	71.6	0.3
Eight Mile Road	West Lane to Leach Road	69.5	70.2	0.7
Morada Lane	West Lane to McNair Lane	50.6	50.7	0.1
Morada Lane	West Lane to Caywood Drive	65.9	66.4	0.5
State Route 99	Eight Mile Road to Armstrong Road	77.5	77.5	0.0
State Route 99	Eight Mile Road to Morada Lane	69.5	69.6	0.1

TABLE 4: EPAP TRAFFIC NOISE LEVEL AND PROJECT-RELATED TRAFFIC NOISE LEVEL INCREASES

Roadway	Segment	Predicted Exterior Noise Level (dBA L_{dn}) at Closest Sensitive Receptors		
		EPAP No Project	EPAP + Project	Change
Interstate 5	Eight Mile Road to SR 12	69.7	69.7	0.0
Interstate 5	Eight Mile Road to Hammer Lane	72.1	72.1	0.0
Eight Mile Road	Marlette Road to Lower Sacramento Road	62.5	62.6	0.1
Lower Sacramento Road	Eight Mile Road to Marlette Road	65.0	65.1	0.1
Lower Sacramento Road	Marlette Road to Grider Way	72.0	72.2	0.2
Eight Mile Road	West Lane to Leach Road	71.4	71.8	0.4
Morada Lane	West Lane to McNair Lane	50.6	50.7	0.1
Morada Lane	West Lane to Caywood Drive	65.8	66.3	0.5
State Route 99	Eight Mile Road to Armstrong Road	77.7	77.7	0.0
State Route 99	Eight Mile Road to Morada Lane	70.0	70.0	0.0

TABLE 5: CUMULATIVE TRAFFIC NOISE LEVEL AND PROJECT-RELATED TRAFFIC NOISE LEVEL INCREASES

Roadway	Segment	Predicted Exterior Noise Level (dBA L_{dn}) at Closest Sensitive Receptors		
		Cumulative No Project	Cumulative + Project	Change
Interstate 5	Eight Mile Road to SR 12	70.4	70.4	0.0
Interstate 5	Eight Mile Road to Hammer Lane	72.2	72.3	0.1
Eight Mile Road	Marlette Road to Lower Sacramento Road	62.5	62.6	0.1
Lower Sacramento Road	Eight Mile Road to Marlette Road	65.1	65.2	0.1
Lower Sacramento Road	Marlette Road to Grider Way	72.3	72.4	0.1
Eight Mile Road	West Lane to Leach Road	71.6	71.7	0.1
Morada Lane	West Lane to McNair Lane	56.8	56.8	0.0
Morada Lane	West Lane to Caywood Drive	67.0	67.4	0.4
State Route 99	Eight Mile Road to Armstrong Road	78.4	78.4	0.0
State Route 99	Eight Mile Road to Morada Lane	70.7	70.7	0.0

Based upon the **Tables 3-5** data, the proposed project is predicted to result in an increase in a maximum traffic noise level increase of 0.7 dBA.

EVALUATION OF PROJECT OPERATIONAL NOISE ON EXISTING SENSITIVE RECEPTORS

While the proposed single-family residential portion of the project is generally compatible with surrounding land uses, the proposed high density residential portion was analyzed to ensure compliance at existing sensitive receptors adjacent to the project. Traffic circulation and residential HVAC noise are considered to be the primary noise sources for high density residential uses. The following is a list of assumptions used for the noise modeling. The data used is based upon a combination of manufacturer's provided data and Saxelby Acoustics data from similar operations.

On-Site Circulation: The project is projected to generate 1,308 daily trips with 99 trips in the afternoon peak hour (WK Shijo Consulting). Saxelby Acoustics assumed that 2 of the peak hour trips could be heavy trucks. Parking lot movements are predicted to generate a sound exposure level (SEL) of 71 dBA SEL at 50 feet for passenger vehicles and 85 dBA SEL at 50 feet for heavy trucks. Nighttime traffic outside of the AM or PM peak hour is estimated to be approximately 1/4 of daytime trips during nighttime hours (10:00 p.m. to 7:00 a.m.). Saxelby Acoustics data.

HVAC: Assumes a single three-ton HVAC condenser for each residential unit (194 total). The units were assumed to have a sound level rating of 70 dBA (manufacturers data). Steady state HVAC noise does not fluctuate greatly, so exceedances of the City's maximum noise level standard are not predicted to occur. Manufacturer's data.

Saxelby Acoustics used the SoundPLAN noise prediction model. Inputs to the model included sound power levels for the noise-generating sources, existing and proposed buildings, terrain type, and locations of sensitive receptors. These predictions are made in accordance with International Organization for Standardization (ISO) standard 9613-2:1996 (Acoustics – Attenuation of sound during propagation outdoors). ISO 9613 is the most commonly used method for calculating exterior noise propagation. **Figure 3** shows the noise level contours resulting from operation of the proposed high density residential.



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City of Stockton, California

Figure 3

Stationary Noise Grid Map
Leq,d, dB(A)

Noise Level, dB(A)

45 <	<=	46
46 <	<=	47
47 <	<=	48
48 <	<=	49
49 <	<=	50
50 <		

Legend

Project Site

Scale 1:190

0 35 70 140 210 280 feet

N

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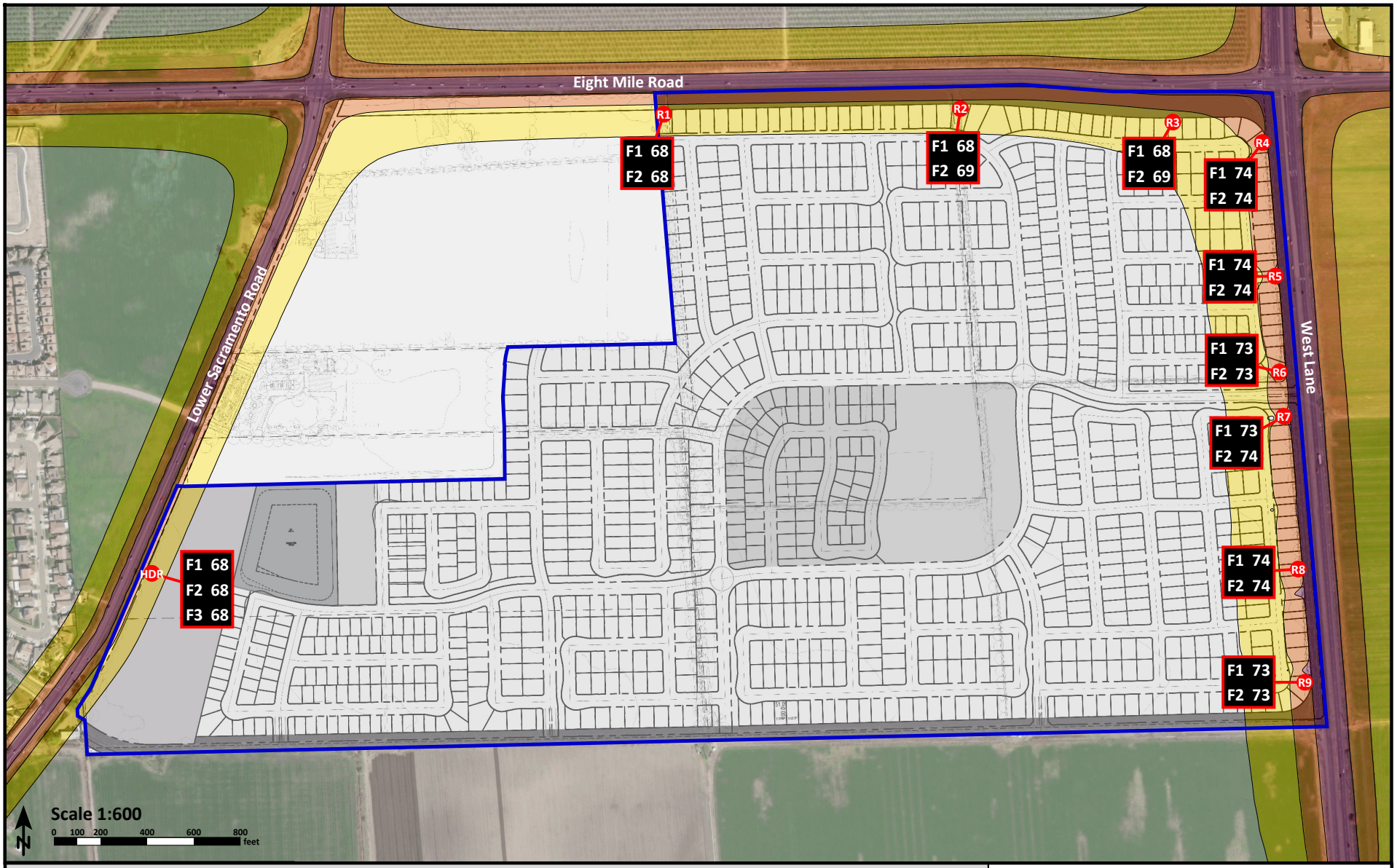
EVALUATION OF FUTURE TRANSPORTATION NOISE ON PROJECT SITE

TRAFFIC NOISE

Saxelby Acoustics used the SoundPLAN noise model to calculate traffic noise levels at the proposed residential uses due to traffic on West Lane, Eight Mile Road, and Lower Sacramento Road. Inputs to the SoundPLAN noise model include topography, existing structures, roadway elevations, and the proposed building pad elevations. Each of these roadways were estimated to increase by approximately +1 dBA based upon project traffic increases provided by the project traffic engineer (WK Shijo Consulting 2023). The results of this analysis are shown graphically on **Figure 4.**

LODI AIRPARK NOISE

Lodi Airpark is located approximately 1.8 miles north of the northern project site boundary. No aircraft overflights were observed during visits to the project site. The site is generally located outside the airport noise contours. **Figure 5** shows the noise contours for the airport as published in the San Joaquin County Council of Governments Project Review Guidelines for the Airport Land Use Commission.



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City of Stockton, California

Figure 4
Transportation Noise Grid Map (dB(A) Ldn)

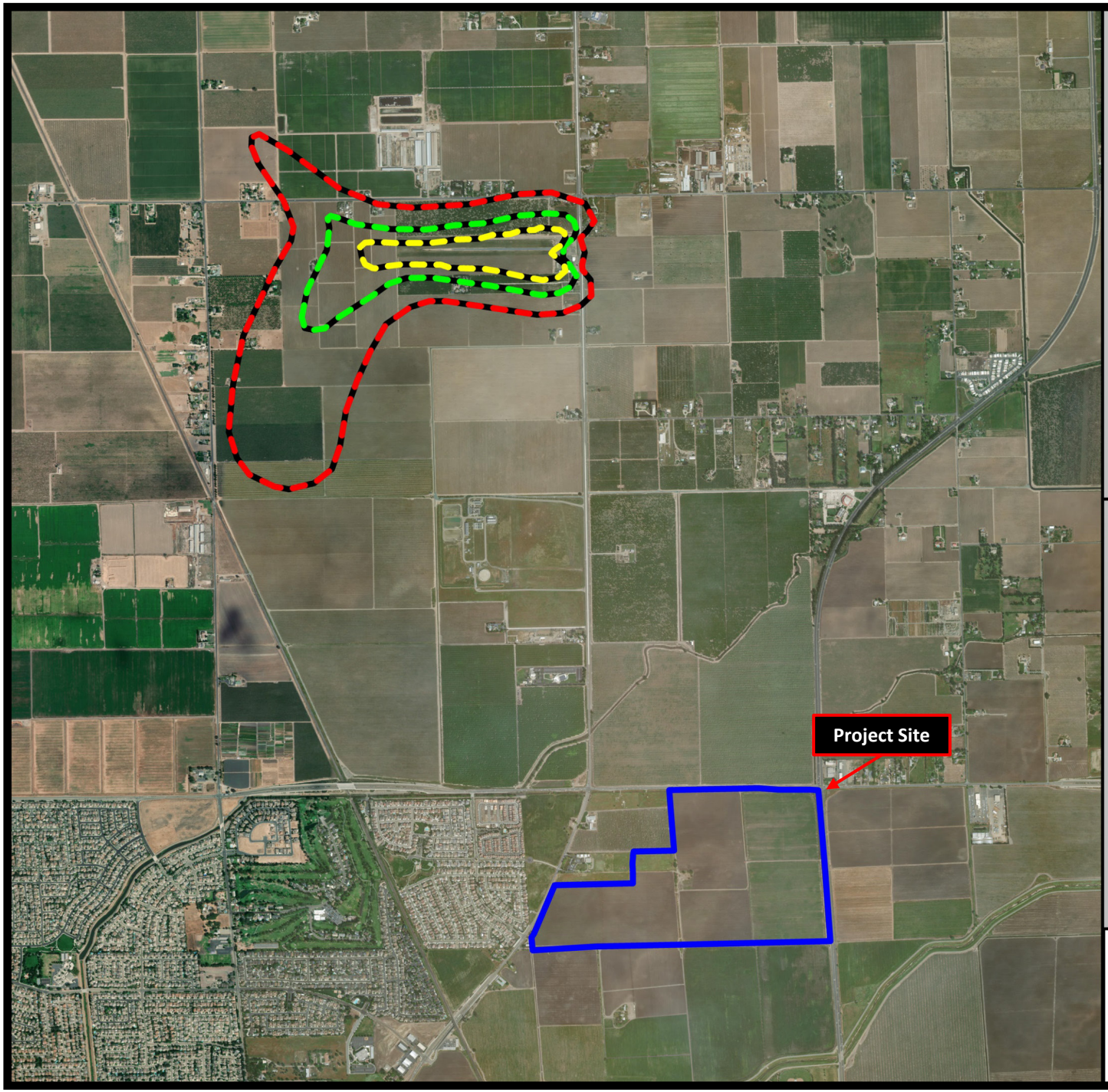
Legend

Project Site

Noise level Ldn in dB(A)

	<= 65
65 <	<= 70
70 <	<= 75
75 <	

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Figure 5

Lodi Airpark Noise Level Contours

Legend

- Project Site
- Noise Contour - 55 dBA
- Noise Contour - 60 dBA
- Noise Contour - 65 dBA

0 ft 1500 ft 3000 ft 4500 ft

Projection: UTM Zone 10 / WGS84 / meters
Rev. Date: 10/18/2023

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CONSTRUCTION NOISE ENVIRONMENT

During the construction of the proposed project, noise from construction activities would temporarily add to the noise environment in the project vicinity. As shown in **Table 6**, activities involved in construction would generate maximum noise levels ranging from 76 to 90 dB at a distance of 50 feet.

TABLE 6: CONSTRUCTION EQUIPMENT NOISE

Type of Equipment	Maximum Level, dBA at 50 feet
Auger Drill Rig	84
Backhoe	78
Compactor	83
Compressor (air)	78
Concrete Saw	90
Dozer	82
Dump Truck	76
Excavator	81
Generator	81
Jackhammer	89
Pneumatic Tools	85

Source: Roadway Construction Noise Model User's Guide. Federal Highway Administration. FHWA-HEP-05-054. January 2006.

CONSTRUCTION VIBRATION ENVIRONMENT

The primary vibration-generating activities associated with the proposed project would occur during construction when activities such as grading, utilities placement, and parking lot construction occur. **Table 7** shows the typical vibration levels produced by construction equipment.

TABLE 7: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT

Type of Equipment	Peak Particle Velocity at 25 feet (inches/second)	Peak Particle Velocity at 50 feet (inches/second)	Peak Particle Velocity at 100 feet (inches/second)
Large Bulldozer	0.089	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Small Bulldozer	0.003	0.001	0.000
Auger/drill Rigs	0.089	0.031	0.011
Jackhammer	0.035	0.012	0.004
Vibratory Hammer	0.070	0.025	0.009
Vibratory Compactor/roller	0.210 (Less than 0.20 at 26 feet)	0.074	0.026

Source: Transit Noise and Vibration Impact Assessment Guidelines. Federal Transit Administration. May 2006.

REGULATORY CONTEXT

FEDERAL

There are no federal regulations related to noise that apply to the Proposed Project.

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines, Appendix G, indicate that a significant noise impact may occur if a project exposes persons to noise or vibration levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels. CEQA standards are discussed more below under the Thresholds of Significance section.

State Building Code, Title 24, Part 2 of the State of California Code of Regulations

The State Building Code, Title 24, Part 2 of the State of California Code of Regulations, establishes uniform minimum noise insulation performance standards to protect persons within new buildings which house people, including hotels, motels, dormitories, apartment houses, and dwellings other than single-family dwellings. Title 24 mandates that interior noise levels attributable to exterior sources shall not exceed 45 dB L_{dn} or CNEL in any habitable room. Title 24 also mandates that for structures containing noise-sensitive uses to be located where the L_{dn} or CNEL exceeds 60 dB, an acoustical analysis must be prepared to identify mechanisms for limiting exterior noise to the prescribed allowable interior levels. If the interior allowable noise levels are met by requiring that windows be kept closed, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment.

LOCAL

City of Stockton General Plan

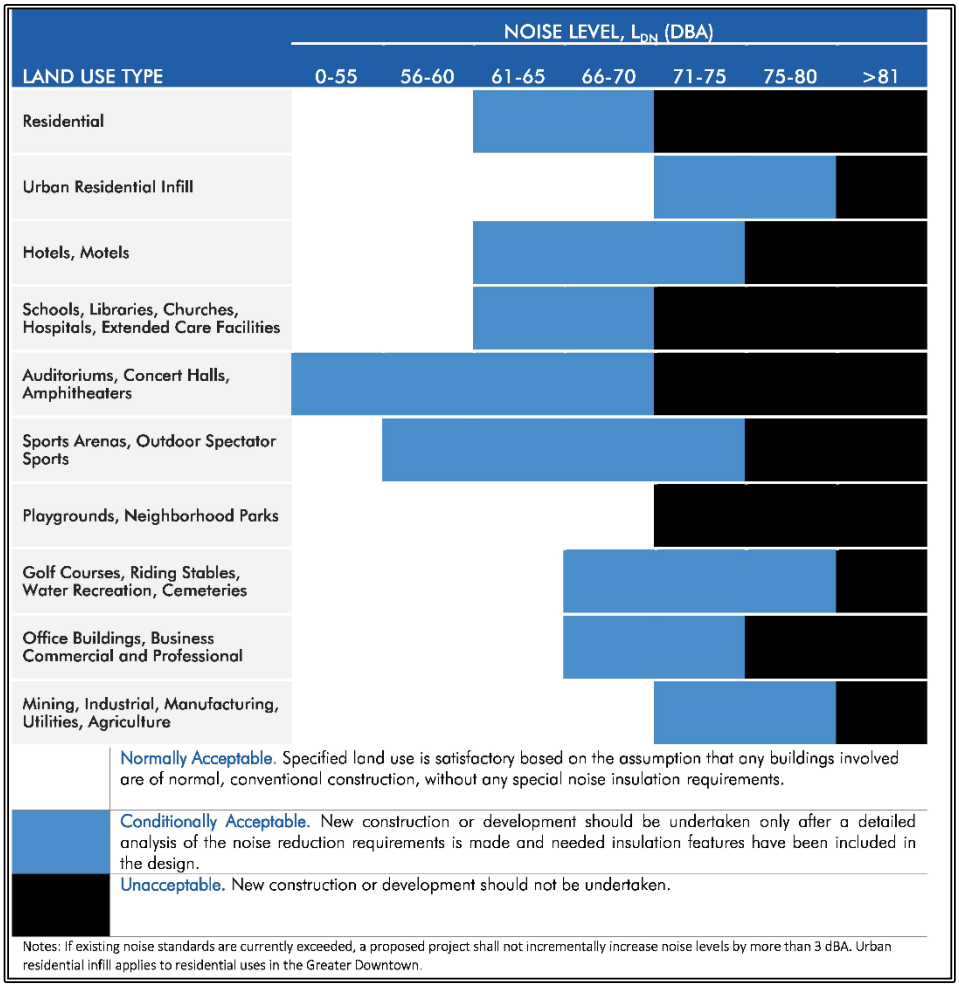
Policy SAF-2.5: Protect the community from health hazards and annoyance associated with excessive noise levels.

A. Prohibit new commercial, industrial, or other noise-generating land uses adjacent to existing sensitive noise receptors such as residential uses, schools, health care facilities, libraries, and churches if noise levels are expected to exceed 70 dBA Community Noise Equivalent (CNEL) (decibels on A-weighted scale CNEL) when measured at the property line of the noise sensitive land use.
B. Require projects that would locate noise sensitive land uses where the projected ambient noise level is greater than the "normally acceptable" noise level indicated on Table 5-1 to provide an acoustical analysis that shall:
    a. Be the responsibility of the applicant;

b. Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics;
c. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions;
d. Estimate existing and projected (20-year) noise levels in terms of Ldn/CNEL and compare the levels to the adopted noise policies and actions in this General Plan;
e. Recommend appropriate mitigation to achieve compatibility with the adopted noise policies and standards;
f. Where the noise source in question consists of intermittent single events, address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance;
g. Estimate noise exposure after the prescribed mitigation measures have been implemented;
h. If the project does not comply with the adopted standards and policies of this General Plan, provide acoustical information for a statement of overriding considerations for the project; and
i. Describe a post-project assessment program, which could be used to evaluate the effectiveness of the proposed mitigation measures.

C. Require noise produced by commercial uses to not exceed 75 dB Ldn/CNEL at the nearest property line.
D. Grant exceptions to the noise standards for commercial and industrial uses only if a recorded noise easement is conveyed by the affected property owners.
E. Require all new habitable structures to be set back from railroad tracks to protect residents from noise, vibration, and safety impacts.

TABLE 8: MAXIMUM ALLOWABLE NOISE EXPOSURE BY LAND USE



Source : City of Stockton General Plan (Published December 4, 2018) Table 5-1

City of Stockton Development Code

16.60.020 Activities exempt from noise regulations:

The following activities shall be exempt from the provisions of this chapter.

C. Outdoor Play/School Ground Activities. Activities conducted on parks and playgrounds and school grounds, between 7:00 a.m. and 10:00 p.m., except for additional hours that may be granted by the City Manager. Otherwise, outdoor activities shall meet standards in Table 3-7 **(Tables 9 and 10)**.

16.60.030 Activities deemed violations of this chapter:

The following acts are a violation of this chapter and are therefore prohibited.

A. Construction Noise: Operating or causing the operation of tools or equipment on private property used in alteration, construction, demolition, drilling, or repair work between the hours of 10:00 p.m. and 7:00 a.m., so that the sound creates a noise disturbance across a residential property line, except for emergency work of public service utilities.

16.60.040 Standards.

The following provisions shall apply to all uses and properties, as described below, and shall establish the City's standards concerning acceptable noise levels for both noise-sensitive land uses and for noise-generating land uses and transportation-related sources:

B. Standards For Proposed Noise-Sensitive Land Uses on Noise-Impacted Sites (Except Infill Areas). Excluding proposed noise-sensitive land uses on infill sites, which shall comply with subsection C of this section:
    1. Existing Transportation-Related Noise Sources. Proposed noise sensitive land uses that will be impacted by existing or projected transportation noise sources shall be required to mitigate the noise levels from these transportation noise sources so that the resulting noise levels on the proposed noise-sensitive land use(s) do not exceed the standards in Table 3-7, Part I **(Table 9)**.
    2. Existing Land Use-Related Noise Sources. Proposed noise sensitive land uses that will be impacted by existing land use-related noise sources shall be required to mitigate the noise levels from those noise sources so that the resulting noise levels on the proposed noise-sensitive land use(s) do not exceed the standards in Table 3-7, Part II **(Table 10)**.
C. Standards for Proposed Noise-Generating Land Uses and Transportation-Related Sources. Excluding noise-generating projects on infill sites, which shall comply with subsection C of this section, the following shall apply:
    1. Transportation-Related Noise Sources (Except Infill Sites). Transportation-related projects that include the development of new transportation facilities or the expansion of existing transportation facilities shall be required to mitigate their noise levels so that the resulting noise:
        a. Does not adversely impact noise-sensitive land uses; and
        b. Does not exceed the standards in Table 3-7, Part I **(Table 9).**

Noise levels shall be measured at the property line of the nearest site, which is occupied by, and/or zoned or designated to allow the development of, noise-sensitive land uses.

TABLE 9: TRANSPORTATION-RELATED NOISE STANDARDS (OUTDOOR/INDOOR) (TABLE 3-7, PART I)

Noise Level Descriptor, dB	Maximum Allowable Noise Exposure (L_{dn} dB)	
	Outdoor Activity Areas	Indoor Spaces
Residential (all types)	65	45
Child care	--	45
Educational Facilities	--	45
Libraries and museums	--	45
Live-work facilities	65	45
Lodging	65	45
Medical services	--	45
Multi-use (with residential)	65	45

TABLE 10: LAND USE-RELATED NOISE STANDARDS (TABLE 3-7, PART II)

Noise Level Descriptor, dB	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly, L_{eq}	55	45
Maximum Sound Level, L_{max}	75	65

Notes:
(1) The noise standard must be applied at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards must be applied on the receiving side of noise barriers or other property line noise mitigation measures.
(2) Each of the noise level standards specified must be decreased by 5 for impulse noise, simple tone noise, or noise consisting primarily of speech or music.
Source: City of Stockton Municipal Code Section 16.60.040, Standards.

Summary of Applicable Noise Level Standards

Table 9 establishes the City's maximum allowable noise level of 65 dBA L_{dn} for residential outdoor activity areas and an acceptable interior noise level of 45 dBA L_{dn}.

Table 10 shows the City of Stockton noise standards for stationary sources. The project may not generate noise levels greater than 55 dBA L_{eq} during daytime (7:00 a.m. to 10:00 p.m.) hours and 45 dBA L_{eq} during nighttime (10:00 p.m. to 7:00 a.m.) hours at the property line of the adjacent residential uses per the City of Stockton General Plan. The City also establishes maximum noise level standards of 75 dBA L_{max} during daytime and 65 dBA L_{max} during nighttime.

Criteria for Acceptable Vibration

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. **Table 11**, which was developed by Caltrans, shows the vibration levels which would normally be required to result in damage to structures. The vibration levels are presented in terms of peak particle velocity in inches per second.

Table 11 indicates that the threshold for architectural damage to structures is 0.20 in/sec p.p.v. A threshold of 0.20 in/sec p.p.v. is considered to be a reasonable threshold for short-term construction projects.

TABLE 11: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

Peak Particle Velocity		Human Reaction	Effect on Buildings
mm/second	in/second		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: Transportation Related Earthborne Vibrations. Caltrans. TAV-02-01-R9601. February 20, 2002.

IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines states that a project would normally be considered to result in significant noise impacts if noise levels conflict with adopted environmental standards or plans or if noise generated by the project would substantially increase existing noise levels at sensitive receivers on a permanent or temporary basis. Significance criteria for noise impacts are drawn from CEQA Guidelines Appendix G (Items XI [a-c]).

Would the project:

a. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b. Generate excessive groundborne vibration or groundborne noise levels?

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Noise Level Increase Criteria for Long-Term Project-Related Noise Level Increases

The California Environmental Quality Act (CEQA) guidelines define a significant impact of a project if it "increases substantially the ambient noise levels for adjoining areas." Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in traffic noise from the project is a factor in determining significance. Research into the human perception of changes in sound level indicates the following:

- A 3-dB change is barely perceptible,
- A 5-dB change is clearly perceptible, and
- A 10-dB change is perceived as being twice or half as loud.

A limitation of using a single noise level increase value to evaluate noise impacts is that it fails to account for pre-project noise conditions. **Table 12** is based upon recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{dn}.

TABLE 12: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE

Ambient Noise Level Without Project, L_{dn}	Increase Required for Significant Impact
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

Source: Federal Interagency Committee on Noise (FICON).

Based on the **Table 12** data, an increase in the traffic noise level of 5 dB or more would be significant where the pre-project noise levels are less than 60 dB L_{dn}, or 3 dB or more where existing noise levels are between 60 to 65 dB L_{dn}. Extending this concept to higher noise levels, an increase in the traffic noise level of 1.5 dB or more may be significant where the pre-project traffic noise level exceeds 65 dB L_{dn}. The rationale for the **Table 12** criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause annoyance.

Temporary Construction Noise Impacts

With temporary noise impacts (construction), identification of "substantial increases" depends upon the duration of the impact, the temporal daily nature of the impact, and the absolute change in decibel levels. Per the City of Stockton Municipal Code, construction activities are prohibited between 10:00 p.m. and 7:00 a.m.

The City has not adopted any formal standard for evaluating temporary construction noise which occurs within allowable hours. For short-term noise associated with Project construction, Saxelby Acoustics recommends use of the Caltrans increase criteria of 12 dBA (Caltrans Traffic Noise Protocol, 2020), applied to existing residential receptors in the project vicinity. This level of increase is approximately equivalent to a doubling of sound energy and has been the standard of significance for Caltrans projects at the state level for many years. Application of this standard to construction activities is considered reasonable considering the temporary nature of construction activities.

PROJECT-SPECIFIC IMPACTS AND MITIGATION MEASURES

Impact 1: ***Would the project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?***

Traffic Noise Increases at Off-Site Receptors

Based upon the **Table 12** FICON criteria, where existing traffic noise levels are greater than 65 dBA L_{dn} at the outdoor activity areas of noise-sensitive uses, a +1.5 dBA L_{dn} increase in roadway noise levels will be considered significant. Where traffic noise levels are between 60 dBA L_{dn} and 65 dBA L_{dn}, a +3.0 dB L_{dn} increase in roadway noise levels will be considered significant. Where traffic noise levels are less than 60 dBA L_{dn}, a +5.0 dB L_{dn} increase in roadway noise levels will be considered significant.

According to **Tables 3-5**, the maximum increase in traffic noise at the nearest sensitive receptor is predicted to be 0.7 dBA, which is less than the minimum significance threshold of +1.5 dB. Therefore, impacts resulting from increased traffic noise would be considered ***less-than-significant*** and no mitigation is required.

Operational Noise at Existing Sensitive Receptors

As shown on **Figure 3**, the project is predicted to expose nearby residences to noise levels up to 39 dBA L_{eq} during both daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) hours. The predicted project noise levels would meet the City of Stockton nighttime stationary noise level standard of 45 dBA L_{eq}.

It should be noted that maximum noise levels generated by the residential HVAC units and on-site vehicle circulation are predicted to be 20 dBA, or less, than the average (L_{eq}) values. The City of Stockton maximum (L_{max}) nighttime noise level standard is 65 dBA L_{max}, which is 20 dBA higher than the L_{eq} standard. Therefore, where average noise levels are in compliance with the L_{eq} standards, maximum noise levels will also meet the City's standards. Based upon the predicted average noise level of 39 dBA, the maximum noise level will be 59 dBA and comply with the City maximum standards.

This is a ***less-than-significant*** impact, and no mitigation is required.

Construction Noise

During the construction phases of the project, noise from construction activities would add to the noise environment in the immediate project vicinity. As indicated in **Table 6,** activities involved in construction would generate maximum noise levels ranging from 76 to 90 dBA L_{max} at a distance of 50 feet. Construction activities would also be temporary in nature and are anticipated to occur during normal daytime working hours. The City of Stockton Development Code prohibits construction noise between the hours of 10:00 p.m. to 7:00 a.m.

Caltrans defines a significant increase due to noise as an increase of 12 dBA over existing ambient noise levels; Saxelby Acoustics used this criterion to evaluate increases due to construction noise associated with the project. As shown in **Table 6**, construction equipment is predicted to generate noise levels of up to 90 dBA L_{max} at 50 feet. Construction noise is evaluated as occurring at the center of the site to represent average noise levels generated over the duration of construction across the project site. The nearest sensitive uses are located approximately 2,130 feet to the west as measured from the center of the construction area. At this distance, maximum construction noise levels would be up to 57 dBA. Average daytime maximum noise levels of up to 74 dBA were measured in the vicinity of the nearby sensitive receptors. Therefore, project construction would not cause an increase of greater than 12 dBA at the nearby sensitive receptors.

Noise would also be generated during the construction phase by increased truck traffic on area roadways. A project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from the construction site. This noise increase would be of short duration and would occur during daytime hours.

Although construction activities are temporary in nature and would occur during normal daytime working hours, construction-related noise could result in sleep interference at existing noise-sensitive land uses in the vicinity of the construction if construction activities were to occur outside the normal daytime hours. Therefore, impacts resulting from noise levels temporarily exceeding the threshold of significance due to

construction would be considered ***potentially significant***. Mitigation measure 1(a) would reduce construction noise impacts to ***less-than-significant***.

Transportation Noise on Project Site (Non-CEQA Issue)

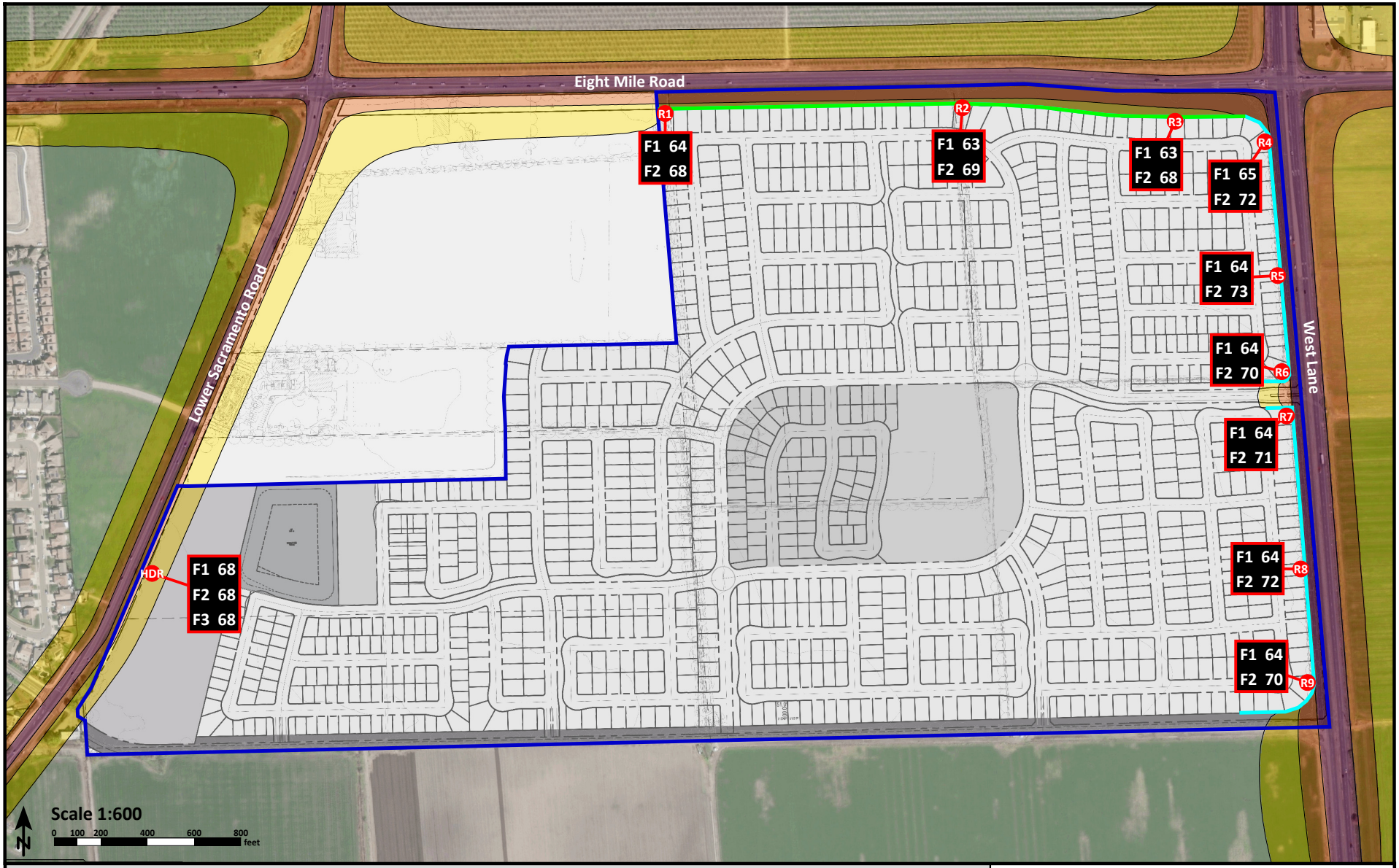
Exterior Transportation Noise

Compliance with the City's standards on new noise-sensitive receptors is not a CEQA consideration. However, this information is provided here so that a determination can be made regarding the ability of the proposed project to meet the requirements of the City of Stockton for exterior and interior noise levels at new sensitive uses proposed under the project.

As shown on **Figure 4**, the proposed high density residential portion of the project is predicted to be exposed to exterior transportation noise levels up to approximately 68 dBA $L_{dn.}$ Modern building construction methods typically yield an exterior-to-interior noise level reduction of 25 dBA; therefore, the resulting interior noise levels of 43 dBA L_{dn} would comply with the 45 dBA L_{dn} interior noise level standard. Common outdoor activity areas would be required to adhere to the City's 65 dBA L_{dn} exterior noise level standard. If the outdoor area would be shielded from Lower Sacramento Road by an intervening building, transportation noise levels would be reduced by at least -5 dBA, resulting in a noise level of 63 dBA L_{dn} or less. If the proposed outdoor area is not shielded from Lower Sacramento Road by an intervening building, a site-specific noise study should be conducted to ensure the outdoor area noise level complies with City regulations.

As shown on **Figure 4**, the proposed residences directly adjacent to Eight Mile Road would be exposed to exterior noise levels of up to 68 dBA at the outdoor activity area and 69 dBA at the second floor. Residences along West Lane would be exposed to exterior noise levels of up to 74 dBA at the outdoor activity area and 74 dBA at the second floor. These noise levels would exceed the 65 dBA limit for outdoor areas established by the City of Stockton. Therefore, additional noise control measures would be required.

Saxelby Acoustics determined the effect of including a sound wall in the project design. Barriers ranging in height from 8 to 12 feet were modeled along the project boundary. The barriers are predicted to lower noise levels at all outdoor activity areas on the project site to 65 dBA L_{dn} or lower. **Figure 6** shows the recommended sound wall locations and resulting noise level contours.



LeBaron Ranches Residential

City of Stockton, California

Figure 6
Transportation Noise with Noise Control Grid Map (dB(A) Ldn)

Legend

- Project Site
- 8-Foot Wall
- 12-Foot Wall

Noise level Ldn in dB(A)

	<= 65
65 <	<= 70
70 <	<= 75
75 <	

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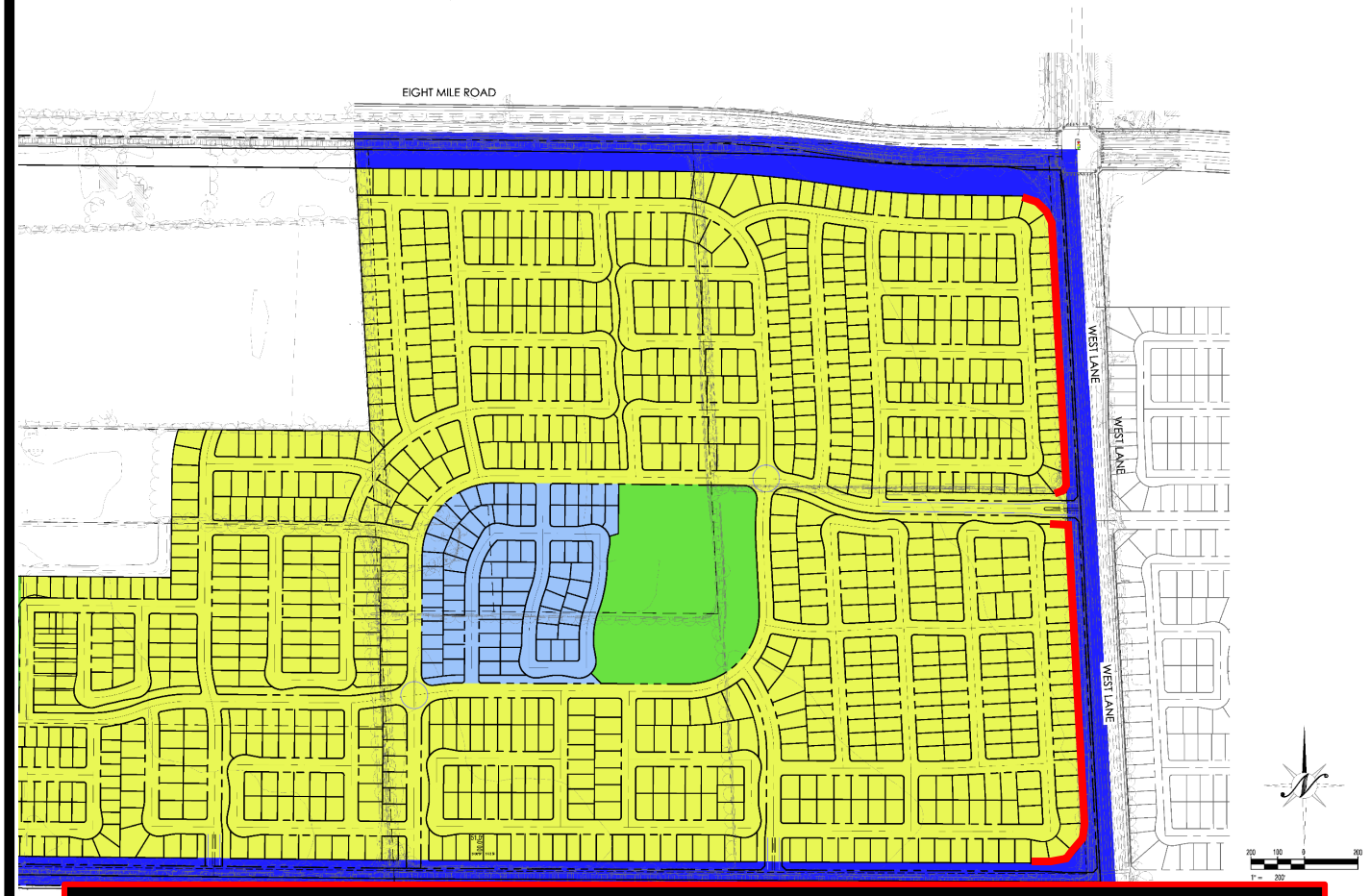
Interior Transportation Noise

The City of Stockton Development Code requires that interior noise levels at new residential uses be 45 dBA L_{dn} or less. Modern building construction methods typically yield an exterior-to-interior noise level reduction of 25 dBA. Therefore, where exterior noise levels are 70 dBA L_{dn}, or less, no additional interior noise control measures are typically required. As shown on **Figure 6**, exterior noise levels are predicted to be up to 73 dBA L_{dn} at the second story of the buildings closest to West Lane. This would result in interior noise levels of up to 48 dBA L_{dn} at the second story receivers based on typical building construction. Therefore, additional noise control measures are required to reduce interior noise to acceptable levels.

The proposed residential buildings located along the West Lane frontage shall be designed to achieve a 28 dBA exterior to interior noise level reduction to satisfy the requirements of the City of Stockton. **Figure 7** shows the locations of facades requiring acoustic upgrades. **Figure 7** and **Appendix D** provide an estimate of interior noise control measures required to meet the applicable standards. It should be noted that interior noise control measures are based upon an estimate of the future residence layouts. These assumptions should be verified once floor plans become available for an accurate assessment of interior noise control measures.

LeBARON RANCHES
STORM WATER TRIBUTARY MAP
STOCKTON, CALIFORNIA

North Star Engineering Group, Inc.
• CIVIL ENGINEERING • SURVEYING • PLANNING •
620 12th Street Modesto, CA 95354
(209) 524-3529 Phone (209) 524-3526 Fax



Interior Noise Control Measures
(Required for Indicated Facades of Proposed Building)

- *Glazing shall have a sound transmission class (STC) rating of 38 minimum at second floor bedrooms and 36 minimum at second floor living rooms;*
- *Exterior finish shall be stucco with sheathing;*
- *Interior gypsum wallboards and gypsum ceiling shall be 5/8";*
- *Ceiling gypsum shall be 5/8";*
- *Mechanical ventilation shall be installed in all residential uses to allow residents to keep doors and windows closed, as desired for acoustical isolation;*
- *No PTAC's shall be used.*

LeBaron Ranches Residential

City of Stockton, California

Figure 7

Interior Noise Control Measures

Legend

Facades Needing Acoustic Upgrades

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Mitigation Measure

MM1(a) The City shall establish the following as conditions of approval for any permit that results in the use of construction equipment:

- Construction shall be limited to 7:00 a.m. to 10:00 p.m.
- All construction equipment powered by internal combustion engines shall be properly muffled and maintained.
- Quiet construction equipment, particularly air compressors, are to be selected whenever possible.
- All stationary noise-generating construction equipment such as generators or air compressors are to be located as far as is practical from existing sensitive uses. In addition, the project contractor shall place such stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.
- Unnecessary idling of internal combustion engines is prohibited.

Timing/Implementation: Implemented prior to approval of grading and/or building permits
Enforcement/Monitoring: City of Stockton Community Development Department

Implementation of mitigation measure 1(a) would help to reduce construction-generated noise levels. With mitigation, this impact would be considered ***less-than-significant***.

Recommended Condition of Approval

Prior to approval of project improvement plans, the plans for the proposed project shall show that the east and north area of the project site shall be shielded from West Lane and Eight Mile Road through the use of minimum eight-foot-tall sound walls along Eight Mile Road and twelve-foot-tall sound walls along West Lane per the approval of the City Engineer. Sound wall construction may include a combination of earthen berm and masonry wall to achieve the required wall height. Wall heights shall be measured relative to either pad or roadway centerline elevations, whichever is higher. The approximate locations of these barriers are shown on ***Figure 6****. Other types of barriers may be employed but shall be reviewed by an acoustical engineer prior to being constructed.* ***Figure 7*** *shows the locations of facades requiring acoustic upgrades.* ***Figure 7*** *and* ***Appendix D*** *provide an estimate of interior noise control measures required to meet the applicable standards. It should be noted that interior noise control measures are based upon an estimate of the future residence layouts. These assumptions should be verified once floor plans become available for an accurate assessment of interior noise control measures.*

Impact 2: Would the project generate excessive groundborne vibration or groundborne noise levels?

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural.

The **Table 7** data indicate that construction vibration levels anticipated for the project are less than the 0.2 in/sec threshold at distances of 26 feet. Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located further than 26 feet from typical construction activities. At distances greater than 26 feet construction vibrations are not predicted to exceed acceptable levels. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours.

This is a **less-than-significant** impact and no mitigation is required.

Impact 3: ***For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?***

Based upon **Figure 5**, the proposed project is located approximately 1.6 miles outside of the predicted 55 dBA CNEL noise contour. Therefore, noise originating from aircraft will not be a major contributor to the transportation noise environment on site. This is a **less-than-significant** impact, and no mitigation is required.

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Appendix A: Acoustical Terminology

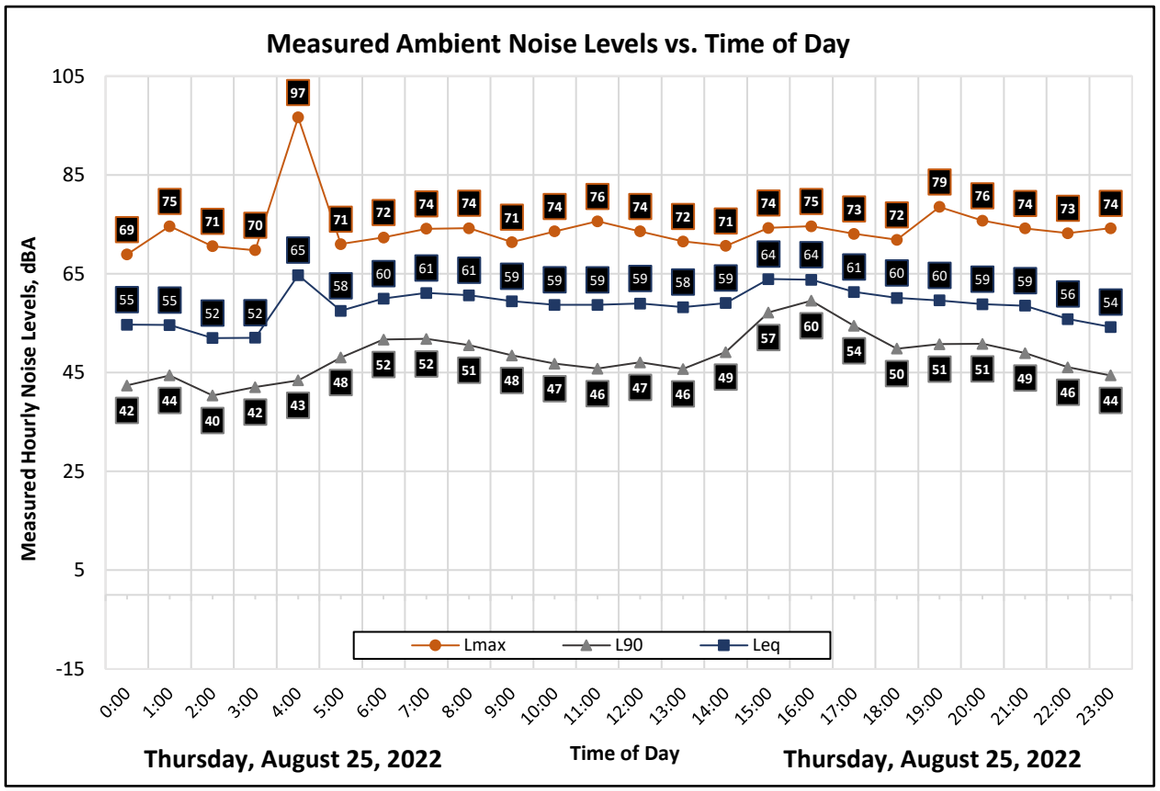
Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
ASTC	Apparent Sound Transmission Class. Similar to STC but includes sound from flanking paths and correct for room reverberation. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by +5 dBA and nighttime hours weighted by +10 dBA.
DNL	See definition of Ldn.
IIC	Impact Insulation Class. An integer-number rating of how well a building floor attenuates impact sounds, such as footsteps. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one-hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
NIC	Noise Isolation Class. A rating of the noise reduction between two spaces. Similar to STC but includes sound from flanking paths and no correction for room reverberation.
NNIC	Normalized Noise Isolation Class. Similar to NIC but includes a correction for room reverberation.
Noise	Unwanted sound.
NRC	Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.
RT60	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 Sabin.
SEL	Sound Exposure Level. SEL is a rating, in decibels, of a discrete event, such as an aircraft flyover or train pass by, that compresses the total sound energy into a one-second event.
SPC	Speech Privacy Class. SPC is a method of rating speech privacy in buildings. It is designed to measure the degree of speech privacy provided by a closed room, indicating the degree to which conversations occurring within are kept private from listeners outside the room.
STC	Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations. The STC rating is typically used to rate the sound transmission of a specific building element when tested in laboratory conditions where flanking paths around the assembly don't exist. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

Appendix B1: Continuous Noise Monitoring Results

Site: LT-1
Project: LeBaron Ranches Residential
Meter: LDL 820-2
Location: Western Project Boundary
Calibrator: CAL200
Coordinates: 38.0536682°, -121.3120933°

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Thursday, August 25, 2022	0:00	55	69	52	42
Thursday, August 25, 2022	1:00	55	75	50	44
Thursday, August 25, 2022	2:00	52	71	45	40
Thursday, August 25, 2022	3:00	52	70	46	42
Thursday, August 25, 2022	4:00	65	97	50	43
Thursday, August 25, 2022	5:00	58	71	54	48
Thursday, August 25, 2022	6:00	60	72	58	52
Thursday, August 25, 2022	7:00	61	74	60	52
Thursday, August 25, 2022	8:00	61	74	59	51
Thursday, August 25, 2022	9:00	59	71	58	48
Thursday, August 25, 2022	10:00	59	74	57	47
Thursday, August 25, 2022	11:00	59	76	57	46
Thursday, August 25, 2022	12:00	59	74	57	47
Thursday, August 25, 2022	13:00	58	72	57	46
Thursday, August 25, 2022	14:00	59	71	58	49
Thursday, August 25, 2022	15:00	64	74	63	57
Thursday, August 25, 2022	16:00	64	75	63	60
Thursday, August 25, 2022	17:00	61	73	61	54
Thursday, August 25, 2022	18:00	60	72	59	50
Thursday, August 25, 2022	19:00	60	79	58	51
Thursday, August 25, 2022	20:00	59	76	57	51
Thursday, August 25, 2022	21:00	59	74	56	49
Thursday, August 25, 2022	22:00	56	73	53	46
Thursday, August 25, 2022	23:00	54	74	50	44

Statistics	Leq	Lmax	L50	L90
Day Average	60	74	59	50
Night Average	59	75	51	45
Day Low	58	71	56	46
Day High	64	79	63	60
Night Low	52	69	45	40
Night High	65	97	58	52
Ldn	65	Day %		75
CNEL	65	Night %		25



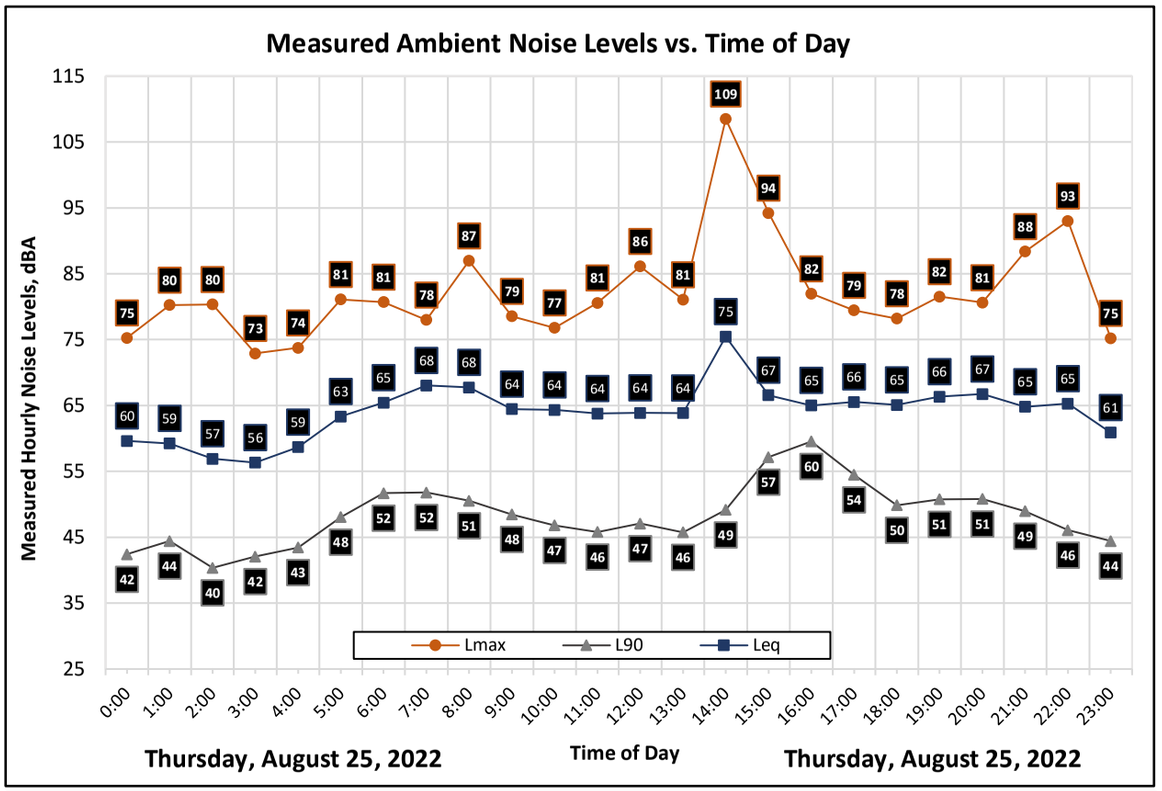


Appendix B2: Continuous Noise Monitoring Results

Site: LT-2
Project: LeBaron Ranches Residential
Location: Eastern Project Boundary
Coordinates: 38.0538823°, -121.2964091°
Meter: LDL 820-5
Calibrator: CAL200

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Thursday, August 25, 2022	0:00	60	75	52	42
Thursday, August 25, 2022	1:00	59	80	50	44
Thursday, August 25, 2022	2:00	57	80	45	40
Thursday, August 25, 2022	3:00	56	73	46	42
Thursday, August 25, 2022	4:00	59	74	50	43
Thursday, August 25, 2022	5:00	63	81	54	48
Thursday, August 25, 2022	6:00	65	81	58	52
Thursday, August 25, 2022	7:00	68	78	60	52
Thursday, August 25, 2022	8:00	68	87	59	51
Thursday, August 25, 2022	9:00	64	79	58	48
Thursday, August 25, 2022	10:00	64	77	57	47
Thursday, August 25, 2022	11:00	64	81	57	46
Thursday, August 25, 2022	12:00	64	86	57	47
Thursday, August 25, 2022	13:00	64	81	57	46
Thursday, August 25, 2022	14:00	75	109	58	49
Thursday, August 25, 2022	15:00	67	94	63	57
Thursday, August 25, 2022	16:00	65	82	63	60
Thursday, August 25, 2022	17:00	66	79	61	54
Thursday, August 25, 2022	18:00	65	78	59	50
Thursday, August 25, 2022	19:00	66	82	58	51
Thursday, August 25, 2022	20:00	67	81	57	51
Thursday, August 25, 2022	21:00	65	88	56	49
Thursday, August 25, 2022	22:00	65	93	53	46
Thursday, August 25, 2022	23:00	61	75	50	44

Statistics	Leq	Lmax	L50	L90
Day Average	68	84	59	50
Night Average	61	79	51	45
Day Low	64	77	56	46
Day High	75	109	63	60
Night Low	56	73	45	40
Night High	65	93	58	52
Ldn	69	Day %		89
CNEL	70	Night %		11



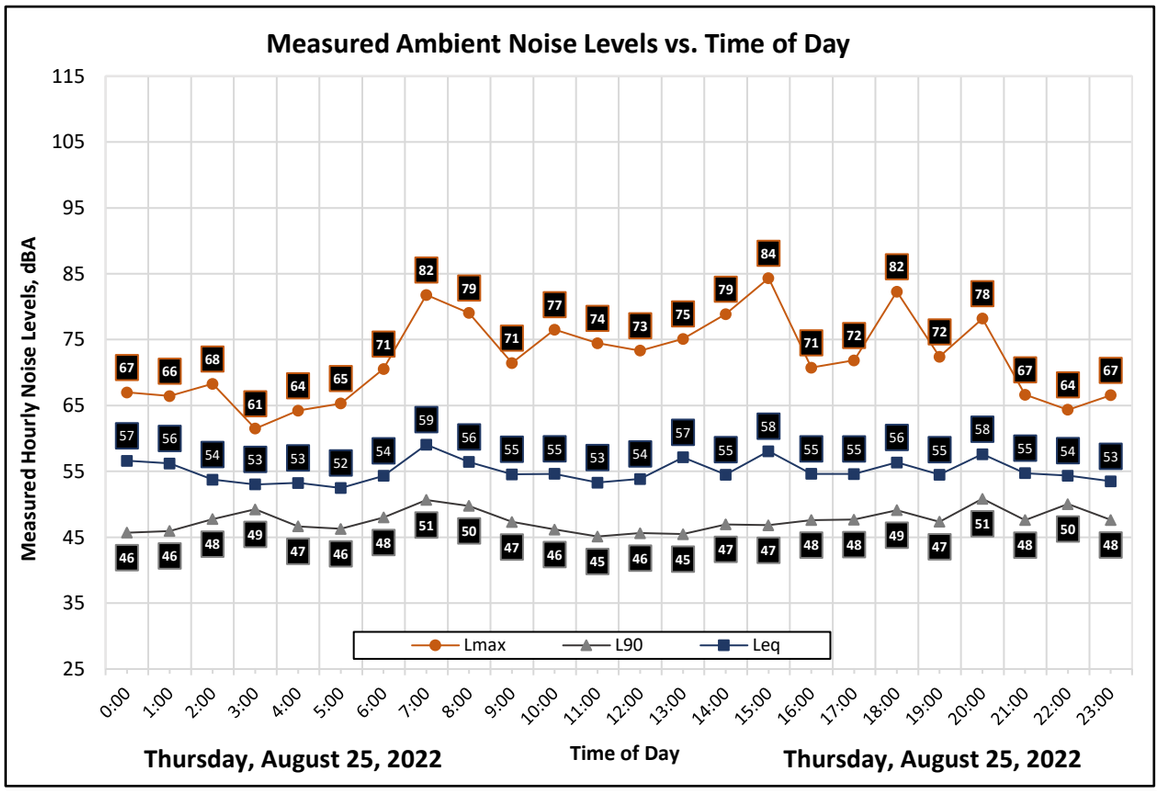


Appendix B3: Continuous Noise Monitoring Results

Site: LT-3
Project: LeBaron Ranches Residential
Meter: LDL 820-6
Location: South West of Project Site
Calibrator: CAL200
Coordinates: 38.0498236°, -121.3146229°

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Thursday, August 25, 2022	0:00	57	67	56	46
Thursday, August 25, 2022	1:00	56	66	54	46
Thursday, August 25, 2022	2:00	54	68	52	48
Thursday, August 25, 2022	3:00	53	61	52	49
Thursday, August 25, 2022	4:00	53	64	51	47
Thursday, August 25, 2022	5:00	52	65	51	46
Thursday, August 25, 2022	6:00	54	71	53	48
Thursday, August 25, 2022	7:00	59	82	55	51
Thursday, August 25, 2022	8:00	56	79	54	50
Thursday, August 25, 2022	9:00	55	71	53	47
Thursday, August 25, 2022	10:00	55	77	52	46
Thursday, August 25, 2022	11:00	53	74	51	45
Thursday, August 25, 2022	12:00	54	73	52	46
Thursday, August 25, 2022	13:00	57	75	52	45
Thursday, August 25, 2022	14:00	55	79	52	47
Thursday, August 25, 2022	15:00	58	84	52	47
Thursday, August 25, 2022	16:00	55	71	53	48
Thursday, August 25, 2022	17:00	55	72	54	48
Thursday, August 25, 2022	18:00	56	82	54	49
Thursday, August 25, 2022	19:00	55	72	53	47
Thursday, August 25, 2022	20:00	58	78	57	51
Thursday, August 25, 2022	21:00	55	67	53	48
Thursday, August 25, 2022	22:00	54	64	54	50
Thursday, August 25, 2022	23:00	53	67	53	48

Statistics	Leq	Lmax	L50	L90
Day Average	56	76	53	48
Night Average	54	66	53	47
Day Low	53	67	51	45
Day High	59	84	57	51
Night Low	52	61	51	46
Night High	57	71	56	50
Ldn	61	Day %		73
CNEL	61	Night %		27



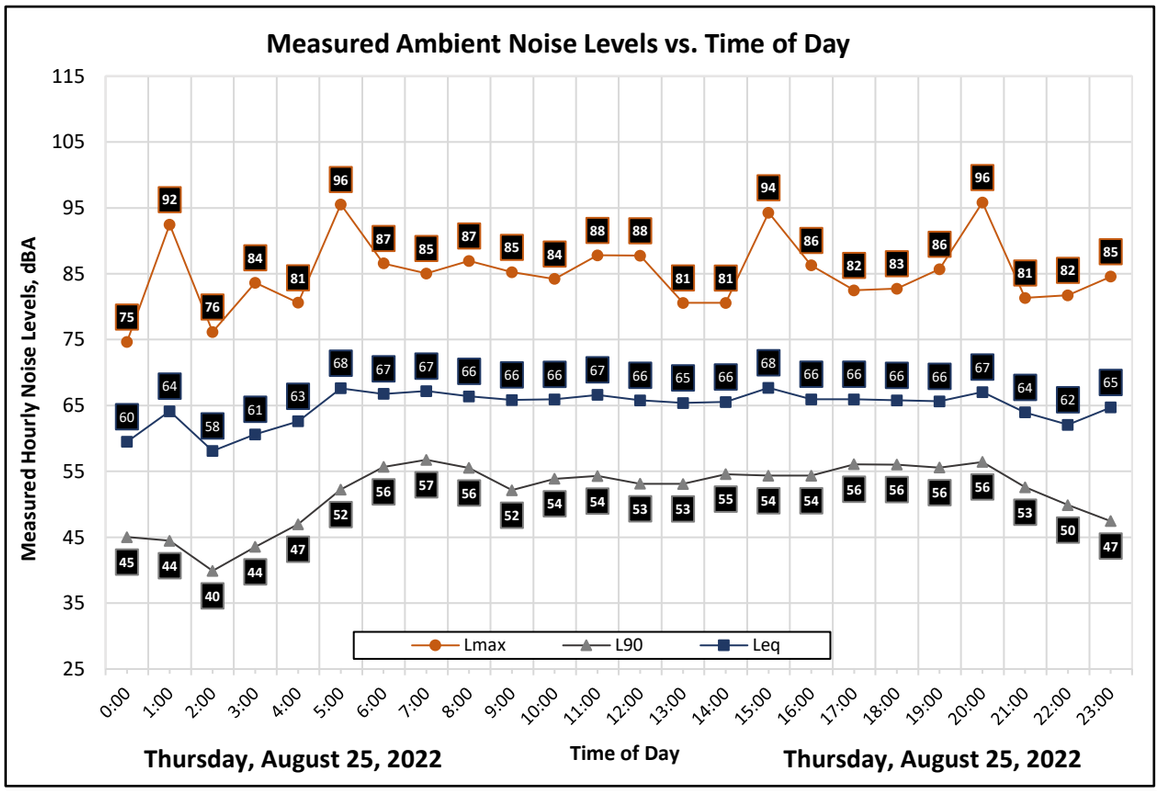


Appendix B4: Continuous Noise Monitoring Results

Site: LT-4
Project: LeBaron Ranches Residential
Meter: LDL 820-8
Location: North of Project Site
Calibrator: CAL200
Coordinates: 38.0573821°, -121.3090386°

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Thursday, August 25, 2022	0:00	60	75	56	45
Thursday, August 25, 2022	1:00	64	92	54	44
Thursday, August 25, 2022	2:00	58	76	50	40
Thursday, August 25, 2022	3:00	61	84	51	44
Thursday, August 25, 2022	4:00	63	81	57	47
Thursday, August 25, 2022	5:00	68	96	62	52
Thursday, August 25, 2022	6:00	67	87	64	56
Thursday, August 25, 2022	7:00	67	85	65	57
Thursday, August 25, 2022	8:00	66	87	64	56
Thursday, August 25, 2022	9:00	66	85	63	52
Thursday, August 25, 2022	10:00	66	84	63	54
Thursday, August 25, 2022	11:00	67	88	63	54
Thursday, August 25, 2022	12:00	66	88	63	53
Thursday, August 25, 2022	13:00	65	81	63	53
Thursday, August 25, 2022	14:00	66	81	64	55
Thursday, August 25, 2022	15:00	68	94	64	54
Thursday, August 25, 2022	16:00	66	86	64	54
Thursday, August 25, 2022	17:00	66	82	64	56
Thursday, August 25, 2022	18:00	66	83	64	56
Thursday, August 25, 2022	19:00	66	86	63	56
Thursday, August 25, 2022	20:00	67	96	63	56
Thursday, August 25, 2022	21:00	64	81	61	53
Thursday, August 25, 2022	22:00	62	82	59	50
Thursday, August 25, 2022	23:00	65	85	58	47

Statistics	Leq	Lmax	L50	L90
Day Average	66	86	64	55
Night Average	64	84	57	47
Day Low	64	81	61	52
Day High	68	96	65	57
Night Low	58	75	50	40
Night High	68	96	64	56
Ldn	70.5	Day %		75
CNEL	71	Night %		25





Appendix B5 : Short Term Noise Monitoring Results

Site: ST-1
Project: LeBaron Ranches Residentials
Location: Western Project Site
Coordinates: 38.0535807°, -121.312213°
Meter: LDL 831-5
Calibrator: CAL200

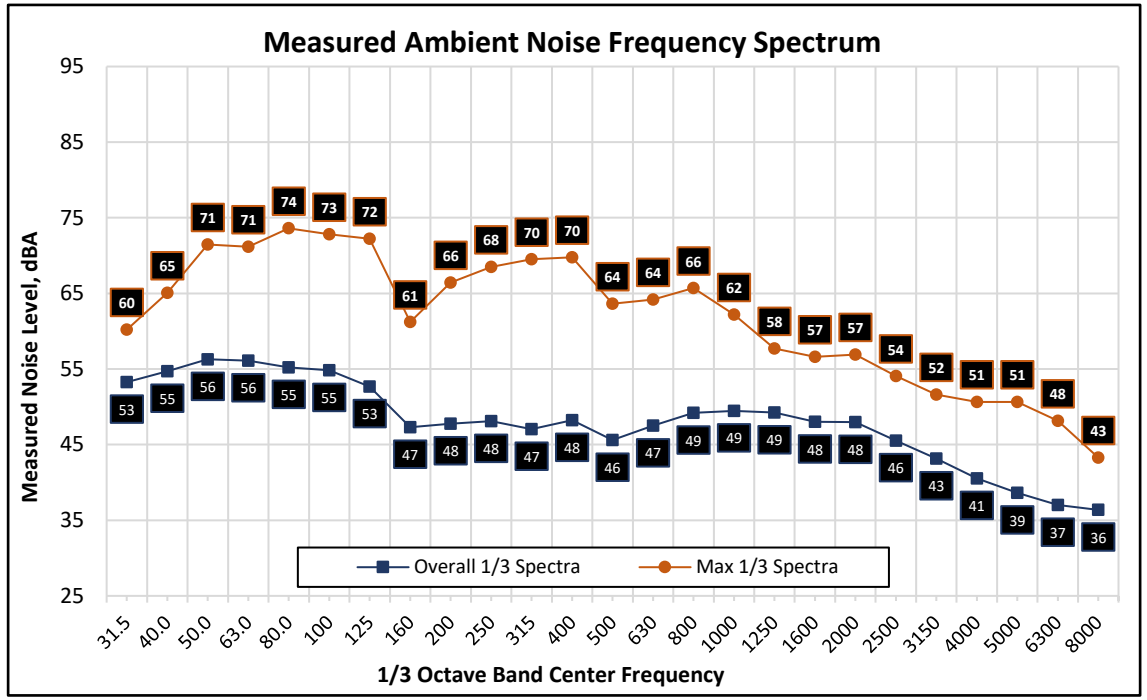
Start: 2022-08-24 10:54:39
Stop: 2022-08-24 11:04:39
SLM: Model 831
Serial: 2658

Measurement Results, dBA

Duration:	0:10
L_{eq}:	58
L_{max}:	70
L_{min}:	39
L_{50}:	56
L_{90}:	45

Notes

Primary noise source was traffic on the local roadway network





Appendix B6 : Short Term Noise Monitoring Results

Site: ST-2
Project: LeBaron Ranches Residentials
Location: Eastern Project Site
Coordinates: 38.0538337°, -121.29632887°
Meter: LDL 831-5
Calibrator: CAL200

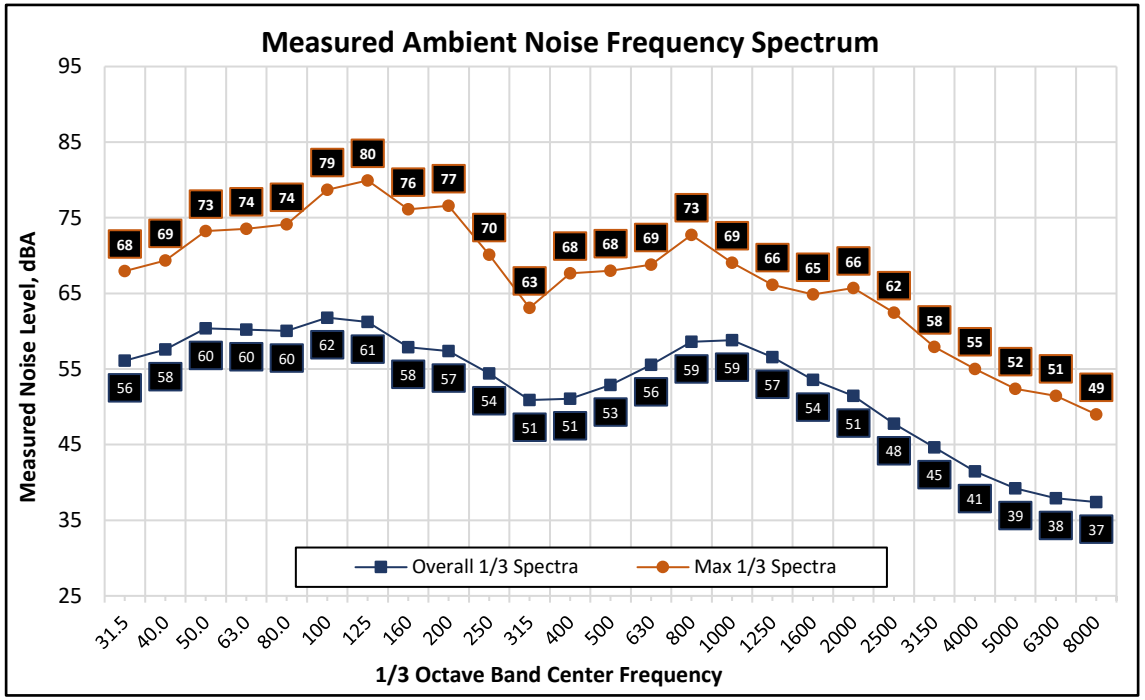
Start: 2022-08-24 11:25:15
Stop: 2022-08-24 11:35:15
SLM: Model 831
Serial: 2658

Measurement Results, dBA

Duration:	0:10
L_{eq}:	65
L_{max}:	76
L_{min}:	41
L_{50}:	61
L_{90}:	46

Notes

Primary noise source was traffic on the local roadway network





Appendix C-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 220712
Description: LeBaron Ranches Residential - Existing Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	Interstate 5	Eight Mile Road to SR 12	74,000	70	0	30	3.8%	12.6%	65	515	0	2219	1030	478	69.5
2	Interstate 5	Eight Mile Road to Hammer Lane	74,000	70	0	30	3.8%	12.6%	65	175	-5	2219	1030	478	71.5
3	Eight Mile Road	Marlette Road to Lower Sacramento Road	17,703	73	0	27	1.0%	1.0%	55	150	-5	391	182	84	61.2
4	Lower Sacramento Ro	Eight Mile Road to Marlette Road	15,724	73	0	27	1.0%	1.0%	55	85	-5	361	168	78	64.4
5	Lower Sacramento Ro	Marlette Road to Grider Way	18,254	73	0	27	1.0%	1.0%	55	70	0	399	185	86	71.3
6	Eight Mile Road	West Lane to Leach Road	13,364	73	0	27	1.0%	1.0%	55	75	0	324	150	70	69.5
7	Morada Lane	West Lane to McNair Lane	4,684	73	0	27	1.0%	1.0%	25	215	0	50	23	11	50.6
8	Morada Lane	West Lane to Caywood Drive	14,344	73	0	27	1.0%	1.0%	45	45	-5	241	112	52	65.9
9	State Route 99	Eight Mile Road to Armstrong Road	79,000	70	0	30	4.0%	9.3%	65	145	0	2125	986	458	77.5
10	State Route 99	Eight Mile Road to Morada Lane	80,000	70	0	30	4.0%	9.3%	65	230	-5	2142	994	462	69.5

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Appendix C-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 220712
Description: LeBaron Ranches Residential - Existing Plus Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	Interstate 5	Eight Mile Road to SR 12	74,154	70	0	30	3.8%	12.6%	65	515	0	2222	1031	479	69.5
2	Interstate 5	Eight Mile Road to Hammer Lane	74,026	70	0	30	3.8%	12.6%	65	175	-5	2220	1030	478	71.5
3	Eight Mile Road	Marlette Road to Lower Sacramento Road	18,075	73	0	27	1.0%	1.0%	55	150	-5	396	184	85	61.3
4	Lower Sacramento Ro	Eight Mile Road to Marlette Road	16,144	73	0	27	1.0%	1.0%	55	85	-5	368	171	79	64.5
5	Lower Sacramento Ro	Marlette Road to Grider Way	19,321	73	0	27	1.0%	1.0%	55	70	0	415	192	89	71.6
6	Eight Mile Road	West Lane to Leach Road	15,716	73	0	27	1.0%	1.0%	55	75	0	361	168	78	70.2
7	Morada Lane	West Lane to McNair Lane	4,838	73	0	27	1.0%	1.0%	25	215	0	52	24	11	50.7
8	Morada Lane	West Lane to Caywood Drive	15,833	73	0	27	1.0%	1.0%	45	45	-5	258	120	56	66.4
9	State Route 99	Eight Mile Road to Armstrong Road	79,243	70	0	30	4.0%	9.3%	65	145	0	2129	988	459	77.5
10	State Route 99	Eight Mile Road to Morada Lane	80,786	70	0	30	4.0%	9.3%	65	230	-5	2156	1001	465	69.6

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Appendix C-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 220712
Description: LeBaron Ranches Residential - EPAP
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	Interstate 5	Eight Mile Road to SR 12	77,325	70	0	30	3.8%	12.6%	65	515	0	2285	1061	492	69.7
2	Interstate 5	Eight Mile Road to Hammer Lane	84,466	70	0	30	3.8%	12.6%	65	175	-5	2424	1125	522	72.1
3	Eight Mile Road	Marlette Road to Lower Sacramento Road	23,847	73	0	27	1.0%	1.0%	55	150	-5	477	221	103	62.5
4	Lower Sacramento Ro	Eight Mile Road to Marlette Road	18,131	73	0	27	1.0%	1.0%	55	85	-5	397	184	86	65.0
5	Lower Sacramento Ro	Marlette Road to Grider Way	21,242	73	0	27	1.0%	1.0%	55	70	0	442	205	95	72.0
6	Eight Mile Road	West Lane to Leach Road	20,348	73	0	27	1.0%	1.0%	55	75	0	429	199	92	71.4
7	Morada Lane	West Lane to McNair Lane	4,721	73	0	27	1.0%	1.0%	25	215	0	51	24	11	50.6
8	Morada Lane	West Lane to Caywood Drive	13,925	73	0	27	1.0%	1.0%	45	45	-5	237	110	51	65.8
9	State Route 99	Eight Mile Road to Armstrong Road	82,048	70	0	30	4.0%	9.3%	65	145	0	2179	1011	469	77.7
10	State Route 99	Eight Mile Road to Morada Lane	88,753	70	0	30	4.0%	9.3%	65	230	-5	2296	1066	495	70.0

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Appendix C-4

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 220712
Description: LeBaron Ranches Residential - EPAP Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	Interstate 5	Eight Mile Road to SR 12	77,479	70	0	30	3.8%	12.6%	65	515	0	2288	1062	493	69.7
2	Interstate 5	Eight Mile Road to Hammer Lane	84,492	70	0	30	3.8%	12.6%	65	175	-5	2424	1125	522	72.1
3	Eight Mile Road	Marlette Road to Lower Sacramento Road	24,219	73	0	27	1.0%	1.0%	55	150	-5	482	224	104	62.6
4	Lower Sacramento Ro	Eight Mile Road to Marlette Road	18,551	73	0	27	1.0%	1.0%	55	85	-5	403	187	87	65.1
5	Lower Sacramento Ro	Marlette Road to Grider Way	22,309	73	0	27	1.0%	1.0%	55	70	0	456	212	98	72.2
6	Eight Mile Road	West Lane to Leach Road	22,700	73	0	27	1.0%	1.0%	55	75	0	462	214	99	71.8
7	Morada Lane	West Lane to McNair Lane	4,875	73	0	27	1.0%	1.0%	25	215	0	52	24	11	50.7
8	Morada Lane	West Lane to Caywood Drive	15,414	73	0	27	1.0%	1.0%	45	45	-5	253	118	55	66.3
9	State Route 99	Eight Mile Road to Armstrong Road	82,291	70	0	30	4.0%	9.3%	65	145	0	2183	1013	470	77.7
10	State Route 99	Eight Mile Road to Morada Lane	89,539	70	0	30	4.0%	9.3%	65	230	-5	2309	1072	498	70.0

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Appendix C-5

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 220712
Description: LeBaron Ranches Residential - Cumulative
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	Interstate 5	Eight Mile Road to SR 12	91,056	70	0	30	3.8%	12.6%	65	515	0	2548	1183	549	70.4
2	Interstate 5	Eight Mile Road to Hammer Lane	86,163	70	0	30	3.8%	12.6%	65	175	-5	2456	1140	529	72.2
3	Eight Mile Road	Marlette Road to Lower Sacramento Road	23,674	73	0	27	1.0%	1.0%	55	150	-5	475	220	102	62.5
4	Lower Sacramento Ro	Eight Mile Road to Marlette Road	18,307	73	0	27	1.0%	1.0%	55	85	-5	400	186	86	65.1
5	Lower Sacramento Ro	Marlette Road to Grider Way	22,707	73	0	27	1.0%	1.0%	55	70	0	462	214	99	72.3
6	Eight Mile Road	West Lane to Leach Road	21,308	73	0	27	1.0%	1.0%	55	75	0	442	205	95	71.6
7	Morada Lane	West Lane to McNair Lane	19,667	73	0	27	1.0%	1.0%	25	215	0	131	61	28	56.8
8	Morada Lane	West Lane to Caywood Drive	18,297	73	0	27	1.0%	1.0%	45	45	-5	284	132	61	67.0
9	State Route 99	Eight Mile Road to Armstrong Road	96,886	70	0	30	4.0%	9.3%	65	145	0	2434	1130	524	78.4
10	State Route 99	Eight Mile Road to Morada Lane	104,395	70	0	30	4.0%	9.3%	65	230	-5	2558	1187	551	70.7

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Appendix C-6

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 220712
Description: LeBaron Ranches Residential - Cumulative Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	Interstate 5	Eight Mile Road to SR 12	91,172	70	0	30	3.8%	12.6%	65	515	0	2550	1184	549	70.4
2	Interstate 5	Eight Mile Road to Hammer Lane	87,050	70	0	30	3.8%	12.6%	65	175	-5	2473	1148	533	72.3
3	Eight Mile Road	Marlette Road to Lower Sacramento Road	24,068	73	0	27	1.0%	1.0%	55	150	-5	480	223	103	62.6
4	Lower Sacramento Ro	Eight Mile Road to Marlette Road	18,878	73	0	27	1.0%	1.0%	55	85	-5	408	189	88	65.2
5	Lower Sacramento Ro	Marlette Road to Grider Way	23,291	73	0	27	1.0%	1.0%	55	70	0	470	218	101	72.4
6	Eight Mile Road	West Lane to Leach Road	22,053	73	0	27	1.0%	1.0%	55	75	0	453	210	98	71.7
7	Morada Lane	West Lane to McNair Lane	19,677	73	0	27	1.0%	1.0%	25	215	0	131	61	28	56.8
8	Morada Lane	West Lane to Caywood Drive	20,005	73	0	27	1.0%	1.0%	45	45	-5	301	140	65	67.4
9	State Route 99	Eight Mile Road to Armstrong Road	97,069	70	0	30	4.0%	9.3%	65	145	0	2437	1131	525	78.4
10	State Route 99	Eight Mile Road to Morada Lane	104,967	70	0	30	4.0%	9.3%	65	230	-5	2568	1192	553	70.7

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Appendix D1: Interior Noise Calculation Sheet

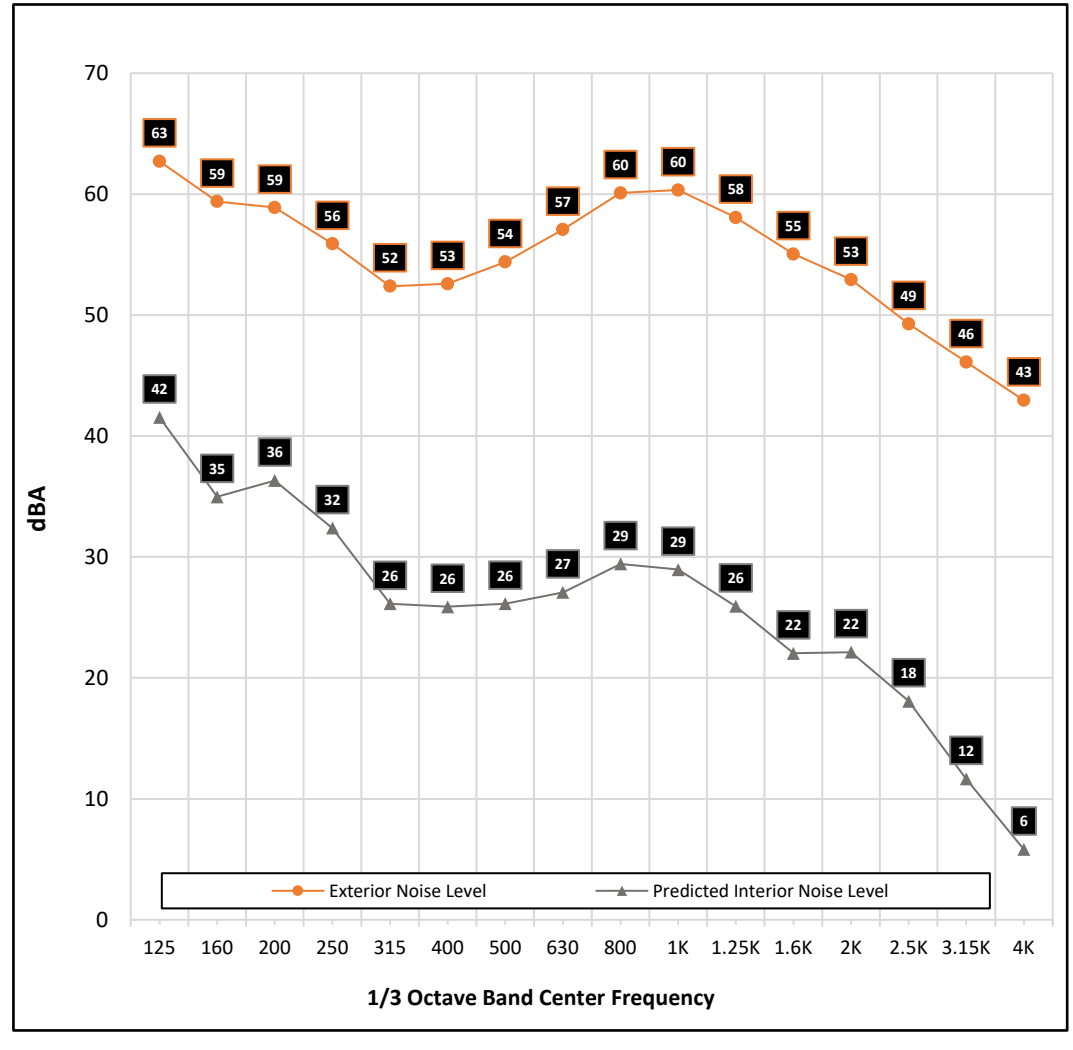
Project: LeBaron Ranches Residential

Room Description: 2nd Floor - Bedroom

Inputs		
Parallel Exterior level, dBA:	73.0	Ldn
Correction Factor, dBA:	5.0	
Noise Source:	West Lane	
Room Perimeter, ft:	40.0	
Room Area, ft:	100.0	
Room Height, ft:	9.0	
Transmitting Panel Length, ft:	20.0	
Glazing Area, ft:	24.0	
Ceiling Finish:	Gyp Board	
Ceiling, sf:	100	
Wall Finish 1:	Gyp Board	
Wall Finish 1, sf:	336	
Wall Finish 2:	Glass	
Wall Finish 2, sf:	24	
Floor:	Vinyl Plank	
Floor, sf:	100	
Misc. Finish:	Soft Furnishings	
Misc. Finish, sf:	25	
Transmitting Element 1:	Wall - 1-Coat Stucco, 5/8" gyp INSUL	
Element 1, sf:	156	
Transmitting Element 2:	Glazing - STC 38	
Element 2, sf:	24	
Transmitting Element 3:		
Element 3, sf:		
Transmitting Element 4:		
Element 4, sf:		

Predicted Interior Noise Level, dBA: 44

Noise Reduction, dBA: -29



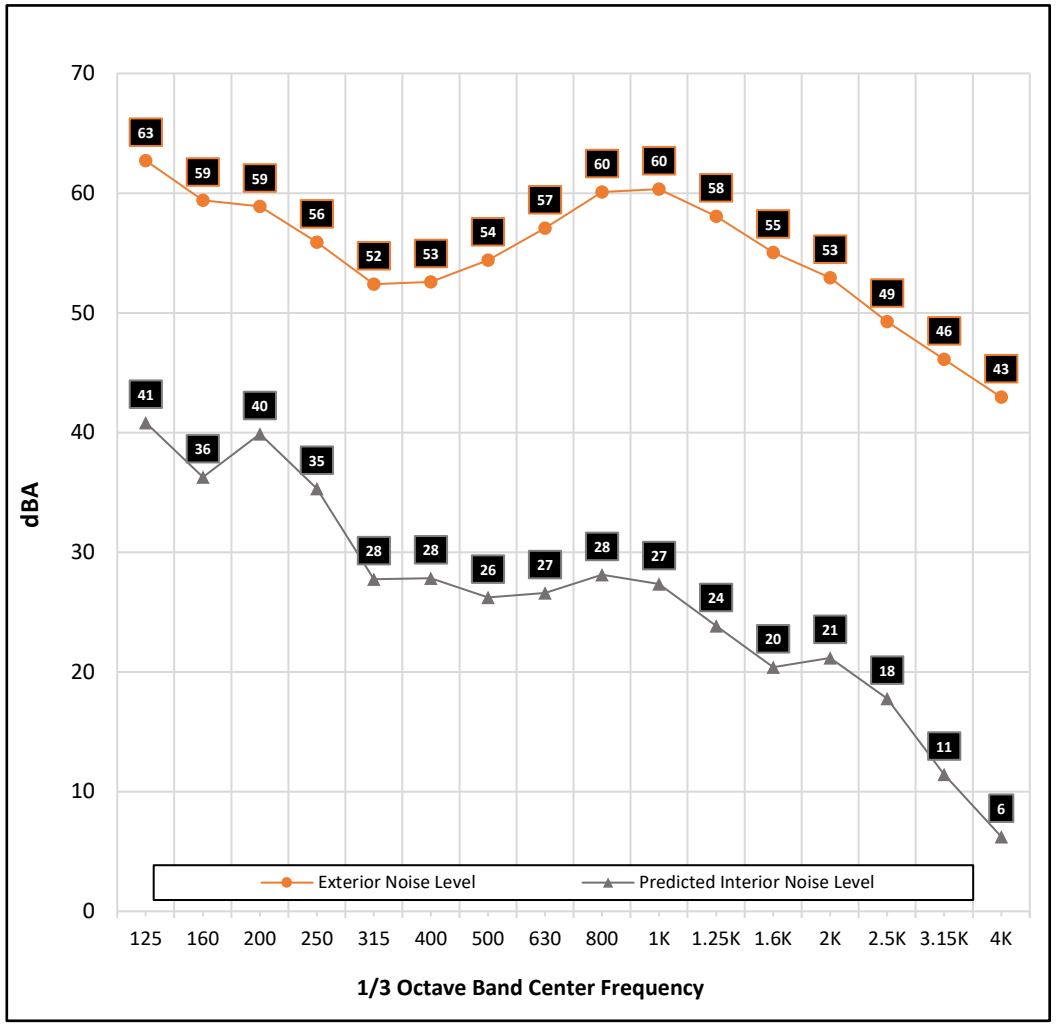
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Appendix D2: Interior Noise Calculation Sheet

Project: LeBaron Ranches Residential
Room Description: 2nd Floor - Living Room

Inputs		
Parallel Exterior level, dBA:	73.0	Ldn
Correction Factor, dBA:	5.0	
Noise Source:	West Lane	
Room Perimeter, ft:	64.0	
Room Area, ft:	240.0	
Room Height, ft:	9.0	
Transmitting Panel Length, ft:	20.0	
Glazing Area, ft:	50.0	
Ceiling Finish:	Gyp Board	
Ceiling, sf:	240	
Wall Finish 1:	Gyp Board	
Wall Finish 1, sf:	526	
Wall Finish 2:	Glass	
Wall Finish 2, sf:	50	
Floor:	Vinyl Plank	
Floor, sf:	240	
Misc. Finish:	Soft Furnishings	
Misc. Finish, sf:	25	
Transmitting Element 1:	Wall - 1-Coat Stucco, 5/8" gyp INSUL	
Element 1, sf:	130	
Transmitting Element 2:	Glazing - STC 36	
Element 2, sf:	50	
Transmitting Element 3:		
Element 3, sf:		
Transmitting Element 4:		
Element 4, sf:		

Predicted Interior Noise Level, dBA: 45
Noise Reduction, dBA: -28



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APPENDIX F

Traffic Analysis

WK Shijo Consulting, LLC

WK Shijo Consulting, LLC
7353 Durfee Way, Sacramento, CA 95831
(916) 205-7032
E-mail: wkshijo@outlook.com

MEMORANDUM

TO: Trevor Smith, Bear Creek Ventures

Steve McMurtry, De Novo Planning Group

FROM: Wayne Shijo, WK Shijo Consulting, LLC

SUBJECT: LeBaron Ranch VMT Assessment

DATE: October 20, 2023 **PROJECT:** LeBaron Ranch Traffic – DeNo-SJ-01

The purpose of this memorandum is to present an assessment of the impacts of the LeBaron Ranch Project on vehicle miles traveled (VMT) for use in the Project's California Environmental Quality Act (CEQA) environmental impact report (EIR). The following presents:

- an executive summary,
- a brief description of the LeBaron Ranch project,
- the regulatory setting,
- significance thresholds,
- a screening assessment,
- quantitative impacts analysis, and
- mitigation measures.

EXECUTIVE SUMMARY

The impacts of the LeBaron Ranch Project on VMT were analyzed. The project was found to have a significant impact on VMT. Mitigation measures to reduce the impact are recommended. Even with implementation of the mitigation measures, the impact of the project on VMT was found to be significant and unavoidable.

PROJECT DESCRIPTION

The following is a brief description of the LeBaron Ranch Project.

Location

The LeBaron Ranch Project site (proposed Project site) is located in the northern portion of the City of Stockton Metropolitan Area, within the unincorporated area of San Joaquin County. The Project site is bounded on the north by Eight Mile Road, to the east by West Lane, and to the

west by Lower Sacramento Road. The future Marlette Road, between Lower Sacramento Road and West Lane, would form the property's southern boundary. The enclosed **Figure 1** presents the Project site plan.

Land Uses

Land uses included in the LeBaron Ranch Project include a mix of low-density residential, medium-density residential, and high-density residential, infrastructure, public facilities, and open space. The Project includes:

- 421 low-density residential dwelling units,
- 796 medium-density residential dwelling units, and
- 194 high-density residential dwelling units

The Project establishes a site for a 12.0-acre K-8 school to be developed by Lodi Unified School District (LUSD). The development of a K-8 school at this site is the discretionary decision of the LUSD, and while the proposed Project has planned for a school at this location, it will be determined by LUSD at a later date through their decision-making process. If the LUSD decides to not pursue building a school at this site, then the site would be developed with 79 single family residential dwelling units with a medium-density residential designation.

Development of the potential school site with 79 single family dwelling units would result in greater impacts on VMT, compared to development as a K-8 school. Therefore, applying a conservatively high-impact approach, the VMT analysis presented in this memorandum assumes the site would be developed with 79 single family dwelling units.

Circulation

The proposed Project would connect with, expand, and tie directly to the existing circulation system in the City of Stockton. Additionally, the proposed Project would provide both standard sidewalks, and as part of specific project roadways, enhanced sidewalks (also referred to as "wellness walks") throughout the development, along with bike lanes along the major arterials that the proposed Project fronts to offer additional bicycling and walking facilities for all of Stockton's residents.

The Project includes an extension of the west-east trending Marlette Road that would provide several access points to the proposed development, and also connect to West Lane and Lower Sacramento Road. Project traffic would be directed to Marlette Road, except for one direct access point to West Lane, and then directed east or west along Marlette Road to West Lane and Lower Sacramento Road.

The neighborhoods within the Project site would include a network of minor collectors and residential streets. Additionally, sidewalks would be included per the City standards, along with enhanced sidewalks (also referred to as "wellness walks") throughout portions of the development to provide access to the two parks and the trail system along Eight Mile Road.

Class IV bikeways (separated bikeways) would be provided along the major arterials that border the Project site, which includes Lower Sacramento Road, West Lane and Eight Mile Road. A Class IV bikeway on Eight Mile Road and a Class I bike path between the proposed Project and the Woodbridge Irrigation Ditch would be provided.

The "wellness walk" network throughout the proposed Project, would provide bicyclists and walkers with a wider pathway to share a pedestrian-friendly option for traveling throughout the Project area. A connection would be provided from the "wellness walk" to the Class IV bikeway along West Lane and to the Class I bike path along the Project's northern boundary. The enclosed **Figure 1** shows the wellness walk network.

REGULATORY SETTING

As noted in the California Governor's Office of Planning and Research (OPR) document *Technical Advisory on Evaluating Transportation Impacts in CEQA* (California Governor's Office of Planning and Research 2018),

> "Senate Bill 743 (Steinberg, 2013), which was codified in Public Resources Code section 21099, required changes to the guidelines implementing CEQA (CEQA Guidelines) (Cal. Code Regs., Title 14, Div. 6, Ch. 3, § 15000 et seq.) regarding the analysis of transportation impacts. . . OPR has proposed, and the California Natural Resources Agency (Agency) has certified and adopted, changes to the CEQA Guidelines that identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts. With the California Natural Resources Agency's certification and adoption of the changes to the CEQA Guidelines, automobile delay, as measured by "level of service" and other similar metrics, generally no longer constitutes a significant environmental effect under CEQA. (Pub. Resources Code, § 21099, subd. (b)(3).)"

State of California

The OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA* provides recommended thresholds for determining the significance of VMT impacts associated with land use development projects. Specific thresholds are provided for residential, office, and retail commercial types of development. The technical advisory generally recommends establishing a 15 percent reduction in VMT, compared to a baseline, as a significance threshold. That is, if a project would result in a reduction of at least 15 percent in VMT, compared to a baseline, the project can be considered to have a less than significant impact. The significance threshold may

be thought of as 85 percent of baseline conditions (100 percent less 15 percent equals 85 percent). A project that would not result in a reduction of at least 15 percent is considered to have a significant impact. The technical advisory notes,

> "In summary, achieving 15 percent lower per capita (residential) or per employee (office) VMT than existing development is both generally achievable and is supported by evidence that connects this level of reduction to the State's emissions goals."

City of Stockton

The City of Stockton *Envision Stockton 2040 General Plan* (City of Stockton 2018) Policy TR-4.3 states,

> "Use the threshold recommended by the California Office of Planning and Research for determining whether VMT impacts associated with land uses are considered significant under State environmental analysis requirements."

Action TR-4.3A of the General Plan states,

> "Amend the City's Transportation Impact Analysis Guidelines to:
>
> - "Establish a threshold of 15 percent below baseline VMT per capita to determine a significant transportation impact under the California Environmental Quality Act.
>
> - "Identify screening criteria that will streamline certain types of development and/or development in certain areas by not requiring a VMT analysis."

SIGNIFICANCE THRESHOLDS

The City of Stockton has established a series of thresholds for determining the significance of a project-related transportation impact under CEQA. These thresholds are presented in the *City of Stockton Traffic Impact Analysis Guidelines* (City of Stockton 2021). The guidelines provide an initial set of screening thresholds to determine if a full quantitative VMT analysis is required. The screening thresholds include:

- Transit Priority Areas (TPA)
- Affordable Housing
- Small Projects
- Locally Serving Public Facility

- Neighborhood-Serving Retail Project
- Low VMT Area
- Greater Downtown Planning Area

Projects not screened out through the criteria listed above are required to complete a quantitative VMT analysis using the City of Stockton General Plan travel demand model to determine if there would be a significant VMT impact. The impact analysis includes two types of VMT:

- Project-generated VMT per capita (for residential projects, VMT per resident is used); and

- Project effect on VMT, which measures the project effect on total VMT on the network.

For residential projects, the *City of Stockton Traffic Impact Analysis Guidelines* specify a project-generated significance threshold of 15 percent below the citywide average for home-based VMT per resident. The guidelines state the citywide average is 17.46 home-based VMT per resident. 85 percent of the citywide average (i.e., 15 percent below the average) is 14.84 home-based VMT per resident. Therefore, a residential project that would generate more than 14.84 home-based VMT per resident would be considered to have a significant impact on VMT.

The Project effect on total VMT considers the project's influence on the VMT generation of surrounding land uses. The guidelines specify,

> "The cumulative project effect on VMT shall be estimated using the City limit boundary and extracting the total link-level VMT for both the no project and with project conditions."

As specified by the guidelines, the Project effect on VMT is evaluated by comparing citywide total VMT for the no project and with project conditions. Any single land use development project could not reduce citywide total VMT by 15 percent. Therefore, the significance of Project impacts on total VMT are evaluated by determining whether VMT with the project is greater than no-project VMT. If the with-project VMT is greater than the no-project VMT, the project is considered to have a significant impact on VMT.

SCREENING

Screening criteria specified in the *City of Stockton Traffic Impact Analysis Guidelines* were applied to the LeBaron Ranch Project. The following is a brief description of the application of the screening criteria. More details on each of the criteria are presented in the guidelines.

Transit Priority Areas (TPA)

The LeBaron Ranch Project site is not within one-half mile of the Downtown ACE Station and Amtrak Station, and not within one-quarter mile of the high-quality transit corridors on Hammer Lane and Pacific Avenue. Therefore, this screening criteria does not apply to the LeBaron Ranch Project.

Affordable Housing

The LeBaron Ranch Project site is not restricted to 100 percent affordable housing in an infill location. Therefore, this screening criteria does not apply to the LeBaron Ranch Project.

Small Projects

The LeBaron Ranch Project includes more than 10 single-family residential units and more than 15 multi-family residential units. Therefore, this screening criteria does not apply to the LeBaron Ranch Project.

Locally Serving Public Facility

The LeBaron Ranch Project is not a locally serving public facility that encompasses government, civic, cultural, health, and infrastructure use. Therefore, this screening criteria does not apply to the LeBaron Ranch Project.

Neighborhood-Serving Retail Project

The LeBaron Ranch Project is not a retail commercial project less than 50,000 square feet in building size. Therefore, this screening criteria does not apply to the LeBaron Ranch Project.

Low VMT Area

The *City of Stockton Traffic Impact Analysis Guidelines* includes screening maps showing areas of the City that would generate:

- VMT greater than -15 percent below City average,
- VMT 0 to 15 percent below City average, and
- VMT higher than City average.

The maps show "No Value" for some areas, including areas outside the City limits. The maps show "No Value" for home-based VMT per capita for the LeBaron Ranch Project site. Therefore, this screening criteria does not apply to the LeBaron Ranch Project.

Greater Downtown Planning Area

The LeBaron Ranch Project is not in the Greater Downtown Planning Area. Therefore, this screening criteria does not apply to the LeBaron Ranch Project.

Because none of the above-listed screening criteria apply to the LeBaron Ranch Project, the project is not "screened out" and the *City of Stockton Traffic Impact Analysis Guidelines* require a quantitative VMT impact analysis of the Project.

QUANTITATIVE IMPACTS ANALYSIS

As noted earlier in the *Significance Thresholds* section of this memorandum, projects not screened out through the criteria listed above are required to complete a quantitative VMT analysis using the City of Stockton General Plan travel demand model to determine if there would be a significant VMT impact. As specified in the *City of Stockton Traffic Impact Analysis Guidelines*, the model (Zeng, pers. comm.) was applied to the LeBaron Ranch Project to identify two types of VMT:

- project-generated VMT, and
- project effect on total VMT.

Project-Generated VMT

The enclosed **Table 1** presents the results of analysis of project-generated VMT under both Baseline Year and Cumulative Year conditions. As noted earlier in the *Significance Thresholds* section of this memorandum, the significance threshold for project-generated VMT is 14.84 home-based VMT per resident.

Under Baseline Year conditions, the LeBaron Ranch Project would generate 20.10 home-based VMT per resident. This would be 35 percent above the significance threshold. As a result, the Project is considered to have a significant impact on VMT.

Under Cumulative Year conditions, the Project would generate 17.54 home-based VMT per resident. This would be 18 percent above the significance threshold. As a result, the Project is considered to have a significant impact on VMT.

Project Effect on Total VMT

The enclosed **Table 2** presents the results of analysis of the project effect on total VMT under both Baseline Year and Cumulative Year conditions. As noted earlier in the *Significance Thresholds* section of this memorandum, a project is considered to have a significant effect if total VMT with the project is greater than total VMT without the project.

Under Baseline Year conditions, citywide VMT under the no-project condition would be 5,184,549. VMT under the with-project condition would be 5,220,298. Because VMT with the Project would be greater than VMT under the no-project condition, the LeBaron Ranch Project is considered to have a significant impact on total VMT.

Under Cumulative Year conditions, citywide VMT under the no-project condition would be 6,597,410. VMT under the with-project condition would be 6,636,505. Because VMT with the Project would be greater than VMT under the no-project condition, the LeBaron Ranch Project is considered to have a significant impact on total VMT.

MITIGATION MEASURES

Mitigation measures to reduce the impact of the LeBaron Ranch Project on VMT were considered in compliance with the *City of Stockton Traffic Impact Analysis Guidelines*. The guidelines note,

> "A list of mitigation measures applicable for consideration at the project-site level can be found in the *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (GHG Handbook)." (California Air Pollution Control Officers Association 2021)

Detailed descriptions of measures are presented in the GHG Handbook. The following presents brief summaries of the measures. Please refer to the GHG Handbook for additional details.

The GHG Handbook was prepared to present potential mitigation measures to reduce a project's impact on GHG emissions, not just to reduce impacts on VMT. As a result, the GHG Handbook presents measures that could reduce GHG emissions, but are not relevant to VMT. Nine general categories of measures are presented in the GHG Handbook. Several of these categories are not relevant to VMT (e.g., Water, Solid Waste, and Refrigerants). Measures considered for the LeBaron Ranch Project are those included in the GHG Handbook in the Transportation category. The enclosed **Figure 2** is a graphical figure from the GHG Handbook that presents a list of measures included in the Transportation category.

The Transportation measures shown in **Figure 2** were considered for this memorandum and divided into the following six groups:

- measures recommended for the LeBaron Ranch Project;
- measures that could reduce GHG emissions, but not reduce VMT;
- measures not feasible at an individual project scale;
- measures not applicable to residential projects;

- measures not within the authority of the applicant or the City of Stockton; and
- measures not applicable to, or not feasible for, the LeBaron Ranch Project.

The following describes the GHG Handbook Transportation category measures in each of the above-listed six groups. The measure numbers listed below are from the GHG Handbook, as shown in **Figure 2**.

Measures Recommended for the LeBaron Ranch Project

The following are measures recommended for implementation by the LeBaron Ranch Project. The following measures are consistent with the pedestrian and bicycle facilities described above in the *Circulation* section of this memorandum. Because the following measures are part of the Project as proposed, they are strictly-speaking project design features, rather than mitigation measures.

While not strictly mitigation measures, the following measures are described in this memorandum as mitigation measures to account for them in the quantitative analysis of VMT. The General Plan travel demand model, used to estimate VMT for the LeBaron Ranch Project, does not adjust VMT estimates in response to pedestrian and bicycle measures like those described below. As a result, the VMT estimates presented in **Table 1** and **Table 2** for the "Before Mitigation" condition do not account for these project design features. Implementation of the following measures would reduce VMT from the "Before Mitigation" levels presented in **Table 1** and **Table 2**. Reduced VMT estimates which include the effects of the following measures are described in **Table 1** and **Table 2** as the "With Mitigation" condition.

T-18. Provide Pedestrian Network Improvement. The GHG Handbook notes:

> "This measure will increase the sidewalk coverage to improve pedestrian access. Providing sidewalks and an enhanced pedestrian network encourages people to walk instead of drive. This mode shift results in a reduction in VMT and GHG emissions."

As described above in the *Circulation* section of this memorandum, the proposed Project would provide both standard sidewalks, and as part of specific project roadways, enhanced sidewalks (also referred to as "wellness walks") throughout the development, along with bike lanes along the major arterials that the proposed Project fronts to offer additional bicycling and walking facilities for all of Stockton's residents. The extent of the wellness walks is shown on the Project site plan in **Figure 1**.

The GHG Handbook notes the maximum reduction in GHG emissions and, therefore VMT, from this measure would be 3.4 percent. Additional details are provided in the GHG Handbook.

T-19-A. Construct or Improve Bike Facility. This measure is related to, and complementary to, the following measure: T-19-B. Construct or Improve Bike Boulevard. For measure T-19-A - Construct or Improve Bike Facility, the GHG Handbook notes:

> "This measure will construct or improve a single bicycle lane facility (only Class I, II, or IV) that connects to a larger existing bikeway network. Providing bicycle infrastructure helps to improve biking conditions within an area. This encourages a mode shift on the roadway parallel to the bicycle facility from vehicles to bicycles, displacing VMT and thus reducing GHG emissions. When constructing or improving a bicycle facility, a best practice is to consider local or state bike lane width standards. A variation of this measure is provided as T-19-B, Construct or Improve Bike Boulevard."

As applied to the LeBaron Ranch Project, this measure is considered to focus on bicycle facilities that connect the Project site to community-wide facilities external to the Project site.

As described above in the *Circulation* section of this memorandum, bikeways would be provided along the major arterials that border the Project site; which includes Lower Sacramento Road, West Lane and Eight Mile Road. A bikeway on Eight Mile Road and a bike path between the proposed Project and the Woodbridge Irrigation Ditch would be provided.

The GHG Handbook notes the maximum reduction in GHG emissions and, therefore VMT, from this measure would be 0.8 percent. Additional details are provided in the GHG Handbook.

T-19-B. Construct or Improve Bike Boulevard. This measure is related to, and complementary to, the above measure: T-19-A. Construct or Improve Bike Facility. For measure T-19-B. Construct or Improve Bike Boulevard, the GHG Handbook notes:

> "Bicycle boulevards are a designation within Class III Bikeway that create safe, low-stress connections for people biking and walking on streets. This encourages a mode shift from vehicles to bicycles, displacing VMT and thus reducing GHG emissions. A variation of this measure is provided as T-19-A, Construct or Improve Bike Facility . . ."

As applied to the LeBaron Ranch Project, this measure is considered to focus on bicycle facilities within the Project site that provide safe, low-stress facilities to encourage people biking and walking on streets.

As described above in the *Circulation* section of this memorandum, the proposed Project includes a "wellness walk" network, which would provide bicyclists and walkers with a wider pathway to share a pedestrian-friendly option for traveling throughout the Project area. A connection would be provided from the "wellness walk" to the bikeway along West Lane and to

the bike path along the Project's northern boundary. The enclosed **Figure 1** shows the wellness walk network.

The GHG Handbook notes the maximum reduction in GHG emissions and, therefore VMT, from this measure would be 0.2 percent. Additional details are provided in the GHG Handbook.

T-20. Expand Bikeway Network. The GHG Handbook notes:

> "This measure will increase the length of a city or community bikeway network. A bicycle network is an interconnected system of bike lanes, bike paths, bike routes, and cycle tracks. Providing bicycle infrastructure with markings and signage on appropriately sized roads with vehicle traffic traveling at safe speeds helps to improve biking conditions (e.g., safety and convenience)."

As applied to the LeBaron Ranch Project, this measure is considered to focus on expansion of bicycle facilities beyond those described in adopted plan networks.

Figure 4-1.B, *North Stockton Citywide Backbone Network Map by Facility Type*, of the *City of Stockton Bicycle Master Plan* (City of Stockton 2017) and Figure 4-3, *Existing and Planned Bicycle Network*, of the *Envision Stockton 2040 General Plan* (City of Stockton 2018), show planned bicycle facilities along the LeBaron Ranch Project site frontages on:

- Eight Mile Road,
- Lower Sacramento Road, and
- West Lane.

In addition, the Bicycle Master Plan and the General Plan show a planned bicycle path along Bear Creek, located south of the Project site. The planned facilities along Lower Sacramento Road and West Lane would provide access to the Bear Creek bicycle path.

As described above in the *Circulation* section of this memorandum, the proposed Project includes separated bikeways along the major arterials that border the Project site; which includes Lower Sacramento Road, West Lane and Eight Mile Road. A Class IV bikeway on Eight Mile Road and a Class I bike path between the proposed Project and the Woodbridge Irrigation Ditch would be provided.

In addition, as shown in **Figure 1**, the proposed Project would provide the wellness walk network throughout the Project site. The wellness walk network is considered to be an expansion of bicycle facilities beyond those shown in the Bicycle Master Plan and the General Plan.

The GHG Handbook notes the maximum reduction in GHG emissions and, therefore VMT, from this measure would be 0.5 percent. Additional details are provided in the GHG Handbook.

Significance of Impact on VMT With Mitigation Measures. As noted earlier in the *Project-Generated VMT* section of this memorandum:

- Under Baseline Year conditions, the LeBaron Ranch Project would generate home-based VMT per resident at a rate 35 percent above the significance threshold.

- Under Cumulative Year conditions, the Project would generate home-based VMT per resident at a rate 18 percent above the significance threshold.

Based on estimates presented in the GHG Handbook, implementation of the mitigation measures recommended above could result in a maximum reduction in VMT of 4.9 percent. It would be reasonable to expect implementation of the measures to result in a reduction somewhat less than 4.9 percent. As a result, implementation of the recommended mitigation measure would not reduce the Project impact on VMT to a less than significant level. This impact would therefore be significant and unavoidable.

Measures That Would Not Reduce VMT

The following are measures listed in the GHG Handbook that would reduce GHG emissions, but would not reduce VMT. These measures were considered as potential mitigation measures, but are not recommended.

- T-14. Provide Electric Vehicle Charging Infrastructure
- T-30. Use Cleaner-Fuel Vehicles

While the above-listed measures would not reduce VMT, and are not recommended to reduce the significance of VMT impacts, it should be noted these measures could reduce other types of impacts. For example, these measures could reduce the impact of the Project on air quality or greenhouse gas (GHG) emissions. As a result, these measures may be considered to mitigate other types of impacts.

Measures Not Feasible at an Individual Project Scale

The GHG Handbook presents measures which are considered feasible at a community size level, but are considered not feasible at an individual project size level. These measures were considered as potential mitigation measures, but are not recommended.

Car sharing, bicycle sharing and scooter sharing systems have been recently implemented. However, these systems require a geographic scale larger than an individual development project. The following are sharing system measures listed in the GHG Handbook:

- T-21-A. Implement Conventional Carshare Program
- T-21-B. Implement Electric Carshare Program
- T-22-A. Implement Pedal (Non-Electric) Bikeshare Program
- T-22-B. Implement Electric Bikeshare Program
- T-22-C. Implement Scootershare Program

The following measure is related to travel planning programs. As noted in the title of the measure, it applies to a community-level geographic scale, rather than project-level scale.

- T-23. Provide Community-Based Travel Planning

Measures Not Applicable to Residential Projects

The GHG Handbook presents measures which are not applicable to residential land use projects. These are measures which are primarily applicable to employment-generating uses. These measures were considered as potential mitigation measures, but are not recommended.

- T-2. Increase Job Density
- T-5. Implement Commute Trip Reduction Program (Voluntary)
- T-6. Implement Commute Trip Reduction Program (Mandatory Implementation and Monitoring)
- T-7. Implement Commute Trip Reduction Marketing
- T-8. Provide Ridesharing Program
- T-9. Implement Subsidized or Discounted Transit Program
- T-l0. Provide End-of-Trip Bicycle Facilities
- T-11. Provide Employer-Sponsored Vanpool
- T-12. Price Workplace Parking
- T-13. Implement Employee Parking Cash-Out

Measures Not Within the Authority of the Applicant or the City Of Stockton

Currently, the San Joaquin Regional Transit District (RTD) provides limited public transit service to the Project site. The County Hopper Route 93 operates weekdays along West Lane, with eight northbound trips per day and ten southbound trips per day. County Hopper service is a deviated fixed route type of service.

The GHG Handbook presents measures which are related to the structure of the community-level public transit system. While these measures have the potential to reduce VMT, the RTD has authority to implement the measures. Implementation of the measures is not within the authority of the applicant or the City of Stockton. Therefore, the following measures were considered as potential mitigation measures, but are not recommended.

- T-3. Provide Transit-Oriented Development
- T-25. Extend Transit Network Coverage or Hours
- T-26. Increase Transit Service Frequency
- T-27. Implement Transit-Supportive Roadway Treatments
- T-28. Provide Bus Rapid Transit
- T-29. Reduce Transit Fares

Measures Not Applicable to, or Not Feasible for, the LeBaron Ranch Project

The GHG Handbook presents measures which are considered not applicable to, or not feasible for, the LeBaron Ranch Project site. These measures were considered as potential mitigation measures, but are not recommended.

The GHG Handbook includes a measure that involves higher than average density of dwelling units. As noted above in the *Land Uses* section of this memorandum, the LeBaron Ranch Project includes 194 high density multiple-family dwelling units. Current residential development in the vicinity of the Project site is predominantly composed of relatively lower density single family dwelling units. The General Plan travel demand model, used to estimate VMT for the LeBaron Ranch Project, already includes relatively lower VMT per unit generated by the Project multiple family dwelling units. Therefore, the following measure is already incorporated into the VMT levels presented in **Table 1** and **Table 2**, and is not considered applicable as a mitigation measure:

- T-l. Increase Residential Density

The GHG Handbook includes a measure that involves affordable and below market rate housing, noting, "Multifamily residential units must be permanently dedicated as affordable for lower income families." As noted above in the *Land Uses* section of this memorandum, the LeBaron Ranch Project includes a mix of housing types: low-density single family dwelling units,

medium-density single family dwelling units, and high-density multiple-family dwelling units. The Project does not include units that are deed restricted as "affordable units". Affordability by design, both for purchase and rent, will be created with some of the product within the medium density and high density designations. However, the following measure is considered not feasible:

- T-4. Integrate Affordable and Below Market Rate Housing

The GHG Handbook includes the following three measures that involves parking supply and parking cost:

- T-15. Limit Residential Parking Supply
- T-16. Unbundle Residential Parking Costs from Property Cost
- T-24. Implement Market Price Public Parking (On-Street)

In the description of measure T-15, Limit Residential Parking Supply, the GHG Handbook notes, "This measure is ineffective in locations where unrestricted street parking or other offsite parking is available nearby and has adequate capacity to accommodate project-related vehicle parking demand." Unrestricted street parking is available in the vicinity of the LeBaron Ranch Project site, and is expected to be available in the future.

Implementation of measure T-16, Unbundle Residential Parking Costs from Property Cost, would appear to require modification of Stockton Municipal Code section 16.64.040, *Number of parking spaces required*.

In the description of measure T-24, Implement Market Price Public Parking (On-Street), the GHG Handbook notes, "This measure will price all on-street parking in a given community, with a focus on parking near central business districts, employment centers, and retail centers." The LeBaron Ranch Project is composed of residential land use, rather than central business districts, employment centers and retail centers.

Because of the reasons described in the three previous paragraphs, measures T-15, T-16 and T-24 are considered to be not feasible for the LeBaron Ranch Project.

The GHG Handbook includes a measure related to the density and connectivity of streets. The GHG Handbook notes:

> "This measure accounts for the VMT reduction achieved by a project that is designed with a higher density of vehicle intersections compared to the average intersection density in the U.S. Increased vehicle intersection density is a proxy for street connectivity improvements, which help to facilitate a greater number of shorter trips and thus a reduction in GHG emissions."

As shown in **Figure 1**, the LeBaron Ranch Project as proposed includes a relatively high density of street intersections within the Project site. The number of connections to surrounding arterial roadways (i.e., Eight Mile Road, West Lane, and Lower Sacramento Road), however, are constrained by existing adopted precise road plans for each of these roadways. As a result, the following measure is considered not feasible for the LeBaron Ranch Project:

- T-l7. Improve Street Connectivity

CLOSING

If you have any questions about this memorandum, please contact me via E-mail at wkshijo@outlook.com or by telephone at 916.205-7032.

enclosures

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Personal Communications

Zeng, Shangyou. Senior Transportation Planner. Fehr & Peers. March 7, 2022 E-mail message to Wayne Shijo, KD Anderson & Associates; Ken Anderson, KD Anderson & Associates; Ellen Poling, Fehr & Peers; and Steve McMurtry, De Novo Planning Group. Subject: Information sharing for the Cannery Park 2021 project analysis.

Table 1. Home-Based VMT for LeBaron Ranch Project

Type of VMT	Baseline Year	Cumulative Year
Citywide Average (VMT per Resident)	17.46	
85 Percent of Citywide Average (VMT per Resident)	14.84	
Project-Only VMT	93,252	81,385
Project-Only VMT per Resident (Before Mitigation)	20.10	17.54
Project-Only VMT per Resident (With Mitigation)	19.12	16.68
Project-Only VMT Greater Than 85 Percent of Citywide Average? (Before Mitigation)	Yes	Yes
Project-Only VMT Greater Than 85 Percent of Citywide Average? (With Mitigation)	Yes	Yes

Source: City of Stockton VMT Travel Demand Model.
Notes: City of Stockton VMT Travel Demand Model estimate of residents for the LeBaron Ranch project site = 4,639.
Disaggregation of percent reduction by mitigation measures shown in Table 3.
Maximum percent reduction used. Actual reduction is expected to be less.

Table 2. Vehicle Miles Traveled Summary: Citywide Total VMT

Scenario	No Project	With LeBaron Ranch	With LeBaron Ranch VMT Greater Than No Project VMT?
Baseline Year			
Before Mitigation	5,184,549	5,220,298	Yes
With Mitigation	- -	5,215,729	Yes
Cumulative Year			
Before Mitigation	6,597,410	6,636,505	Yes
With Mitigation	- -	6,632,517	Yes

Source: City of Stockton VMT Travel Demand Model.
Notes: Disaggregation of percent reduction by mitigation measures shown in Table 3.
Maximum percent reduction used. Actual reduction is expected to be less.

Table 3. VMT Mitigation Measures Recommended for the LeBaron Ranch Project

	Measure	Maximum Percent Reduction
T-18	Provide Pedestrian Network Improvement	3.4%
T-19-A	Construct or Improve Bike Facility	0.8%
T-19-B	Construct or Improve Bike Boulevard	0.2%
T-20	Expand Bikeway Network	0.5%
	TOTAL	4.9%

Note: Maximum percent reduction shown. Actual reduction is expected to be less.

Figure 1. LeBaron Ranch Project Site Plan

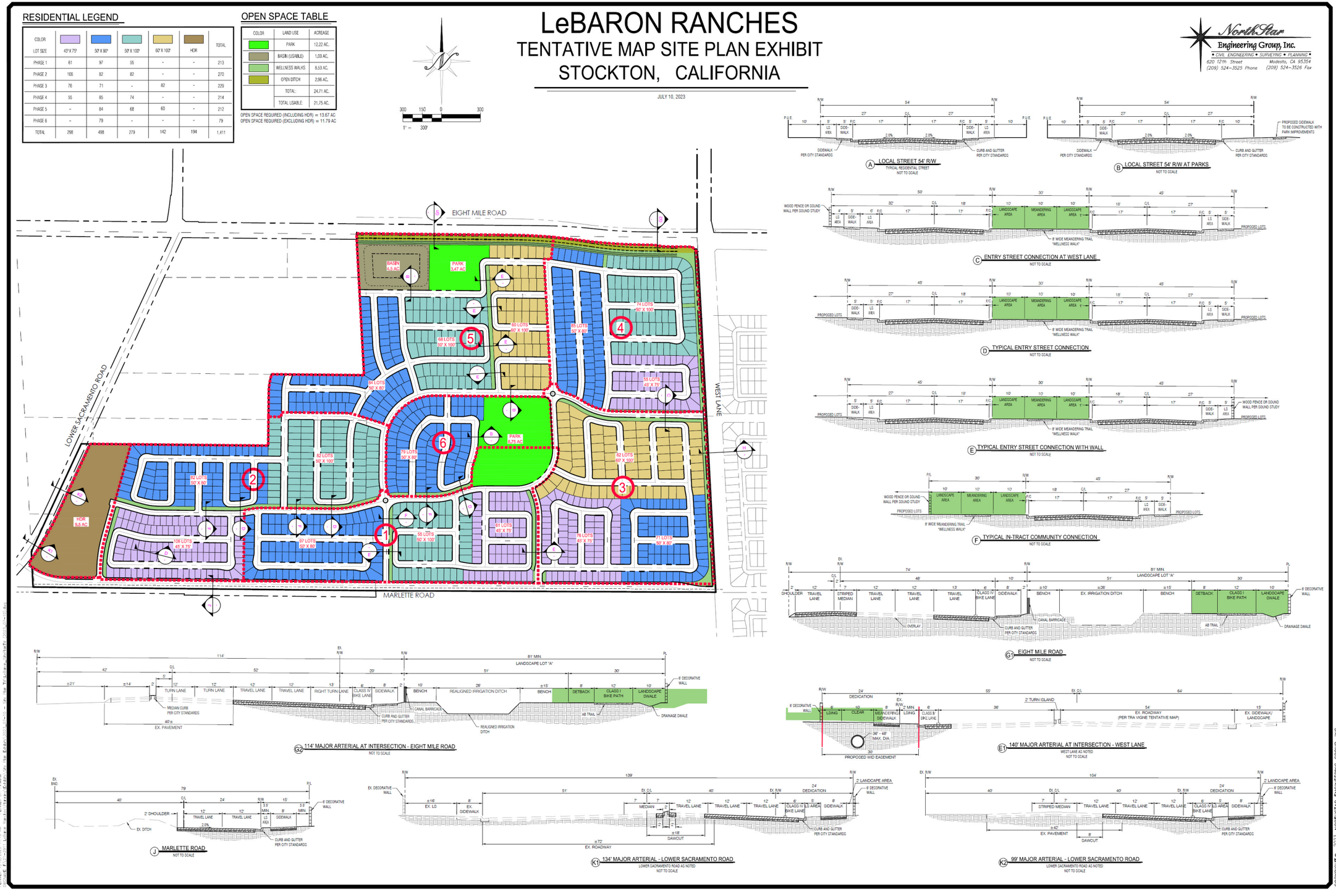
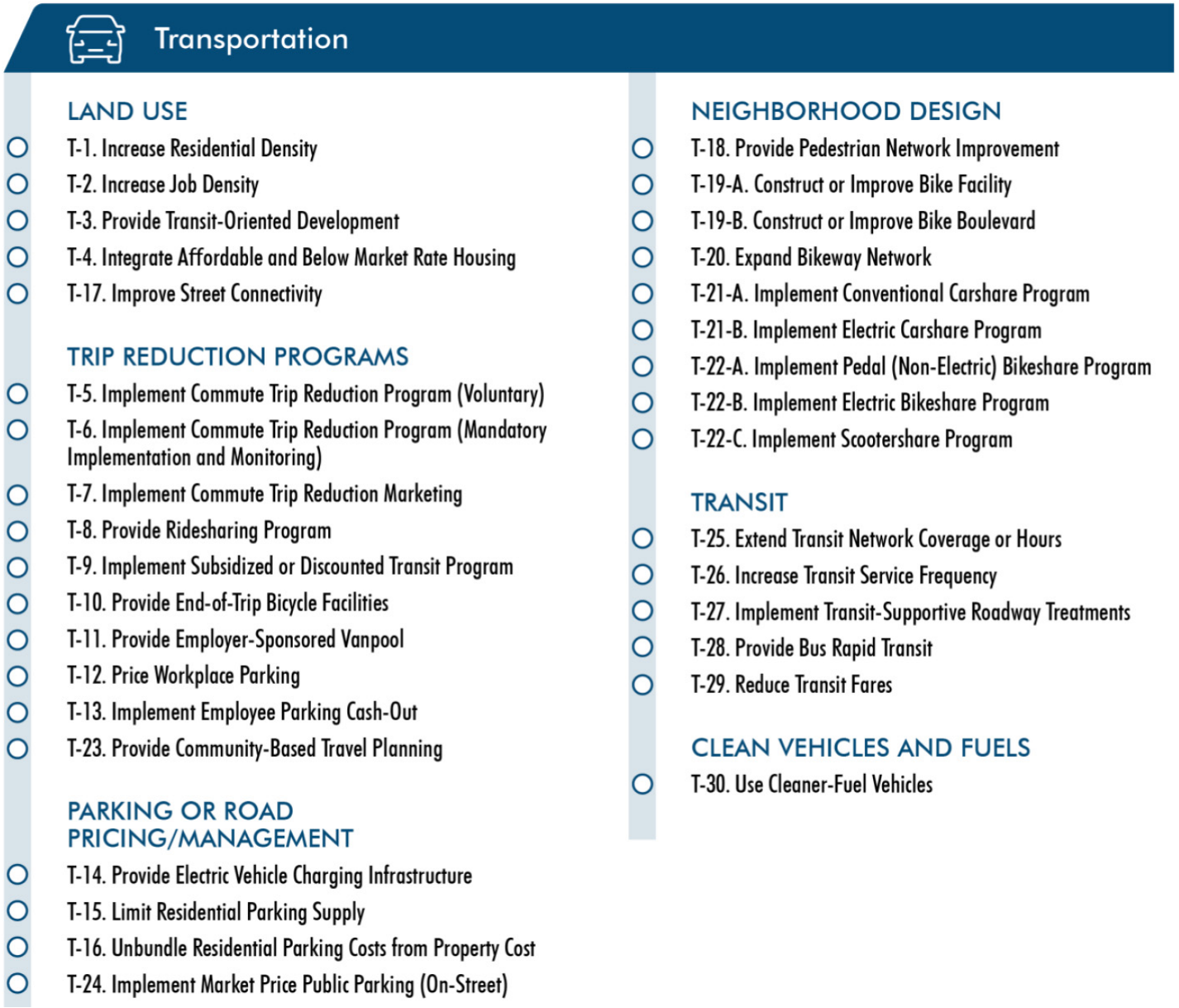


Figure 2. GHG Handbook Transportation Mitigation Measures



TRAFFIC IMPACT STUDY

FOR

THE LeBARON RANCH PROJECT

Stockton, California

Prepared For:

De Novo Planning Group

Prepared By:

WK Shijo Consulting, LLC
7353 Durfee Way
Sacramento, California 95831
(916) 205-7032

November 27, 2023

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LeBaron Ranch Traf Study 11-27-23.doc

WK Shijo Consulting, LLC

TRAFFIC IMPACT STUDY FOR THE LeBARON RANCH PROJECT

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EXECUTIVE SUMMARY

This *Executive Summary* is a brief overview of the analysis presented in this traffic impact study. It is not intended to be a comprehensive description of the analysis. For more details, the reader is referred to the full description presented in the traffic impact study.

This traffic impact study presents an analysis of the traffic-related effects of the LeBaron Ranch project. The Project site is located in north Stockton, east of Lower Sacramento Road, west of West Lane, south of Eight Mile Road, and generally north of an eastern extension of Marlette Road. The proposed Project includes single-family residential uses, multi-family residential uses, and circulation system improvements.

This traffic impact study includes analysis of:

- 30 intersections,
- 13 roadway segments, and
- Eight freeway ramp junctions.

These study facilities are analyzed under the following five development scenarios:

- Existing Conditions,
- Near-Term Future Existing Plus Approved Projects (EPAP) No LeBaron Ranch Project Conditions,
- Near-Term Future EPAP Plus LeBaron Ranch Project Conditions,
- Long-Term Future Cumulative No LeBaron Ranch Project Conditions, and
- Long-Term Future Cumulative Plus LeBaron Ranch Project Conditions.

Under Existing conditions, five study facilities experience operating conditions which are considered unacceptable.

Under EPAP No LeBaron Ranch Project conditions, five study facilities would experience operating conditions which are considered unacceptable.

Under EPAP Plus LeBaron Ranch Project conditions, nine study facilities would experience operating conditions which are considered unacceptable.

Under Cumulative No LeBaron Ranch Project conditions, four study facilities would experience operating conditions which are considered unacceptable.

Under Cumulative Plus LeBaron Ranch Project conditions, six study facilities would experience operating conditions which are considered unacceptable.

In addition to presenting analysis of traffic operating conditions, this traffic impact study also presents analysis of project-related impacts on:

- demand for public transit services, and
- demand for bicycle and pedestrian facilities.

The project impact on public transit service and on bicycle and pedestrian facilities is considered less than significant.

A separate standalone document has been prepared, which presents an analysis of the project-related impacts of the LeBaron Ranch Project on vehicle miles traveled (VMT).

INTRODUCTION

STUDY PURPOSE

This traffic impact study presents an analysis of the transportation effects of the proposed LeBaron Ranch Project.

PROJECT DESCRIPTION

The following is project background information and a description of the proposed LeBaron Ranch project.

Location

The LeBaron Ranch Project site (proposed Project site) is located in the northern portion of the City of Stockton Metropolitan Area, within the unincorporated area of San Joaquin County. The Project site is adjacent to the City of Stockton's northern city limits. The Project site is outside the Stockton city limits, but within the City's Sphere of Influence (SOI).

The Project site is bounded on the north by Eight Mile Road, to the east by West Lane, and to the west by Lower Sacramento Road. The future Marlette Road, between Lower Sacramento Road and West Lane, would form the property's southern boundary. **Figure 1** and **Figure 2** show the Project's regional location and vicinity.

Land Uses

Land uses included in the LeBaron Ranch project include a mix of low-density residential, medium-density residential, and high-density residential, infrastructure, public facilities, and open space. The proposed Project includes:

- 421 low-density residential dwelling units,
- 796 medium-density residential dwelling units, and
- 194 high-density residential dwelling units

Figure 3 shows the Project site plan.

Circulation

The proposed Project would connect with, expand, and tie directly to the existing circulation system in the City of Stockton. Additionally, the proposed Project would provide both standard sidewalks, and as part of specific project roadways, enhanced sidewalks (also referred to as "wellness walks") throughout the development, along with bike lanes along the major arterials that the proposed Project fronts to offer additional bicycling and walking facilities for all of

Stockton's residents.

The Project includes an extension of the west-east trending Marlette Road that would provide several access points to the proposed development, and also connect to West Lane and Lower Sacramento Road. West Lane and Lower Sacramento Road are the main arterial roadways providing access to the Project site. The proposed Project includes annexation of right-of-way along Eight Mile Road, which would be improved to City of Stockton standards. However, access to the proposed development would not occur from Eight Mile Road, thus eliminating any conflicts with the flow of traffic on Eight Mile Road. Project traffic would be directed to Marlette Road, except for one direct access point to West Lane, and then directed east or west along Marlette Road to West Lane and Lower Sacramento Road. Emergency vehicle access would connect high-density residential development to Lower Sacramento Road.

The neighborhoods within the Project site would include a network of minor collectors and residential streets to provide traffic flow through the area. Additionally, sidewalks would be included per the City standards, along with enhanced sidewalks (also referred to as "wellness walks") throughout portions of the development to provide access to the two parks and the trail system along Eight Mile Road.

Class IV bikeways (separated bikeways) would be provided along the major arterials that border the Project site; which includes Lower Sacramento Road, West Lane and Eight Mile Road. The Eight Mile Road cross section, shows both a Class IV bikeway on Eight Mile Road and a Class I bike path between the proposed Project and the Woodbridge Irrigation Ditch.

The "wellness walk" network throughout the proposed Project, would provide bicyclist and walkers with a wider pathway to share a pedestrian-friendly option for traveling throughout the Project area. A connection would be provided from the "wellness walk" to the Class IV bikeway along West Lane and to the Class I bike path along the Project's northern boundary.

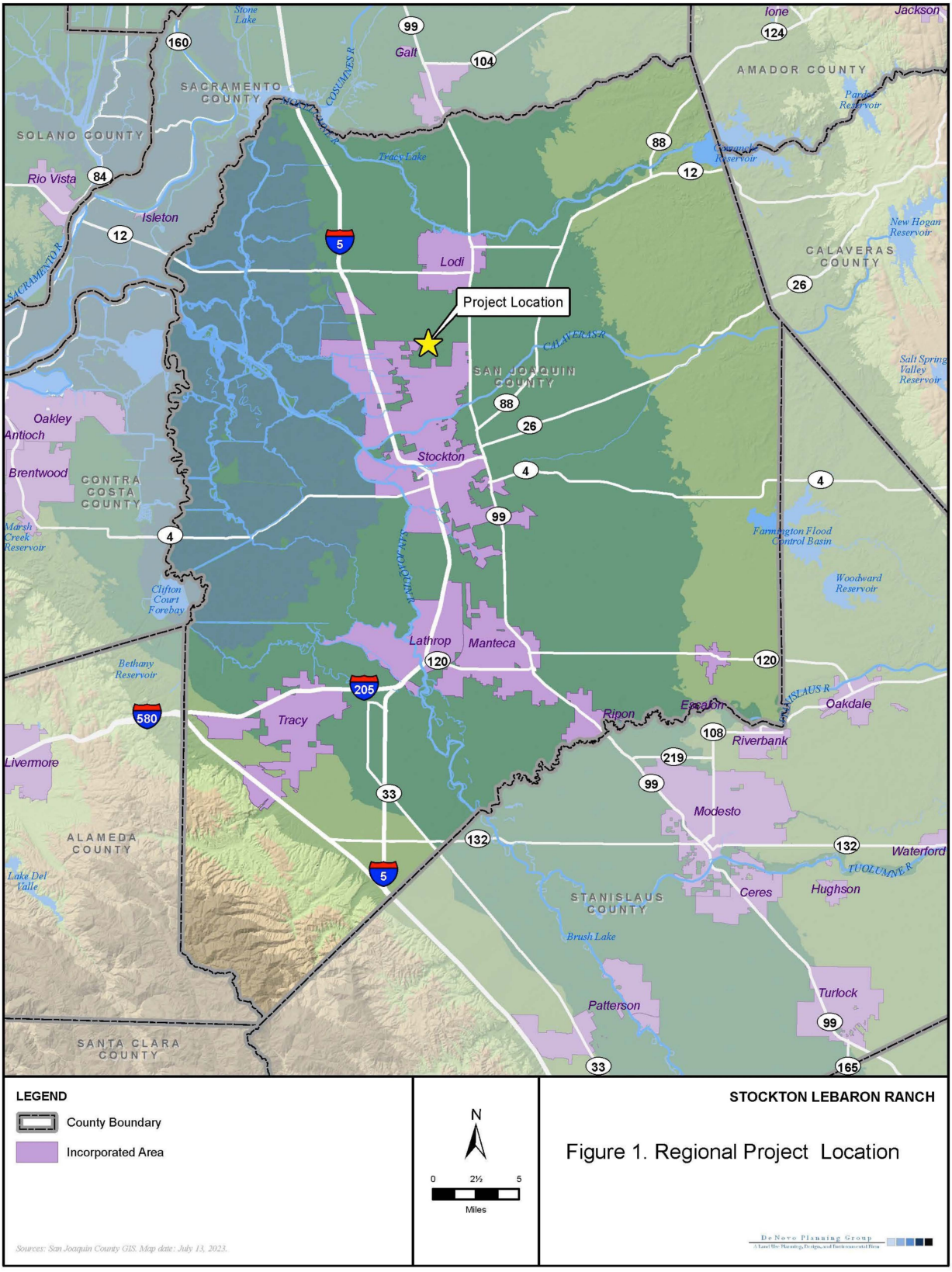


Figure 1. Regional Project Location

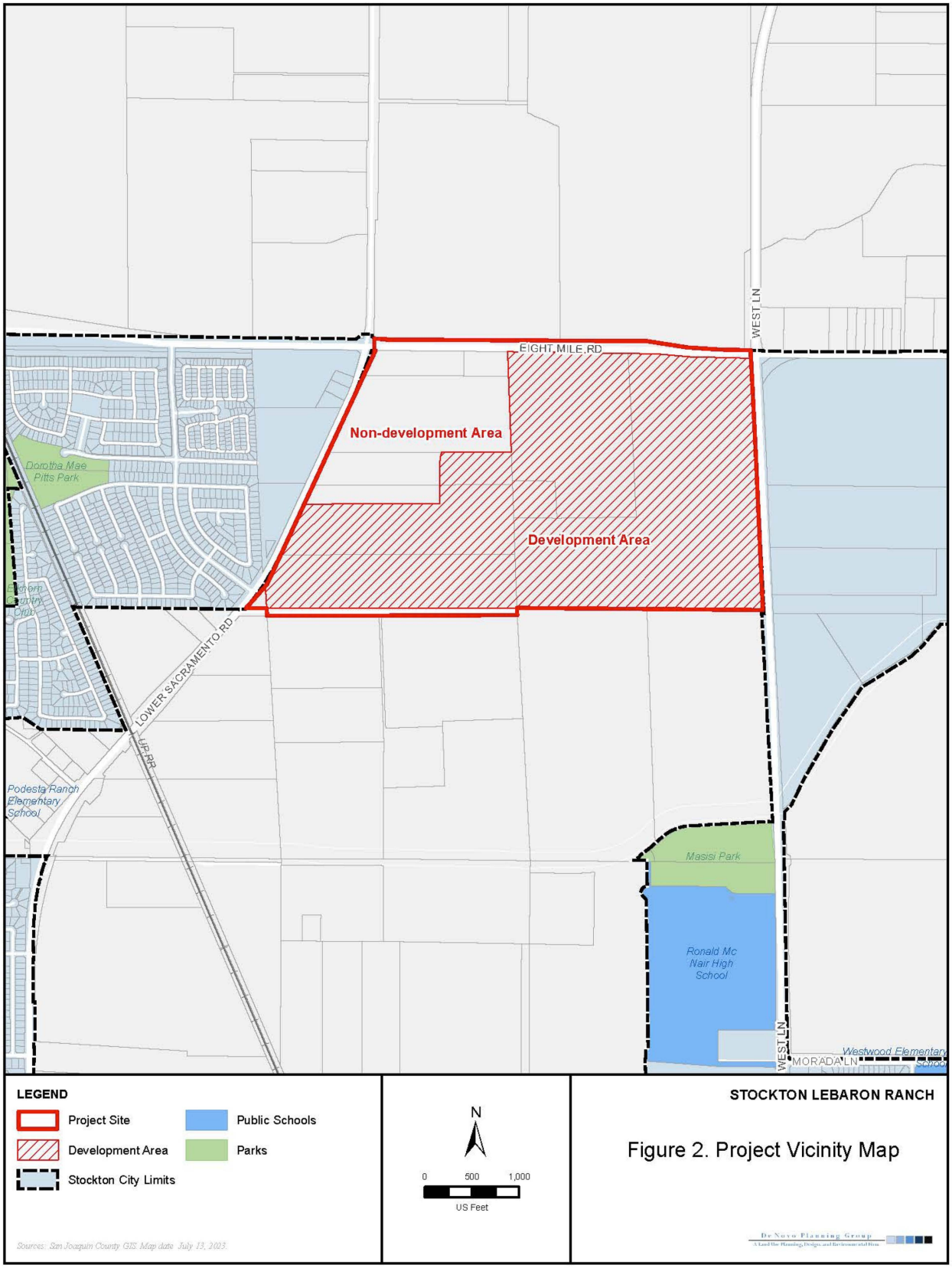


Figure 2. Project Vicinity Map

LeBARON RANCHES
TENTATIVE MAP SITE PLAN EXHIBIT
STOCKTON, CALIFORNIA

JULY 10, 2023

NorthStar Engineering Group, Inc.
• CIVIL ENGINEERING • SURVEYING • PLANNING •
620 12th Street Modesto, CA 95354
(209) 524-3525 Phone (209) 524-3526 Fax

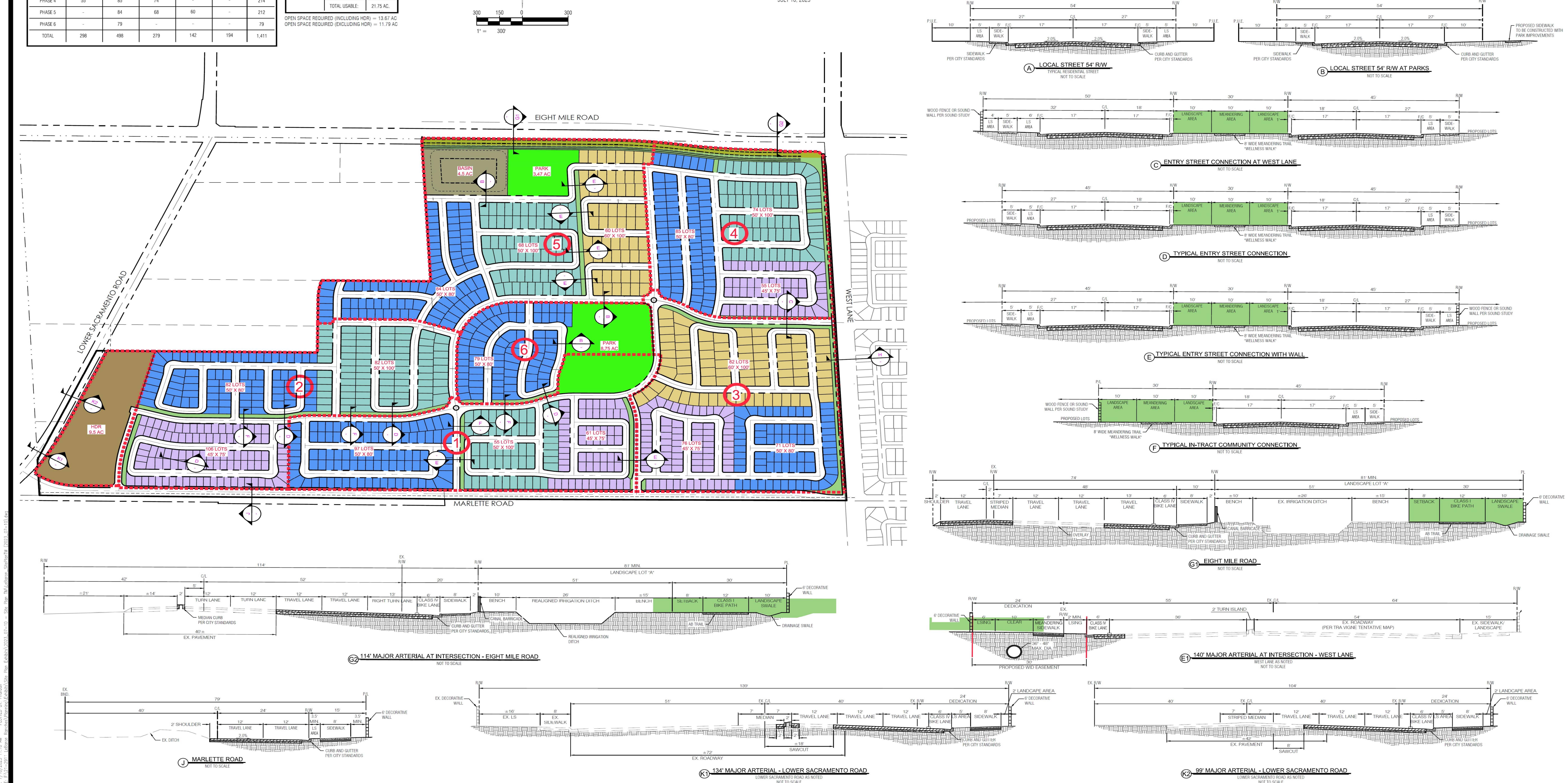
RESIDENTIAL LEGEND

LOT SIZE	45' X 75'	50' X 80'	50' X 100'	60' X 100'	HDR	TOTAL
PHASE 1	61	97	55	-	-	213
PHASE 2	106	82	82	-	-	270
PHASE 3	76	71	-	82	-	229
PHASE 4	55	85	74	-	-	214
PHASE 5	-	84	68	60	-	212
PHASE 6	-	79	-	-	-	79
TOTAL	298	498	279	142	194	1,411

OPEN SPACE TABLE

COLOR	LAND USE	ACREAGE
	PARK	12.22 AC.
	BASIN (USABLE)	1.00 AC.
	WELLNESS WALKS	8.53 AC.
	OPEN DITCH	2.96 AC.
	TOTAL:	24.71 AC.
	TOTAL USABLE:	21.75 AC.

OPEN SPACE REQUIRED (INCLUDING HDR) = 13.67 AC
OPEN SPACE REQUIRED (EXCLUDING HDR) = 11.79 AC



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Figure 3. Site Plan

OVERALL ANALYSIS APPROACH

As noted above, this traffic impact study presents an analysis of the transportation-related effects of the LeBaron Ranch project. This analysis is conducted using existing background, near-term background and long-term future background conditions. Future background conditions are based on the City of Stockton General Plan. Analysis of traffic operating conditions under the following five scenarios is presented in this traffic impact study:

- Existing Conditions,
- EPAP No LeBaron Ranch Project Conditions,
- EPAP Plus LeBaron Ranch Project Conditions,
- Cumulative No Project Conditions, and
- Cumulative Plus Project Conditions.

Existing Plus Approved Projects (EPAP) conditions are a near-term future background condition which includes existing traffic levels, and traffic associated with approved, but unconstructed, land use development and transportation projects in vicinity of the Project site.

Cumulative conditions with the City of Stockton General Plan are a long-term future background condition which includes future year forecasts of traffic volumes, based on development of surrounding land uses. This set of scenarios assumes 2040 conditions with future development consistent with the General Plan.

EXISTING SETTING

This section of this traffic impact study presents a description of existing conditions in the study area. Information presented in this section of the study is based on on-site field observations, traffic count data collected for this study, and other data available from local and state agencies.

This section of the traffic impact study also describes analysis methods applied for this study, and thresholds used to determine the significance of project-related effects.

STUDY AREA ROADWAYS

This traffic impact study presents analyses of traffic operating conditions at intersections, on roadways segments, and at freeway ramp junctions in the study area that may be affected by the proposed Project. The limits of the study area, study facilities, and analysis approaches applied in this traffic impact study were identified in consultation with City of Stockton staff (Moore pers. comm.).

The following describes the key roadways in the study area. The location and alignment of these roadways are graphically shown in **Figure 1**, **Figure 2**, **Figure 3** and **Figure 4**.

Interstate 5 (I-5) is a major north-south freeway that traverses the western U.S., originating in southern California and continuing north towards Sacramento and beyond. It is aligned through the western portion of the City, providing three travel lanes in each direction in the vicinity of the project site, and providing four travel lanes in each direction in other portions of the Stockton area. Twelve interchanges are provided along the 14-mile stretch of I-5 within and adjacent to the City limits. Current average daily traffic (ADT) volumes are approximately 74,000. The speed limit on I-5 in the vicinity of the project site is 70 miles per hour (mph).

State Route 99 (SR 99) traverses the Central Valley, connecting Sacramento and points north with numerous Central Valley cities, including Modesto, Merced, Fresno and Bakersfield. SR 99 is approximately two miles east of the Project site. Three travel lanes are provided in each direction north of Wilson Way, while segments south of Wilson Way include two lanes per direction. Twelve interchanges are provided along the 12-mile length of SR 99 within and adjacent to the City limits. Average daily traffic volumes on SR 99 range between 79,000 and 80,000 in the vicinity of the Project site. The speed limit on SR 99 is 65 mph in the vicinity of the proposed Project site.

Thornton Road is a roadway with a northern terminus at the Sacramento County line and, as Pacific Avenue, has a southern terminus in downtown Stockton. Thornton Road generally has a north-south alignment. However, a portion of Thornton Road south of Eight Mile Road has a northwest-southeast alignment. North of Eight Mile Road, Thornton Road is two lanes wide. In the vicinity of the project site, the majority of Thornton Road is four lanes wide. The speed limit on Thornton Road is 55 mph north of Eight Mile Road, 45 mph between Eight Mile Road and Davis Road, and 40 mph south of Davis Road.

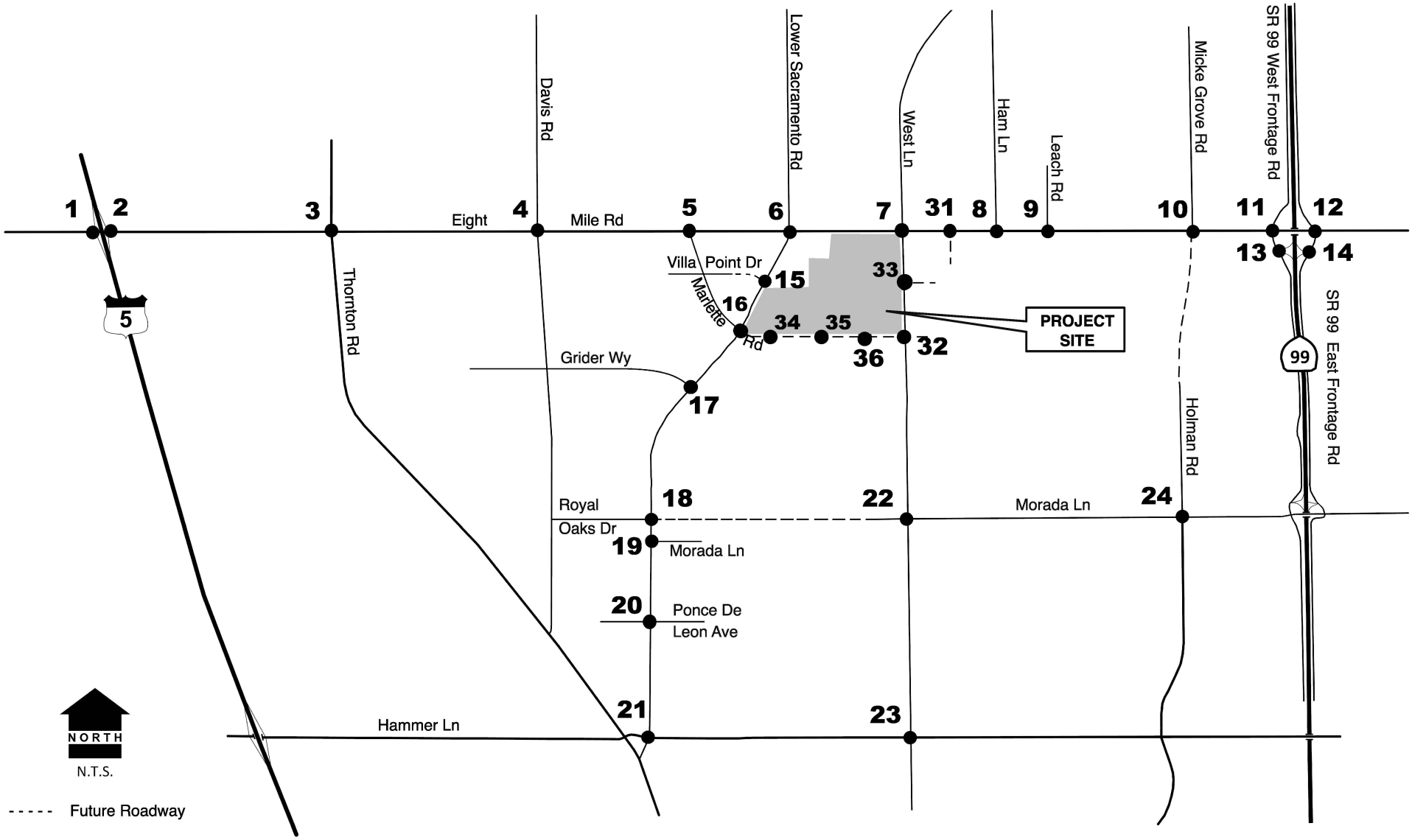


Figure 4 Roadway Network and Study Intersections

Davis Road is a north-south roadway with a northern terminus at the Mokelumne River, northwest of Lodi, and a southern terminus at Thornton Road. The majority of Davis Road is two lanes wide, with portions north of Thornton Road being three lanes wide and four lanes wide. In the vicinity of the Project site, the speed limit is 45 mph south of Eight Mile Road and 55 mph north of Eight Mile Road.

Eight Mile Road is an east-west roadway along the northern edge of the Project site. In the vicinity of the Project site, the majority of Eight Mile Road is two lanes wide (one lane in each direction). However, some portions of Eight Mile Road are four-lanes wide, and limited portions have three lanes in a single direction. In the vicinity of the Project site, the posted speed limit along Eight Mile Road is 55 mph. The speed limits on nearby portions are 45 mph and 50 mph. Eight Mile Road has access to SR 99 at an interchange that includes a two-lane overcrossing of SR 99. Eight Mile Road has access to I-5 at an interchange that includes a seven-lane undercrossing of I-5. Grade-separated crossings of railroad tracks are located approximately one mile west of the Project site and one mile east of the Project site.

Lower Sacramento Road is a roadway with a northern terminus at the Sacramento County line and a southern terminus at Rivara Road, south of Hammer Lane. Lower Sacramento Road generally has a north-south alignment. However, a portion immediately south of Eight Mile Road has a northeast-southwest alignment. A portion of Lower Sacramento Road southwest of the Project site was improved approximately 10 years ago, including construction of a grade-separated railroad crossing. North of Armor Drive, Lower Sacramento Road is two lanes wide. South of Armor Drive, it is four lanes wide. The speed limit on Lower Sacramento Road is 55 mph north of Armor Drive, 50 mph between Armor Drive and Katherine Way, and 40 mph south of Katherine Way.

West Lane/Hutchins Street/Airport Way is a north-south arterial roadway along the eastern frontage of the project site. As shown in **Figure 3**, the Project site is proposed to have access to West Lane via a project roadway connection. The northern terminus is in the City of Lodi as Hutchins Street and the southern terminus is south of Manteca as Airport Way. Portions of West Lane are divided by a raised median. In the vicinity of the project site, some portions of West Lane are four-lanes wide, other portions are six-lanes wide. West Lane is controlled by signalization at major intersections.

Ham Lane is a north-south two-lane roadway. The northern terminus of a portion of Ham Lane is at Armstrong Road, and the southern terminus is at Eight Mile Road. Another discontinuous portion of Ham Lane is present in Lodi, north of Harney Lane. Ham Lane has a signalized intersection with West Lane, and an unsignalized intersection with Eight Mile Road.

Leach Road is a discontinuous two-lane north-south roadway. In the vicinity of the Project site, the southern terminus is at Eight Mile Road, and the northern terminus is at Morse Road. The speed limit is unsigned.

Micke Grove Road is a two-lane north-south roadway with a northern terminus at Armstrong Road, and a current southern terminus at a "T" intersection at Eight Mile Road. Holman Road is planned to be extended north to Eight Mile Road and form the southern leg of the intersection of Eight Mile Road & Micke Grove Road. The speed limit on Micke Grove Road is 35 mph.

Holman Road is a north-south arterial roadway with a northern terminus at PFC Jesse Mizener Street. Holman Road is planned to be extended north across Bear Creek to the intersection of Eight Mile Road & Micke Grove Road. Portions of Holman Road are four lanes and six lanes wide. However, portions of Holman Road south of Hammer Lane are two lanes wide. The speed limit on Holman Road is 40 mph.

SR 99 East Frontage Road and **SR 99 West Frontage Road** are undivided two-lane frontage roads located immediately east and west of SR 99. The northern termini of the frontage roads are north of Eight Mile Road. The southern termini are at an overcrossing of SR 99, approximately one-mile south of Hammer Lane. The frontage roadways are designed to intercept, collect, and distribute traffic crossing, entering, or leaving the freeway, and to furnish access to property that otherwise would be isolated as a result of the controlled access freeway. SR 99 East Frontage Road and SR 99 West Frontage Road provide direct access to light industrial, commercial, and residential development. SR 99 on-ramps and off-ramps form "hook ramp" intersections with the frontage roads at the SR 99 interchanges at Eight Mile Road and Morada Lane. The speed limit on SR 99 East Frontage Road is 45 mph. The curved portions of SR 99 West Frontage Road are signed for 30 mph and 40 mph; the speed limit on other portions is unsigned.

Morada Lane is a discontinuous east-west roadway. A portion of Morada Lane has a western terminus at Lower Sacramento Road and an eastern terminus at the Union Pacific Railroad tracks. This portion of Morada Lane has a 25 mph speed limit. Another portion of Morada Lane has a western terminus at a signalized intersection with McNair Lane, west of West Lane, and an eastern terminus approximately one mile east of SR 99. This portion of Morada Lane has 30 mph, 35 mph and 45 mph speed limits. Portions of Morada Lane are two-lanes wide while other portions are four to six-lanes wide. Morada Lane has access to SR 99 at an interchange that includes a two-lane overcrossing of SR 99.

Marlette Road is a discontinuous roadway on both sides of Lower Sacramento Road. A short, two-lane substandard roadway is present east of Lower Sacramento Road. To the northwest of Lower Sacramento Road, Marlette Road is also known as Destination Drive and has an intersection with Eight Mile Road. The portion of the roadway to the northwest intersects Lower Sacramento Road approximately 200 feet north of the intersection with the portion of the roadway to the east. The LeBaron Ranch project includes the extension of Marlette Road from Lower Sacramento Road to West Lane. The proposed Project includes three project roadway connections with Marlette Road. The Tra Vigne Development Project (City of Stockton 2018a), which is located southeast of the intersection of Eight Mile Road & West Lane, includes a roadway connection with West Lane at the planned location of the intersection of West Lane & Marlette Road.

Villa Point Drive is a short east-west collector roadway south of Eight Mile Road and west of Lower Sacramento Road. The eastern terminus of the roadway is currently a cul-de-sac approximately 450 feet east of Lower Sacramento Road. A paved area connects the eastern terminus of Villa Point Drive with Lower Sacramento Road; but barricades block access to the paved area. At the location where the barricaded paved area connects with Lower Sacramento Road, a driveway on the east side also connects with Lower Sacramento Road. The driveway serves a religious facility. A raised concrete island at the driveway connection prevents left-turn movements.

Grider Way / Whistler Way is a two-lane east-west roadway with a western terminus at a "T" intersection at A.G. Spanos Boulevard, and an eastern terminus at Lower Sacramento Road. East of Windmill Park Drive, the roadway is named Grider Way. West of Windmill Park Drive, the roadway is named Whistler Way. The roadway provides surrounding land use with access to Thornton Road, Davis Road, and Lower Sacramento Road. At the location where Grider Way connects with Lower Sacramento Road, a driveway on the east side also connects with Lower Sacramento Road. The driveway serves a retail commercial center.

Royal Oaks Drive is an east-west two-lane roadway with a western terminus at Davis Road, and an eastern terminus at Lower Sacramento Road. The speed limit on Royal Oaks Drive is 25 mph.

Ponce De Leon Avenue is an east-west two-lane roadway with a western terminus at Davis Road, and an eastern terminus east of El Dorado Street. The speed limit on Ponce De Leon Avenue is 25 mph.

Hammer Lane is a major east-west arterial in the vicinity of the Project site. It has a western terminus west of I-5, and an eastern terminus east of SR 99. Hammer Lane has access to both of these freeways via interchanges. West of Thornton Road, Hammer Lane is four lanes wide. Between Thornton Road and SR 99, portions of Hammer Lane are six-, seven-, and eight-lanes wide. West of Holman Road, Hammer Lane has a 35 mph speed limit. East of Holman Road, it has a 45 mph speed limit.

PUBLIC TRANSPORTATION

The San Joaquin Regional Transit District (SJRTD) is the primary provider of public transportation service in San Joaquin County, providing services to the Stockton metropolitan area, as well as inter-city, inter-regional, and rural transit service. SJRTD provides fixed-route, flexible fixed-route, and dial-a-ride services in Stockton. Each service is described in more detail below. (San Joaquin Regional Transit District 2023)

- Local fixed route service is provided by 26 routes.
- Bus Rapid Transit (BRT) service is provided by five routes.
- Interregional Commuter Route service is a subscription commuter bus service. A total of three routes connect San Joaquin County to Sacramento, the San Francisco Bay Area, and the Bay Area Rapid Transit (BART) system.
- SJRTD operates a Dial-a-Ride service for those individuals who, due to their disability, are functionally unable to use fixed-route services. Stockton Metro Area Dial-A-Ride (SMA-ADA) is a curb-to-curb service operating within the Stockton metropolitan area for passengers with an Americans with Disabilities Act (ADA) certification.

- Metro Hopper is a deviated fixed-route service for areas within the Stockton city limits. SJRTD operates 12 Hopper routes.

- Van Go! is an on-demand rideshare service for areas within San Joaquin County. Trips are booked up to 48 hours in advance. Payment is on a per-trip basis.

SJRTD operates County Hopper Route 93 along West Lane along the eastern edge of the Project site. This route travels between the Stockton Downtown Transit Center and the Lodi Transit Station. The route operates eight times a day in the northbound direction, and 10 times a day in the southbound direction.

PARK AND RIDE FACILITIES

Park and Ride lots are free parking facilities for commuters to use as a convenient meeting place for carpools, transit, and vanpools. SJRTD lists Park and Ride lots in the Stockton area at the following locations (San Joaquin Regional Transit District 2023).

- The **Calvary First Church on Kelley Drive north of Hammer Lane** lot provides a transit connection to the SJRTD Route 163.

- The **Hammer Crossing Shopping Center at Hammer Lane and Sampson Road** lot provides a transit connection to the SJRTD Route 163.

- The **Lifesong Church, 3034 Michigan Avenue** lot provides a transit connection to the SJRTD Route 150.

BICYCLE AND PEDESTRIAN SYSTEMS

The generally level terrain and mild weather make bicycling and walking viable forms of transportation in Stockton. The City of Stockton has an extensive network of bicycle facilities, including off-street trails and paths, as well as on-street bicycle lanes and routes. Many of these facilities also support pedestrian travel. According to Caltrans guidelines, bicycle facilities are generally divided into four categories:

- **Class I Bikeway (Bike Path).** A completely separate facility designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian cross-flow minimized.

- **Class II Bikeway (Bike Lane).** A striped lane designated for the use of bicycles on a street or highway. Vehicle parking and vehicle/pedestrian cross-flow are permitted at designated locations.

- **Class III Bikeway (Bike Route).** A route designated by signs or pavement markings for bicyclists within the vehicular travel lane (i.e., shared use) of a roadway.

- **Class IV Bikeway (Separated Bikeway).** A bikeway for the exclusive use of bicycles and includes a separation required between the separated bikeway and the through vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible posts, inflexible barriers, or on-street parking.

The Project site is located in an area with currently sparse land use development. Neither sidewalks nor bicycle facilities are present along Eight Mile Road, Lower Sacramento Road, or West Lane in the immediate vicinity of the Project site.

The City of Stockton General Plan (City of Stockton 2018b) presents a map showing existing and planned bicycle facilities in the Stockton area, shown on **Figure 5**. In the immediate vicinity of the Project site, **Figure 5** shows:

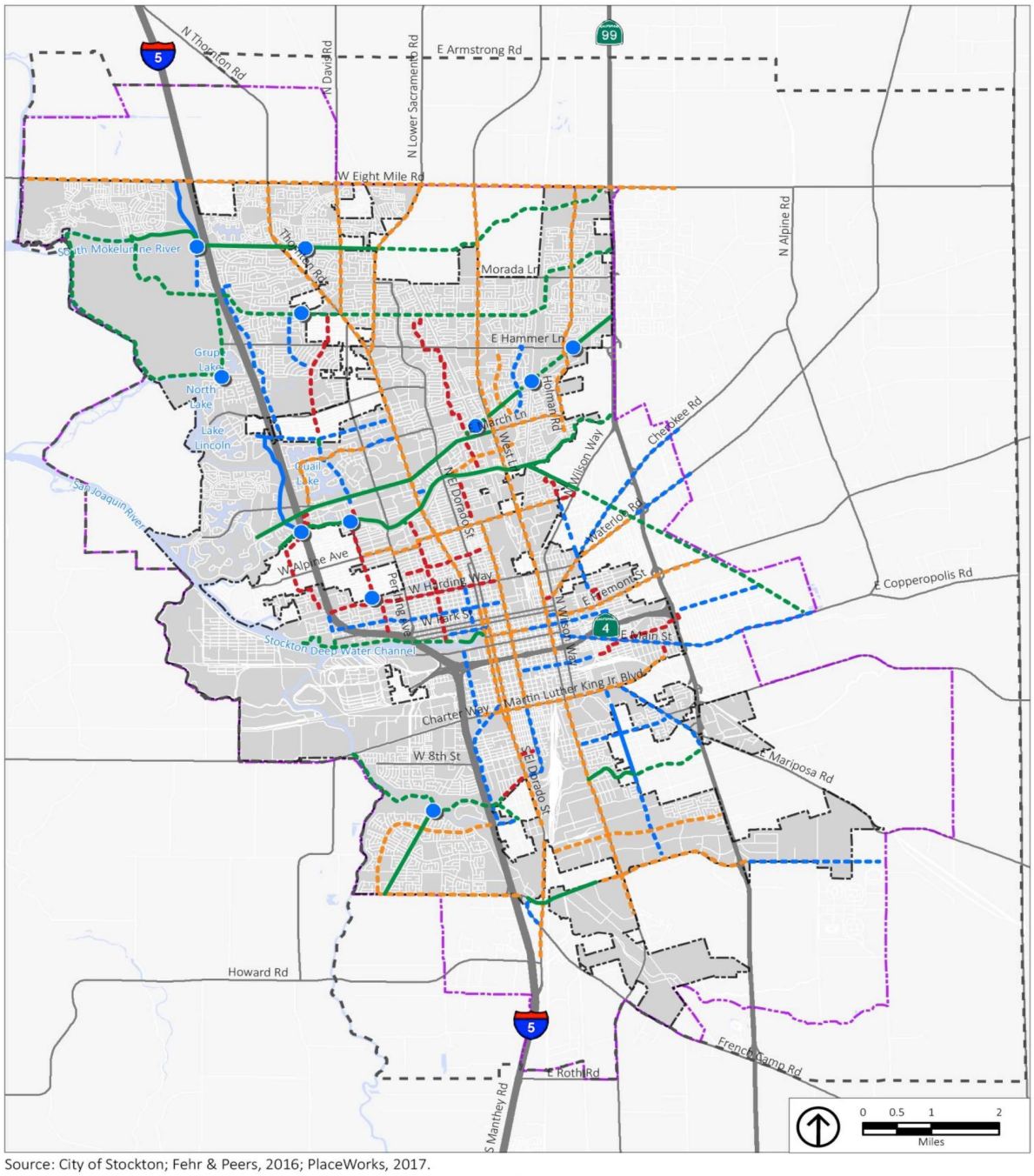
- a planned Class IV (separated bikeway) on Eight Mile Road from west of I-5 to east of SR 99,

- a planned Class IV (separated bikeway) on Lower Sacramento Road from Eight Mile Road to Thornton Road, and

- a planned Class IV (separated bikeway) on West Lane from Eight Mile Road to downtown Stockton, and

- a planned Class I (bike path) on Bear Creek from Eight Mile Road to west of I-5.

Existing and Planned Bicycle Network



Source: City of Stockton; Fehr & Peers, 2016; PlaceWorks, 2017.

Existing Bicycle Network
- Class I (Bike Path)
- Class II (Bike Lane)

Planned Bicycle Network
- Class I (Bike Path)
- Class II (Bike Lane)
- Class III (Bike Route)
- Class IV (Separated Bikeway)

- New Bridge
- General Plan Planning Area
- City Limit
- Sphere of Influence

ENVISION STOCKTON 2040 GENERAL PLAN

Figure 5. City Of Stockton Existing And Planned Bicycle Network

STUDY AREA INTERSECTIONS

The traffic-related effects of the proposed Project were assessed for this traffic impact study by analyzing traffic operations at intersections that would serve project-related travel. The following intersections were selected for analysis in consultation with City of Stockton staff (Moore pers. comm.). Existing intersections are numbered 1 through 24. Future intersections, including Project site access intersections, are numbered 31 through 36.

1. Eight Mile Road & I-5 Southbound Ramps
2. Eight Mile Road & I-5 Northbound Ramps
3. Eight Mile Road & Thornton Road
4. Eight Mile Road & Davis Road
5. Eight Mile Road & Marlette Road
6. Eight Mile Road & Lower Sacramento Road
7. Eight Mile Road & West Lane
8. Eight Mile Road & Ham Lane
9. Eight Mile Road & Leach Road
10. Eight Mile Road & Micke Grove Road/Holman Road
11. Eight Mile Road & SR 99 West Frontage Road
12. Eight Mile Road & SR 99 East Frontage Road
13. SR 99 West Frontage Road & SR 99 Southbound Ramps (Eight Mile Road)
14. SR 99 East Frontage Road & SR 99 Northbound Ramps (Eight Mile Road)
15. Lower Sacramento Road & Villa Point Drive
16. Lower Sacramento Road & Marlette Road
17. Lower Sacramento Road & Grider Way
18. Lower Sacramento Road & Royal Oaks Drive
19. Lower Sacramento Road & Morada Lane
20. Lower Sacramento Road & Ponce De Leon Avenue
21. Lower Sacramento Road & Hammer Lane
22. West Lane & Morada Lane
23. West Lane & Hammer Lane
24. Morada Lane & Holman Road

The following two intersections are planned to be constructed as a part of the Tra Vigne Development Project (City of Stockton 2018a). Aa a result, these intersections were only analyzed under future year scenarios.

31. Eight Mile Road & Tra Vigne Project Collector
32. West Lane & Marlette Road

The following four intersections would provide direct access to the Project site. As a result, these intersections were only analyzed under scenarios that include the proposed Project:

33. West Lane & East-West Project Site Collector
34. Marlette Road & West Project Site Collector
35. Marlette Road & Central Project Site Collector
36. Marlette Road & East Project Site Collector

The locations of study intersections are presented in **Figure 4**. The numbers listed above correspond to the intersection numbers shown on this figure.

STUDY AREA ROADWAY SEGMENTS

In addition to analyzing intersections, the traffic-related effects of the proposed Project on roadway segments were assessed for this traffic impact study. Major roadways adjacent to the Project site, and roadways that would serve as major access routes, were analyzed. The following roadway segments were selected for analysis in consultation with City of Stockton staff (Moore pers. comm.).

41. I-5 - Eight Mile Road to SR 12
42. I-5 - Eight Mile Road to Hammer Lane
43. Eight Mile Road – Marlette Road to Lower Sacramento Road
44. Lower Sacramento Road – Eight Mile Road to Marlette Road
45. Lower Sacramento Road – Marlette Road to Grider Way
46. Eight Mile Road - Lower Sacramento Road to West Lane
47. Eight Mile Road - West Lane to Leach Road
48. West Lane - Eight Mile Road to Marlette Road
49. West Lane – Marlette Road to Morada Lane
50. Morada Lane - West Lane to McNair Lane
51. Morada Lane - West Lane to Caywood Drive
52. SR 99 - Eight Mile Road to Armstrong Road
53. SR 99 - Eight Mile Road to Morada Lane

The study roadway segments are specific to certain locations on the roadway network. The descriptions of locations listed above and used in this traffic impact study are as specific as possible to minimize ambiguity.

STUDY AREA FREEWAY RAMP JUNCTIONS

In addition to analyzing intersections and roadway segments, the traffic-related effects of the proposed Project on freeway ramp junctions were assessed for this traffic impact study. Ramp junctions that would serve as major access routes, and would be affected by project-related traffic, were analyzed. The following ramp junctions were selected for analysis in consultation with City of Stockton staff (Moore pers. comm.).

61. I-5 Southbound Diverge to Eight Mile Road Off-Ramp
62. I-5 Southbound Merge from Eight Mile Road On-Ramp
63. I-5 Northbound Merge from Eight Mile Road On-Ramp
64. I-5 Northbound Diverge to Eight Mile Road Off-Ramp
65. SR 99 Southbound Diverge to Eight Mile Road Off-Ramp
66. SR 99 Southbound Merge from Eight Mile Road On-Ramp
67. SR 99 Northbound Merge from Eight Mile Road On-Ramp
68. SR 99 Northbound Diverge to Eight Mile Road Off-Ramp

ACCIDENTS

The City of Stockton *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* (City of Stockton 2018c) presents information on the number and location of traffic accidents, bicycle accidents, and pedestrian accidents. The following is a summary of information presented in the *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* related to the study locations listed above.

Traffic Accidents

The *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* presents a list of 21 locations in the City with the highest number of reported traffic accidents during six years between 2009 and 2014. Among these 21 locations, the location with the highest number of reported accidents had 81 accidents. The location with the lowest number of accidents had 16 accidents. None of the 21 locations are facilities analyzed for this traffic impact study.

Bicycle Accidents

The *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* presents a list of seven locations in the City with the highest number of reported bicycle accidents during six years between 2009 and 2014. Among these seven locations, the location with the highest number of reported accidents had seven accidents. The location with the lowest number of accidents had four accidents. One of the seven locations is a facility analyzed for this traffic impact study, the intersection of West Lane & Hammer Lane.

Pedestrian Accidents

The *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* presents a list of nine street corridors in the City with the highest number of vehicle-pedestrian injury collisions reported during six years between 2009 and 2014. Among these nine locations, the location with the highest number of reported accidents had 26 accidents. The location with the lowest number of accidents had nine accidents. One of the nine locations includes facilities analyzed for this traffic impact study, the Hammer Lane street corridor.

METHODOLOGY

The following is a description of the analysis methods used in this traffic impact study.

Intersection Level of Service Analysis Procedures

Level of service (LOS) analysis provides a basis for describing traffic conditions and for evaluating project-related inconsistency with General Plan transportation policies. Level of service measures the quality of traffic flow and is represented by letter designations from A to F, with a grade of A referring to the best conditions, and F representing the worst conditions. The characteristics associated with the various LOS for intersections are presented in **Table 1**.

Level of service at both signalized and unsignalized intersections was analyzed for this traffic impact study using methods presented in the *Highway Capacity Manual*. Methods described in the *Highway Capacity Manual 7th Edition* (Transportation Research Board, 2022) were used to provide a basis for describing traffic conditions and for evaluating inconsistency with General Plan policies. At study intersections, the Synchro version 12 software package (Cubic Corporation 2023) was used to apply the *Highway Capacity Manual 7th Edition* methods.

For two-way stop-sign controlled unsignalized intersections (or one-way stop-sign controlled "T" intersections), the *Highway Capacity Manual* method considers gap acceptance and average delay of motorists on minor streets and in turn lanes to establish LOS. Level of Service is based on the length of the delay experienced by motorists.

The lengths of vehicle queues were also analyzed for this traffic impact study. 95th percentile queue length values are presented in the Technical Appendix of this traffic impact study.

Roundabouts. Roundabouts were considered as possible roadway improvements in the analysis conducted for this traffic impact study. Analysis of delay, and LOS at roundabouts was conducted using the Synchro version 12 software package applying methods presented in the *Highway Capacity Manual 7th Edition*.

Worksheets and output reports for the calculation of LOS and delay for all scenarios analyzed for this traffic impact study are presented in the Technical Appendix.

Table 1. Level of Service Definitions - Highway Capacity Manual 7th Edition

Level of Service	Signalized Intersections	Unsignalized and Roundabout Intersections
A	Vehicle progression is exceptionally favorable or the cycle length is very short. Delay ≤ 10.0 seconds/vehicle	Little or no delay. Delay ≤ 10 seconds/vehicle
B	Vehicle progression is highly favorable or the cycle length is short. Delay > 10 seconds/vehicle and ≤ 20 seconds/vehicle	Short traffic delays. Delay > 10 seconds/vehicle and ≤ 15 seconds/vehicle
C	Vehicle progression is favorable or the cycle length is moderate. Individual cycle failures may begin to appear at this level. Delay > 20 seconds/vehicle and ≤ 35 seconds/vehicle	Average traffic delays. Delay > 15 seconds/vehicle and ≤ 25 seconds/vehicle
D	Vehicle progression is ineffective or the cycle length is long. Many vehicles stop and the individual cycle failures are noticeable. Delay > 35 seconds/vehicle and ≤ 55 seconds/vehicle	Long traffic delays. Delay > 25 seconds/vehicle and ≤ 35 seconds/vehicle
E	Vehicle progression is unfavorable and the cycle length is long. Individual cycle failures are frequent. Delay > 55 seconds/vehicle and ≤ 80 seconds/vehicle	Very long traffic delays, failure, extreme congestion. Delay > 35 seconds/vehicle and ≤ 50 seconds/vehicle
F	Vehicle progression is very poor and the cycle length is long. Most cycles fail to clear the vehicle queue. Delay > 80 seconds/vehicle	Intersection blocked by external causes. Delay > 50 seconds/vehicle

Source: Transportation Research Board 2022.

Signal Warrants Procedures

Traffic signal warrants are a series of standards which provide guidelines for determining if a traffic signal is appropriate. Signal warrant analyses are typically conducted at intersections of uncontrolled major streets and stop sign-controlled minor streets. If one or more signal warrants are met, signalization of the intersection may be appropriate. However, a signal should not be installed if none of the warrants are met, because installation of signals would increase delays on the previously-uncontrolled major street, resulting in an undesirable increase in overall vehicle delay at the intersection. Signalization may also increase the occurrence of certain types of accidents. Therefore, if signals are installed where signal warrants are not met, the detriment of increased accidents and overall delay may be greater than the benefit in traffic operating conditions on the single worst movement at the intersection. Signal warrants, then, provide an industry-standard basis for identifying when the adverse effect on the worst movement is substantial enough to warrant signalization.

For the analysis conducted for this traffic impact study, available data at unsignalized intersections are limited to a.m. and p.m. peak hour volumes. Thus, unsignalized intersections were evaluated using the Peak Hour Warrant (Warrant Number 3) from the California Department of Transportation document *California Manual on Uniform Traffic Control Devices* (California Department of Transportation 2023a). This warrant was applied where the minor street experiences long delays in entering or crossing the major street for at least one hour of the day. The Peak Hour Warrant itself includes several components. Some of the components involve comparison of traffic volumes and vehicle delay to a series of standards. Another component involves comparison of traffic volumes to a nomograph.

Even if the peak hour warrant is met, a more detailed signal warrant study is recommended before a signal is installed. The more detailed study should consider volumes during the eight highest hours of the day, volumes during the four highest hours of the day, pedestrian traffic, and accident histories.

Signal warrant analysis worksheets for all stop sign-controlled intersections are presented in the Technical Appendix.

Roadway Segment Level of Service Analysis Procedures

Roadway segment LOS was analyzed for this traffic impact study based on methods used in the *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* analysis (City of Stockton 2018c). These methods set maximum daily traffic volume thresholds for each LOS designation. The thresholds are shown in **Table 2**.

As shown in **Table 2**, the roadway segment LOS analysis method sets separate thresholds for:

- different types of facilities (i.e., freeways, arterials, and collectors);
- different number of lanes; and
- different area types (i.e., new versus existing).

As described in City of Stockton 2018c:

> "Thresholds for arterials and collectors were based on Highway Capacity Manual calculations and were developed in conjunction with City staff at the time the current General Plan analysis was prepared. The arterial thresholds distinguish between roads in the existing urbanized area and those in new development areas; because arterials in new development areas can be designed to higher standards, with medians, exclusive turn lanes, and controlled access from adjacent uses, the capacities are higher than those in previously-developed areas. Thresholds for freeways were based on Highway Capacity Manual procedures relating levels of service to vehicle density ranges."

As specified in City of Stockton 2018c, the "Existing" area is generally located between I-5 and SR 99, south of Eight Mile Road. Eight Mile Road itself is considered a "New" arterial due to the lack of existing development in the area.

Freeway Ramp Junctions Level of Service Analysis Procedures

Freeway ramp junctions are areas where freeway on-ramps merge into freeways, and where freeway off-ramps diverge from freeways. Freeway ramp junctions which are considered to be potentially affected by project-related traffic were analyzed for this traffic impact study.

Freeway ramp junction areas were analyzed for this traffic impact study using methods described in the *Highway Capacity Manual 7th Edition* (Transportation Research Board 2022). The *Synchro* software package does not analyze freeway ramp junction LOS. Therefore, the McTrans *HCS7 Highway Capacity Software* (HCS) package was used to perform the ramp junction LOS calculations for this traffic impact study.

The *Highway Capacity Manual 7th Edition* methods were used to analyze two types of freeway facilities: on-ramp junctions (merge) and off-ramp junctions (diverge). The analysis of both types of facilities involves calculating the density of vehicles on a freeway facility, expressed as passenger cars per mile per lane (pcpmpl). The LOS designation is based on the vehicle density. **Table 3** presents the relationship of vehicle density to LOS for ramp junctions.

Freeway ramp operating conditions are dependent on traffic volumes and the ramp characteristics. These characteristics include the length and type of acceleration and deceleration lanes, the free-flow speed of ramps, the number of lanes, grade, and the types of facilities connected to the ramps.

The *Highway Capacity Manual 7th Edition* reports LOS A through E for ramps in terms of density. When the volume using the facility exceeds capacity, the V/C ratio is greater than 1, and the *Highway Capacity Manual 7th Edition* identifies the facility as overcapacity with an LOS of F.

Table 2. City of Stockton General Plan Roadway Segment Level of Service Criteria

Facility Class	Number of Lanes	Area Type	Level of Service				
			A	B	C	D	E
Freeway	4	All Areas	27,600	45,200	63,600	77,400	86,400
	6	All Areas	41,400	67,800	95,400	116,100	129,600
	8	All Areas	55,200	90,400	127,200	154,800	172,800
	10	All Areas	69,000	113,000	159,000	193,500	216,000
Arterial	2	Existing	8,400	9,300	11,800	14,700	17,300
	2	New	10,000	11,100	14,000	17,500	20,600
	4	Existing	18,600	20,600	26,000	32,500	38,200
	4	New	23,300	25,800	32,600	40,700	47,900
	6	Existing	28,800	32,000	40,300	50,400	59,300
	6	New	33,300	37,000	46,600	58,300	68,600
	8	Existing	38,100	42,300	53,300	66,600	78,400
	8	New	41,100	45,700	57,600	72,000	84,700
Collector	2	Existing	6,400	7,100	9,000	11,300	13,200
	2	New	6,400	7,100	9,000	11,300	13,200
	4	Existing	17,600	19,600	24,700	30,900	36,300
	4	New	21,100	23,500	29,600	37,000	43,500

Source: Stockton General Plan Final Environmental Impact Report (City of Stockton 2018c).
Note: The Stockton General Plan does not provide thresholds for local roads.

Table 3. Level of Service Criteria for Freeway Merge and Diverge Areas

Level of Service	Vehicle Density	Operating Characteristics
A	Less than or equal to 10.	LOS A represents unrestricted operations. Density is low enough to permit smooth merging and diverging, with very little turbulence in the traffic stream.
B	Greater than 10. Less than or equal to 20.	At LOS B, merging and diverging maneuvers become noticeable to through drivers, and minimal turbulence occurs.
C	Greater than 20. Less than or equal to 28.	At LOS C, speed within the influence area begins to decline as turbulence levels become much more noticeable. Both ramp and freeway vehicles begin to adjust their speeds to accomplish smooth transitions.
D	Greater than 28. Less than or equal to 35.	At LOS D, turbulence levels in the influence area become intrusive, and virtually all vehicles slow to accommodate merging and diverging. Some ramp queues may form at heavily used on-ramps, but freeway operation remains stable.
E	Greater than 35.	LOS E represents conditions approaching or at capacity. Small changes in demand or disruptions within the traffic stream can cause both ramp and freeway queues to form.
F	Demand exceeds capacity.	LOS F defines operating conditions within queues that form on both the ramp and the freeway mainline when capacity is exceeded by demand.

Note: Vehicle density is expressed as passenger car equivalents per mile per lane.
Source: Transportation Research Board 2022.

Travel Forecasting

As part of the General Plan update process, the City of Stockton developed a series of travel demand forecasting simulation models. Travel forecasts for this traffic impact study are based on travel demand forecasting models developed for the City of Stockton (City of Stockton 2004 and 2018b, and Zeng pers comm.).

Travel models of the following two conditions were used to develop forecasts of future year traffic volumes for this traffic impact study:

- Existing Plus Approved Projects (EPAP), and
- 2040 Conditions with the updated General Plan.

The City's travel demand models produce forecasts of daily traffic volumes. The forecasts of daily volumes generated by the City's travel model are adequate for use in the analysis of roadway segment LOS, and are used for daily volume forecasts in this traffic impact study. However, the daily volumes generated by the traffic model are not, by themselves, adequate for use in the peak hour LOS analysis of study intersections.

Daily traffic volumes from the travel models were used to generate growth factors. These growth factors were applied to existing peak hour intersection turning movement traffic volumes. The development of future year intersection turning movement traffic volumes requires that the turning movements at each intersection "balance". To achieve the balance, inbound traffic volumes must equal the outbound traffic volumes, and the volumes must be distributed among the various left-turn, through, and right-turn movements at each intersection. The "balancing" of future year intersection turning movement traffic volumes was conducted using methods described in the Transportation Research Board's (TRB's) National Cooperative Highway Research Program (NCHRP) Report 255, *Highway Traffic Data for Urbanized Area Project Planning and Design* (Transportation Research Board 1982). The NCHRP 255 method applies the desired peak hour directional volumes to the intersection turning movement volumes, using an iterative process to balance and adjust the resulting forecasts to match the desired peak hour directional volumes.

LEVEL OF SERVICE AND SIGNIFICANCE THRESHOLDS

General Plan LOS policy thresholds are used in traffic impact studies to determine whether traffic operations are consistent with local General Plan policies. Significance thresholds are used in California Environmental Quality Act (CEQA) environmental documents to identify when the impacts of a project should be considered significant. Significance thresholds are the criteria used to determine the significance of impacts.

In this traffic impact study, the following three documents are used to determine whether traffic operations are consistent with local General Plan policies:

- *City of Stockton Traffic Impact Analysis Guidelines* (City of Stockton 2003),
- *City of Stockton Traffic Impact Analysis Guidelines: INTERIM* (City of Stockton 2021), and
- *Caltrans Vehicle Miles Traveled-Focused Traffic Impact Study Guide* (California Department of Transportation 2020).

City of Stockton Guidelines

The *City of Stockton Traffic Impact Analysis Guidelines* (City of Stockton 2003) presents the methods, assumptions and significance thresholds specified by the City of Stockton for use in preparing traffic impact studies. In general, the methods and assumptions presented in the guidelines are applied in this traffic impact study. It is important to note, however, the significance thresholds specified in the guidelines are based on State CEQA regulations and local policies presented in the City General Plan in effect at the time the guidelines were prepared.

Since the time the guidelines were prepared, the City of Stockton has updated the City General Plan (City of Stockton 2018b). After adoption of the updated City General Plan, the City prepared an interim update of the guidelines - *City of Stockton Traffic Impact Analysis Guidelines: INTERIM* (City of Stockton 2021). The 2021 interim guidelines reflect the updated General Plan. However, the 2021 interim guidelines have not been finalized. As a result, both City of Stockton 2003 and City of Stockton 2021 are used in this traffic impact study. Where appropriate, the 2021 draft guidelines are used; in particular, the interim guidelines are used in reference to the updated General Plan – an aspect that could not be reflected in City of Stockton 2003.

Vehicle Miles Traveled

Recent changes to CEQA have changed how lead agencies use LOS in determining whether a project has a significant impact on transportation. As noted in the California Governor's Office of Planning and Research (OPR) document *Technical Advisory on Evaluating Transportation Impacts in CEQA* (California Governor's Office of Planning and Research 2018),

> "Senate Bill 743 (Steinberg, 2013), which was codified in Public Resources Code section 21099, required changes to the guidelines implementing CEQA (CEQA Guidelines) (Cal. Code Regs., Title 14, Div. 6, Ch. 3, § 15000 et seq.) regarding the analysis of transportation impacts. . . OPR has proposed, and the California Natural Resources Agency (Agency) has certified and adopted, changes to the CEQA Guidelines that identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts. With the California Natural Resources Agency's certification and adoption of the changes to the CEQA Guidelines, automobile delay, as measured by "level of service" and other similar metrics, generally no longer constitutes a significant environmental effect under CEQA. (Pub. Resources Code, § 21099, subd. (b)(3).)"

The *Envision Stockton 2040 General Plan* (City of Stockton 2018b) Policy TR-4.3 addresses the topic of VMT as an impact in CEQA documents. The policy states,

> "Use the threshold recommended by the California Office of Planning and Research for determining whether VMT impacts associated with land uses are considered significant under State environmental analysis requirements."

The OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA* provides recommended thresholds for determining the significance of VMT impacts associated with land use development projects. Specific thresholds are provided for residential, office, and retail commercial types of development.

The City of Stockton General Plan Policy Action TR-4.3A states,

> "Establish a threshold of 15 percent below baseline VMT per capita to determine a significant transportation impact under the California Environmental Quality Act."

The 15 percent threshold in General Plan Action TR-4.3A is similar to thresholds for residential and office land use types recommended by OPR in the *Technical Advisory on Evaluating Transportation Impacts in CEQA*.

Notably, the *City of Stockton Traffic Impact Analysis Guidelines* (City of Stockton 2003) was prepared before the recent changes to CEQA due to Senate Bill 743 (Steinberg 2013). As a result, the City guidelines specify use of LOS in determining whether a project has a significant impact. Consistent with the approach described in the OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA*, LOS will not be used in this traffic impact study as a basis for identifying significant impacts. Rather, the methods, assumptions and significance thresholds presented in the City guidelines will be used to determine whether the project is consistent or inconsistent with General Plan policies on LOS, and whether the magnitude of project-related inconsistency should be considered substantial. In this traffic impact study then, LOS is not used to identify a significant impact under CEQA; LOS is used to identify consistency with General Plan policies.

As noted above, the *City of Stockton Traffic Impact Analysis Guidelines* (City of Stockton 2003) was prepared before Senate Bill 743 came into effect. The *City of Stockton Traffic Impact Analysis Guidelines: INTERIM* (City of Stockton 2021) was prepared since the time SB 743 came into effect. As a result, City of Stockton 2021 is used to determine if the proposed Project has a significant impact on VMT. A separate standalone document, *LeBaron Ranch VMT Assessment* (WK Shijo Consulting, LLC 2023), has been prepared to identify the impacts of the proposed Project on VMT.

General Plan Policy Consistency Criteria

As noted above, in this traffic impact study the consistency of traffic operations with City General Plan policies is based on a determination of whether resulting LOS is considered acceptable. A project's inconsistency with General Plan policies is considered substantial if implementation of the project would result in LOS changing from levels considered acceptable to levels considered unacceptable, or if the project would substantially worsen already unacceptable LOS.

The *City of Stockton Traffic Impact Analysis Guidelines: INTERIM* defines transportation analysis deficiencies. At signalized intersections, the guidelines note a deficiency is defined as:

> "Addition of project traffic causes a signalized intersection to perform at an unacceptable LOS E or F condition during a peak hour or exacerbates an existing LOS E or F condition by increasing the delay by 5 or more seconds. Specific LOS D, E, or F thresholds have been identified in General Plan Policy and Action TR-4.1."

At stop-controlled intersections, City of Stockton 2021 notes a deficiency is defined as:

> "Addition of project traffic causes a stop-controlled intersection to perform at an unacceptable LOS E or F condition during a peak hour or exacerbates an existing LOS E or F condition by increasing the delay by 5 or more seconds. Addition of project traffic causes the intersection to meet the CA MUTCD signal warrant criteria."

Portions of the City's guidelines do not specifically address criteria used to quantify changes in operating conditions on roadway segments or freeway ramp junctions. For this traffic impact study, the City's definition of deficiencies is also applied to roadway segments and freeway ramp junctions. As shown in **Table 1**, LOS at intersections is measured in seconds of delay. As shown in **Table 2**, LOS on roadway segments is measured in traffic volume. As shown in Table 3, LOS at freeway ramp junctions is measured in traffic density. Therefore, for roadway segments or freeway ramp junctions already at LOS E or F, an increase of greater than five seconds of delay cannot be identified. Because roadway segment and freeway ramp junctions LOS is measured in traffic volumes or traffic density, rather than seconds of delay, an increase in traffic volumes is used in this traffic impact study, in lieu of the threshold of five seconds of delay. Therefore, for this traffic impact study, if a roadway segment or freeway ramp junctions operates at LOS E or F without the project, a project-related inconsistency with General Plan policies is considered substantial if the addition of project traffic causes an increase of greater than five percent in traffic volumes.

The *Envision Stockton 2040 General Plan* (City of Stockton 2018b) notes:

> "The City of Stockton strives to maintain LOS D or better for peak hour intersection and daily roadway segment operations. However, in the Downtown and other areas, exceptions to this standard are permissible to support other goals,

such as encouraging safe travel by other modes of transportation than the car. The City can use VMT and LOS to support non-auto transportation modes, with the ultimate goal of maintaining and enhancing a complete roadway network that serves all travel modes in a balanced and equitable way."

This section of the City General Plan lists more than 14 facilities as exceptions to the LOS D policy standard, and lists the applicable standard. Among the facilities listed as exceptions are:

- "Eight Mile Road, Lower Sacramento Road to West Lane – LOS E", and
- "Hammer Lane, West Lane to Holman Road – LOS E".

Consistent with the City General Plan, a LOS E standard is applied in this traffic impact study to the following study facilities:

- the intersection of Eight Mile Road & Lower Sacramento Road,
- the intersection of Eight Mile Road & West Lane,
- the intersection of West Lane & Hammer Lane, and
- the roadway segment Eight Mile Road between Lower Sacramento Road and West Lane.

For the facilities listed above, LOS E or better is considered acceptable, and LOS F is considered unacceptable.

In this traffic impact study, a project's inconsistency with General Plan policies will be considered substantial if:

- the project would result in traffic operating conditions changing from an acceptable LOS to an unacceptable LOS, or

- when LOS without the project is already unacceptable, the project would result in a substantial degradation of traffic operating conditions (e.g., an increase of more than five seconds of delay at an intersection, or an increase of more than five percent in traffic volume on a roadway segment or freeway ramp junction.

Caltrans Guidelines

Caltrans guidance for traffic impact studies is provided in the document *Caltrans Vehicle Miles Traveled-Focused Traffic Impact Study Guide* (California Department of Transportation 2020). Section 1.2 of this document, *Caltrans Updates Its Review of Land Use Decisions and Projects*, notes:

> "For land use projects and plans, automobile delay is no longer considered a significant impact on the environment under CEQA (SB 743, 2013). Caltrans review of land use projects and plans is focused on a VMT metric, consistent with changes to the CEQA Guidelines (California Code of Regulations Section 15064.3(b)(1)). This VMT-focused TISG provides a foundation for review of how lead agencies apply the VMT metric to CEQA project analysis."

As noted earlier in the *Vehicle Miles Traveled* section of this traffic impact study, a separate standalone document, *LeBaron Ranch VMT Assessment* (WK Shijo Consulting, LLC 2023), has been prepared to identify the impacts of the proposed Project on VMT.

Transit, Bicycle and Pedestrian Impacts

The following describes significance thresholds applied in this traffic impact study to the proposed Project's potential impact on transit, bicycle and pedestrian facilities.

The OPR document *Technical Advisory on Evaluating Transportation Impacts in CEQA* (California Governor's Office of Planning and Research 2018) notes,

> "Because criteria for determining the significance of transportation impacts must promote 'the development of multimodal transportation networks' pursuant to Public Resources Code section 21099, subd. (b)(1), lead agencies should consider project impacts to transit systems and bicycle and pedestrian networks. For example, a project that blocks access to a transit stop or blocks a transit route itself may interfere with transit functions. Lead agencies should consult with transit agencies as early as possible in the development process, particularly for projects that are located within one half mile of transit stops."

Thus, while vehicle LOS under SB 743 is not considered an impact in CEQA, project-related effects on transit, bicycle and pedestrian facilities are considered impacts in CEQA. The above guidance on transit, bicycle and pedestrian impacts from the OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA* is directly related to recent SB 743 CEQA requirements. As a result, significance thresholds from the *City of Stockton Traffic Impact Analysis Guidelines: INTERIM* (City of Stockton 2021) are used in this traffic impact study for transit, bicycle and pedestrian impacts. The following are significance thresholds for transit, bicycle and pedestrian impacts from the Stockton interim guidelines:

> **"Transit System** - The project would create a significant impact related to transit service if the following criterion is met:
>
> "1. The project disrupts an existing transit facility or service or interferes with the implementation of future transit service.
>
> **"Bicycle System** - The project would create a significant impact related to the bicycle system if any of the following criteria are met:
>
> "1. Disrupt existing bicycle facilities;
>
> "2. Interfere with planned bicycle facilities; or,
>
> "3. Cause other changes to the bicycle system that would be inconsistent with performance expectations established in adopted bicycle system plans, guidelines, policies, or standards.

"Pedestrian System - The project would create a significant impact related to the pedestrian system if any of the following criteria are met:

"1. Disrupt existing pedestrian facilities; or

"2. Interfere with planned pedestrian facilities; or

"3. Cause other changes to the pedestrian system that would be inconsistent with performance expectations established in adopted pedestrian system plans, guidelines, policies, or standards, including the Americans with Disabilities Act (ADA)."

EXISTING TRAFFIC VOLUMES

During the last four years, traffic volume levels have been erratic. With the Covid-19 pandemic, travel to places of employment, schools, retail establishments, social and recreational gatherings, sports events, restaurants, and many other types of activities was substantially reduced. During the pandemic, traffic volumes could be unrepresentative, and new traffic volume count data could be considered not valid for use in traffic impact studies.

By late 2022, many of the pandemic-related restrictions eased. Traffic volumes in many areas appeared to return to pre-pandemic levels. Data were collected to determine if traffic volumes in the vicinity of the LeBaron Ranch Project site were still reduced due to the pandemic, or had returned to pre-pandemic levels. 2019 pre-pandemic traffic volumes at five locations in the vicinity of the Project site were compared to new traffic volume data collected September 22, 2022 at the same five locations. The comparison is presented in **Table 4**.

As shown in **Table 4**, 2022 traffic volumes at all five locations were higher than 2019 traffic volumes, ranging from 1.4 percent higher to 18.1 percent higher. On average, 2022 traffic volumes were 12.3 percent higher than 2019 volumes.

New traffic volume data for this traffic impact study were collected in late 2022 and 2023. Based on the comparison presented in **Table 4**, these data are considered to be valid and representative.

The following describes the sources of existing traffic volume data used in this traffic impact study. Traffic volume count data reports for both roadway segments and intersections are presented in the Technical Appendix.

Table 4. Comparison of Pre-Pandemic and 2022 Daily Traffic Volumes

Roadway Segment	Daily Traffic Volumes		Percent Change
	2019	2022	
Eight Mile Road - West of Lower Sacramento Road	15,000	17,703	18.0%
Eight Mile Road - Between Lower Sacramento Road & West Lane	19,200	22,681	18.1%
Eight Mile Road - East of West Lane	11,800	13,364	13.3%
Lower Sacramento Road - South of Eight Mile Road	15,500	15,724	1.4%
West Lane South of Eight Mile Road	16,000	17,573	9.8%
		Weighted Average	12.3%

Sources: 2019 volumes from *2019 Traffic Volume Flow Map- City of Stockton* .
2022 volumes from count data collected September 22, 2022.

Roadway Segments

Roadway segment daily traffic volumes under Existing conditions are from new count data collected for this traffic impact study and from Caltrans data. Daily traffic volume data were collected for this traffic impact study on Thursday September 22, 2022 at the following study roadway segments:

- 43 Eight Mile Road – Marlette Road to Lower Sacramento Road
- 44 Lower Sacramento Road – Eight Mile Road to Marlette Road
- 46 Eight Mile Road - Lower Sacramento Road to West Lane
- 47 Eight Mile Road - West Lane to Leach Road
- 48 West Lane - Eight Mile Road to Marlette Road

Daily traffic volume data were collected for this traffic impact study on Thursday April 20, 2023 at the following study roadway segments:

- 45 Lower Sacramento Road – Marlette Road to Grider Way
- 50 Morada Lane - West Lane to McNair Lane
- 51 Morada Lane - West Lane to Caywood Drive

Daily traffic volume data were collected from the *Caltrans Traffic Census Program* (California Department of Transportation 2023b) for the following study roadway segments:

- 41 I-5 - Eight Mile Road to SR 12
- 42 I-5 - Eight Mile Road to Hammer Lane
- 52 SR 99 - Eight Mile Road to Armstrong Road
- 53 SR 99 - Eight Mile Road to Morada Lane

Table 5 presents the existing daily traffic volumes at the study roadway segments.

Table 5. Roadway Segment Level of Service - Existing Conditions

Roadway Segment	Number of Lanes	Daily Volume	Level of Service
41 - Interstate 5 Eight Mile Road to SR 12	6	74,000	C
42 - Interstate 5 Eight Mile Road to Hammer Lane	6	74,000	C
43 - Eight Mile Road Marlette Road to Lower Sacramento Road	2	17,703	E
44 - Lower Sacramento Road Eight Mile Road to Marlette Road	2	15,724	E
45 - Lower Sacramento Road Marlette Road to Grider Way	2	18,254	F
46 - Eight Mile Road Lower Sacramento Road to West Lane	2	22,681	F
47 - Eight Mile Road West Lane to Leach Road	2	13,364	C
48 - West Lane Eight Mile Road to Marlette Road	4	17,573	A
49 - West Lane Marlette Road to Morada Lane	4	17,573	A
50 - Morada Lane West Lane to McNair Lane	2	4,684	A
51 - Morada Lane West Lane to Caywood Drive	2	14,344	D
52 - State Route 99 Eight Mile Road to Armstrong Road	6	79,000	C
53 - State Route 99 Eight Mile Road to Morada Lane	6	80,000	C

Intersections

Intersection turning movement count data at the existing study intersections listed below were collected for this traffic impact study. Traffic count data collected for this traffic impact study are presented in the Technical Appendix. The peak period intersection turning movement count data were collected on Wednesday April 19, 2023. The data were collected during the 7:00 a.m. to 9:00 a.m. period, and the 4:00 p.m. to 6:00 p.m. period. Volumes during the highest one-hour period during the a.m. period and the p.m. period were used for this traffic impact study.

- Eight Mile Road & I-5 Southbound Ramps
- Eight Mile Road & I-5 Northbound Ramps
- Eight Mile Road & Thornton Road
- Eight Mile Road & Davis Road
- Eight Mile Road & Marlette Road
- Eight Mile Road & Lower Sacramento Road
- Eight Mile Road & West Lane
- Eight Mile Road & Ham Lane
- Eight Mile Road & Leach Road
- Eight Mile Road & Micke Grove Road/Holman Road
- Eight Mile Road & SR 99 West Frontage Road
- Eight Mile Road & SR 99 East Frontage Road
- SR 99 West Frontage Road & SR 99 Southbound Ramps (Eight Mile Road)
- SR 99 East Frontage Road & SR 99 Northbound Ramps (Eight Mile Road)
- Lower Sacramento Road & Villa Point Drive
- Lower Sacramento Road & Marlette Road
- Lower Sacramento Road & Grider Way
- Lower Sacramento Road & Royal Oaks Drive
- Lower Sacramento Road & Morada Lane
- Lower Sacramento Road & Ponce De Leon Avenue
- Lower Sacramento Road & Hammer Lane
- West Lane & Morada Lane
- West Lane & Hammer Lane
- Morada Lane & Holman Road

Figure 6 presents the existing lane configurations and existing a.m. peak hour and p.m. peak hour traffic volumes at the existing study intersections.

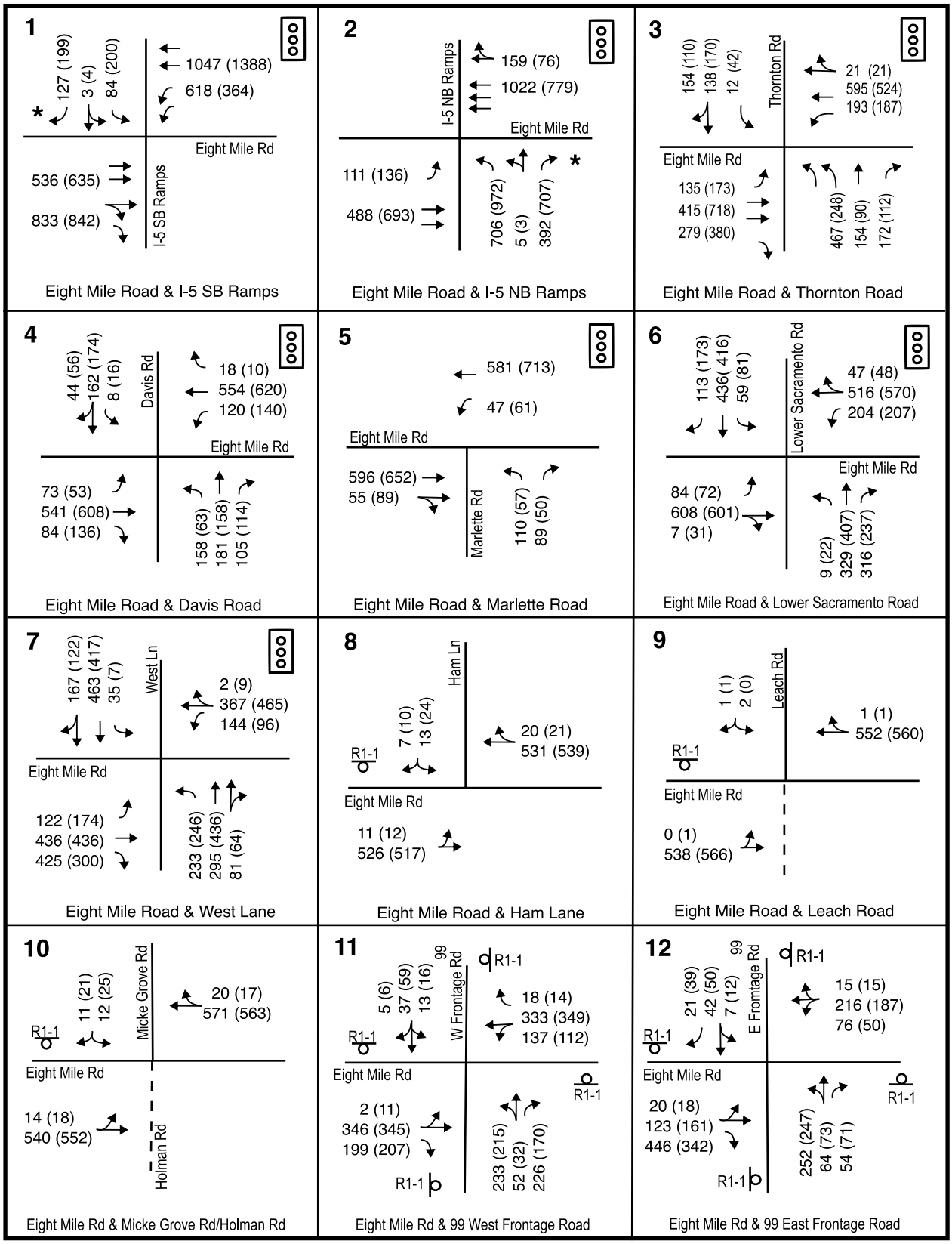


Figure 6 Existing Traffic Volumes and Lane Configurations

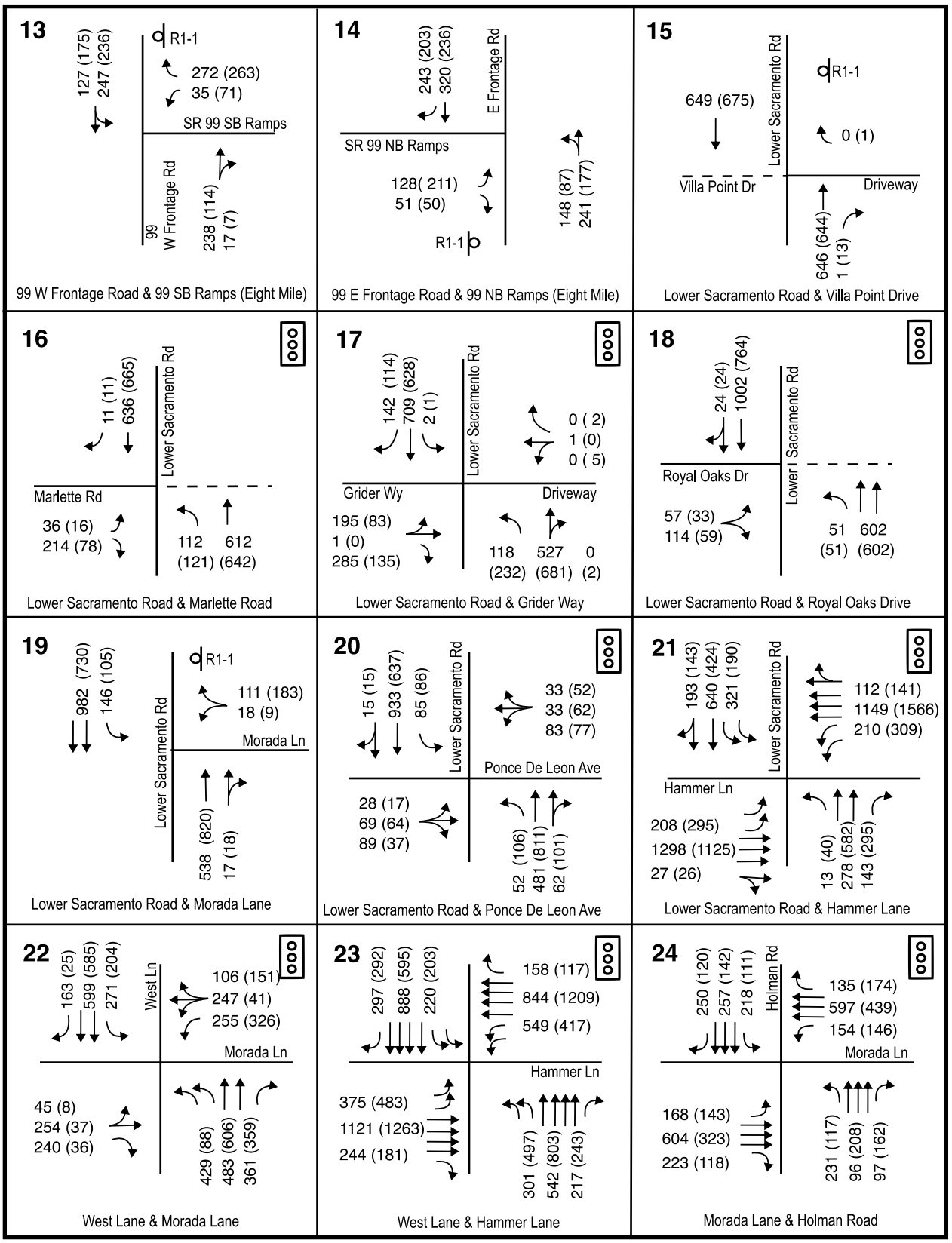
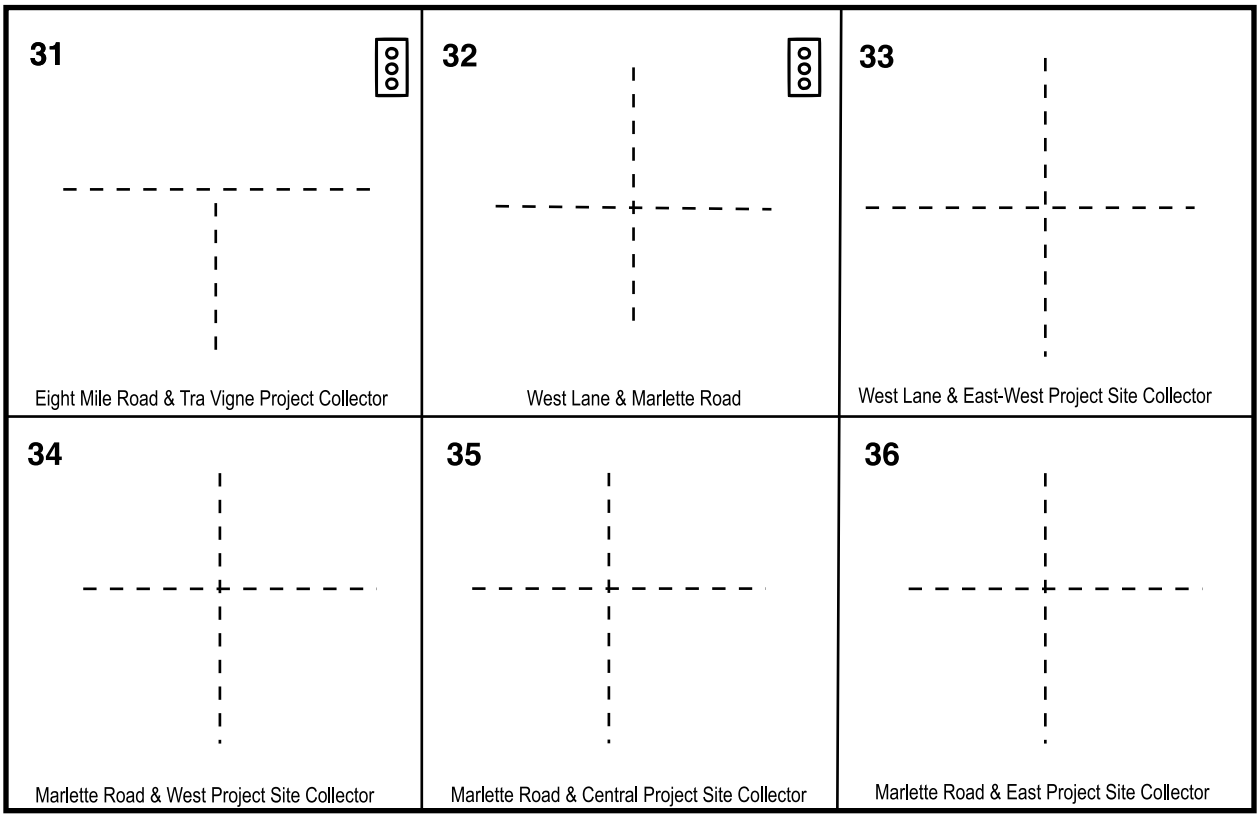


Figure 6 Existing Traffic Volumes and Lane Configurations



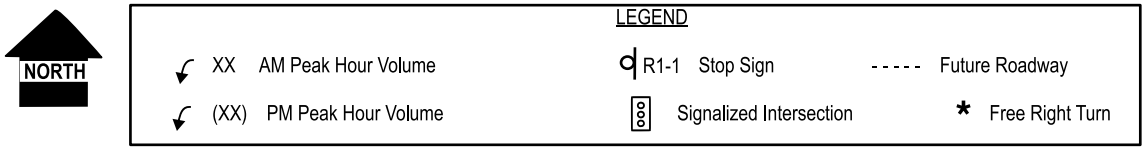


Figure 6 Existing Traffic Volumes and Lane Configurations

EXISTING INTERSECTION LEVELS OF SERVICE

Table 6 presents a summary of existing a.m. peak hour and p.m. peak hour LOS at the existing study intersections. The worksheets presenting the calculation of LOS are included in the Technical Appendix.

21 of the 24 existing study intersections operate at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No improvements are needed at these 21 intersections to achieve acceptable LOS.

Intersection 6, Eight Mile Road & Lower Sacramento Road, operates at LOS D with 52.9 seconds of delay during the a.m. peak hour and LOS E with 59.5 seconds of delay during the p.m. peak hour. As noted earlier in the *General Plan Policy Consistency Criteria* section of this traffic impact study, LOS E at this intersection is considered acceptable. Therefore, no improvements are recommended for this intersection.

The following two study intersections operate at unacceptable LOS under Existing Conditions.

11. Eight Mile Road & SR 99 West Frontage Road

Under Existing Conditions, this intersection would operate at LOS F with 50.8 seconds of delay during the a.m. peak hour, and LOS E with 46.7 seconds of delay during the p.m. peak hour. LOS E and F are considered unacceptable. The following improvement is recommended:

- Signalize the intersection. No changes to lane geometrics are needed.

A summary of LOS with recommended improvements is presented in **Table 7**. With this recommended improvement, this intersection would operate at LOS D with 50.7 seconds of delay during the a.m. peak hour and LOS D with 47.7 seconds of delay during the p.m. peak hour. LOS D is considered acceptable.

Table 6. Intersection Level of Service - Existing Conditions

	Study Intersections	Inters. Control	Signal Warrant Met?	AM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay
1	Eight Mile Road & I-5 SB Ramps	Signal		B	16.9	B	15.2
2	Eight Mile Road & I-5 NB Ramps	Signal		C	27.8	C	27.2
3	Eight Mile Road & Thornton Road	Signal		D	40.8	D	42.6
4	Eight Mile Road & Davis Road	Signal		C	35.0	C	34.7
5	Eight Mile Road & Marlette Road	Signal		A	10.0	A	9.6
6	Eight Mile Road & Lower Sacramento Road	Signal		D	52.9	E	59.5
7	Eight Mile Road & West Lane	Signal		D	51.9	D	47.7
8	Eight Mile Road & Ham Lane	Unsig	No	A	0.5	A	0.8
	Worst Approach			C	20.3	C	22.2
9	Eight Mile Road & Leach Road	Unsig	No	A	0.1	A	0.0
	Worst Approach			C	19.2	B	12.3
10	Eight Mile Road & Micke Grove Rd/Holman Rd	Unsig	No	A	0.5	A	1.0
	Worst Approach			C	20.3	C	22.8
11	Eight Mile Road & SR 99 West Frontage Road	AWSC	Yes	F	50.8	E	46.7
12	Eight Mile Road & SR 99 East Frontage Road	AWSC	No	D	29.2	C	20.9
13	99 W. Frontage Rd & 99 SB Ramps (Eight Mile Rd)	Unsig	No	A	6.8	A	7.3
	Worst Approach			B	13.9	B	13.4
14	99 E. Frontage Rd & 99 NB Ramps (Eight Mile Rd)	Unsig	No	A	7.2	A	8.5
	Worst Approach			D	28.8	C	22.0
15	Lower Sacramento Road & Villa Point Drive	Unsig	No	A	0.0	A	0.0
	Worst Approach			A	0.0	B	13.2
16	Lower Sacramento Road & Marlette Road	Signal		B	14.3	B	10.5

Table 6 (Continued). Intersection Level of Service - Existing Conditions

Study Intersections	Inters. Control	Signal Warrant Met?	AM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay
17 Lower Sacramento Road & Grider Way	Signal		C	26.4	C	26.7
18 Lower Sacramento Road & Royal Oaks Drive	Signal		B	10.1	A	7.9
19 Lower Sacramento Road & Morada Lane	Unsig	Yes	A	2.1	A	2.6
Worst Approach			C	19.5	C	19.8
20 Lower Sacramento Road & Ponce De Leon Avenue	Signal		B	13.1	B	14.0
21 Lower Sacramento Road & Hammer Lane	Signal		C	27.5	D	37.7
22 West Lane & Morada Lane	Signal		E	70.7	C	29.6
23 West Lane & Hammer Lane	Signal		D	36.8	D	46.9
24 Morada Lane & Holman Road	Signal		C	31.1	B	19.5
31 Eight Mile Road & Tra Vigne Project Collector	- -		- -		- -	
32 West Lane & Marlette Road	- -		- -		- -	
33 West Lane & East-West Project Site Collector	- -		- -		- -	
34 Marlette Road & West Project Site Collector	- -		- -		- -	
35 Marlette Road & Central Project Site Collector	- -		- -		- -	
36 Marlette Road & East Project Site Collector	- -		- -		- -	

Notes: LOS = Level of Service. "Inters. Control" = Type of intersection control.
"Signal" = Signalized light control. "Unsig" = Unsignalized stop-sign control. "AWSC" = All-way stop control.
"SB" = Southbound. "NB" = Northbound. Dashes ("- -") indicate intersection not present under this scenario.
Delay is measured in seconds per vehicle. Reported delay of 0.0 indicates a value rounded to less than 0.1.
Per City of Stockton guidelines, intersection average delay is reported for all intersections, including unsignalized intersections.

Table 7. Intersection Level of Service - Existing Conditions With Recommended Improvements

	Study Intersections	Inters. Control	AM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay
11	Eight Mile Road & SR 99 West Frontage Road	Signal	D	50.7	D	47.7
22	West Lane & Morada Lane	Signal	D	50.6	C	32.4

Notes: LOS = Level of Service. "Inters. Control" = Type of intersection control.
"Signal" = Signalized light control.
Delay is measured in seconds per vehicle.

22. West Lane & Morada Lane

Under Existing Conditions, this intersection would operate at LOS E with 70.7 seconds of delay during the a.m. peak hour, and LOS C with 29.6 seconds of delay during the p.m. peak hour. LOS E is considered unacceptable. The following improvements are recommended:

- Widen the westbound approach to include:

  - an exclusive westbound-to-southbound left-turn lane,
  - an exclusive westbound through lane, and
  - an exclusive westbound-to northbound right-turn lane.

- Restripe the eastbound approach to include:

  - an exclusive eastbound-to-northbound left-turn lane,
  - one exclusive eastbound through lane, and
  - an exclusive eastbound-to-southbound right-turn lane.

- Change the east-west signal phasing to protected.

A summary of LOS with recommended improvements is presented in **Table 7**. With this recommended improvement, this intersection would operate at LOS D with 50.6 seconds of delay during the a.m. peak hour and LOS C with 32.4 seconds of delay during the p.m. peak hour. LOS C and D are considered acceptable.

EXISTING ROADWAY SEGMENT LEVELS OF SERVICE

The following is a description of existing traffic operating conditions on study roadway segments.

Table 5 presents a summary of existing LOS on the 13 study roadway segments. Nine of the 13 roadway segments operate at acceptable LOS D or better. No improvements are needed on these nine roadway segments to achieve acceptable LOS. The following describes the four study roadway segments that operate at unacceptable LOS under Existing Conditions.

43 Eight Mile Road - Marlette Road to Lower Sacramento Road

Under Existing Conditions, this roadway segment operates at LOS E. LOS E is considered unacceptable. The following improvement is recommended:

- Widen this roadway segment from two lanes (one lane in each direction) to four lanes.

A summary of roadway segment LOS with recommended improvements is presented in **Table 8**. With this recommended improvement, this roadway segment would operate at LOS A. LOS A is considered acceptable.

44 Lower Sacramento Road -Eight Mile Road to Marlette Road

Under Existing Conditions, this roadway segment operates at LOS E. LOS E is considered unacceptable. The following improvement is recommended:

- Widen this roadway segment from two lanes (one lane in each direction) to four lanes.

A summary of roadway segment LOS with recommended improvements is presented in **Table 8**. With this recommended improvement, this roadway segment would operate at LOS A. LOS A is considered acceptable.

45 Lower Sacramento Road - Marlette Road to Grider Way

Under Existing Conditions, this roadway segment operates at LOS F. LOS F is considered unacceptable. The following improvement is recommended:

- Widen this roadway segment from two lanes (one lane in each direction) to four lanes.

A summary of roadway segment LOS with recommended improvements is presented in **Table 8**. With this recommended improvement, this roadway segment would operate at LOS A. LOS A is considered acceptable.

Table 8. Roadway Segment Level of Service - Existing Conditions With Recommended Improvements

Roadway Segment	Number of Lanes	Daily Volume	Level of Service
43 - Eight Mile Road Marlette Road to Lower Sacramento Road	4	17,703	A
44 - Lower Sacramento Road Eight Mile Road to Marlette Road	4	15,724	A
45 - Lower Sacramento Road Marlette Road to Grider Way	4	18,254	A
46 - Eight Mile Road Lower Sacramento Road to West Lane	4	22,681	A

46 Eight Mile Road - Lower Sacramento Road to West Lane

Under Existing Conditions, this roadway segment operates at LOS F. LOS F is considered unacceptable. The following improvement is recommended:

- Widen this roadway segment from two lanes (one lane in each direction) to four lanes.

A summary of roadway segment LOS with recommended improvements is presented in **Table 8**. With this recommended improvement, this roadway segment would operate at LOS A. LOS A is considered acceptable.

EXISTING RAMP JUNCTION LEVELS OF SERVICE

The following is a description of existing traffic operating conditions on study freeway ramp junctions.

Table 9 presents a summary of existing LOS at the eight study freeway ramp junctions. All eight of the study ramp junctions operate at acceptable LOS D or better under Existing Conditions. No improvements are needed at these ramp junctions to achieve acceptable LOS.

Table 9. Freeway Ramp Merge and Diverge Level of Service - Existing Conditions

Ramp Junction	AM Peak Hour		PM Peak Hour	
	Density	Level of Service	Density	Level of Service
I-5 Southbound Diverge to Eight Mile Road Off-Ramp	11.7	B	18.0	B
I-5 Southbound Merge from Eight Mile Road On-Ramp	13.8	B	16.5	B
I-5 Northbound Merge from Eight Mile Road On-Ramp	6.3	A	3.8	A
I-5 Northbound Diverge to Eight Mile Road Off-Ramp	4.7	A	8.8	A
SR 99 Southbound Diverge to Eight Mile Road Off-Ramp	20.1	C	20.6	C
SR 99 Southbound Merge from Eight Mile Road On-Ramp	17.7	B	17.7	B
SR 99 Northbound Merge from Eight Mile Road On-Ramp	20.4	C	25.9	C
SR 99 Northbound Diverge to Eight Mile Road Off-Ramp	21.8	C	28.6	D

Notes: LOS = I-5 = Interstate 5. SR = State Route. Density is expressed in passenger cars per mile per lane.

EXISTING PLUS APPROVED PROJECTS
NO LeBARON RANCH PROJECT CONDITIONS

The EPAP No LeBaron Ranch Project condition is a near-term future background condition. This condition is also referred to in this traffic impact study as EPAP No Project conditions. Development of land uses and roadway improvements associated with previously-approved projects are assumed in this condition. This scenario does not include development of the proposed LeBaron Ranch project. The EPAP No Project condition, therefore, serves as the baseline condition used to assess near-term project-related traffic effects.

TRAFFIC VOLUME FORECASTS

The City of Stockton Travel Demand Model (City of Stockton 2004) was used to develop forecasts of background increases in traffic volumes under near-term EPAP conditions. The increases in traffic volumes reflect development of near-term previously-approved and pending projects in Stockton. The model was modified in the vicinity of the Project site to add detail to the model and more accurately represent how land uses are provided access to the roadway network. Updates were also made to land uses in the model to accurately represent land use development projects. Land use development projects added to the EPAP model specifically include:

- the Gill Medical Center, northeast of the intersection of Eight Mile Road & West Lane;
- the Tra Vigne Development project, southeast of the intersection of Eight Mile Road & West Lane; and
- the Cannery Park project, southeast of the intersection of Eight Mile Road & Micke Grove Road / Holman Road.

Methods used to apply the travel demand model to develop traffic volume forecasts are described in the *Travel Forecasting* section of this traffic impact study. Application of these methods results in the a.m. peak hour and p.m. peak hour intersection traffic volumes presented in **Figure 7**, and the daily traffic volumes presented in **Table 10**.

ROADWAY IMPROVEMENTS

The City of Stockton Travel Demand Model used for developing forecasts for the EPAP condition includes roadway improvements associated with approved land use development projects. In addition, the EPAP No Project condition assumes roadway improvements associated with the previously-approved land use development projects listed above. Specific improvements assumed for EPAP No Project conditions include:

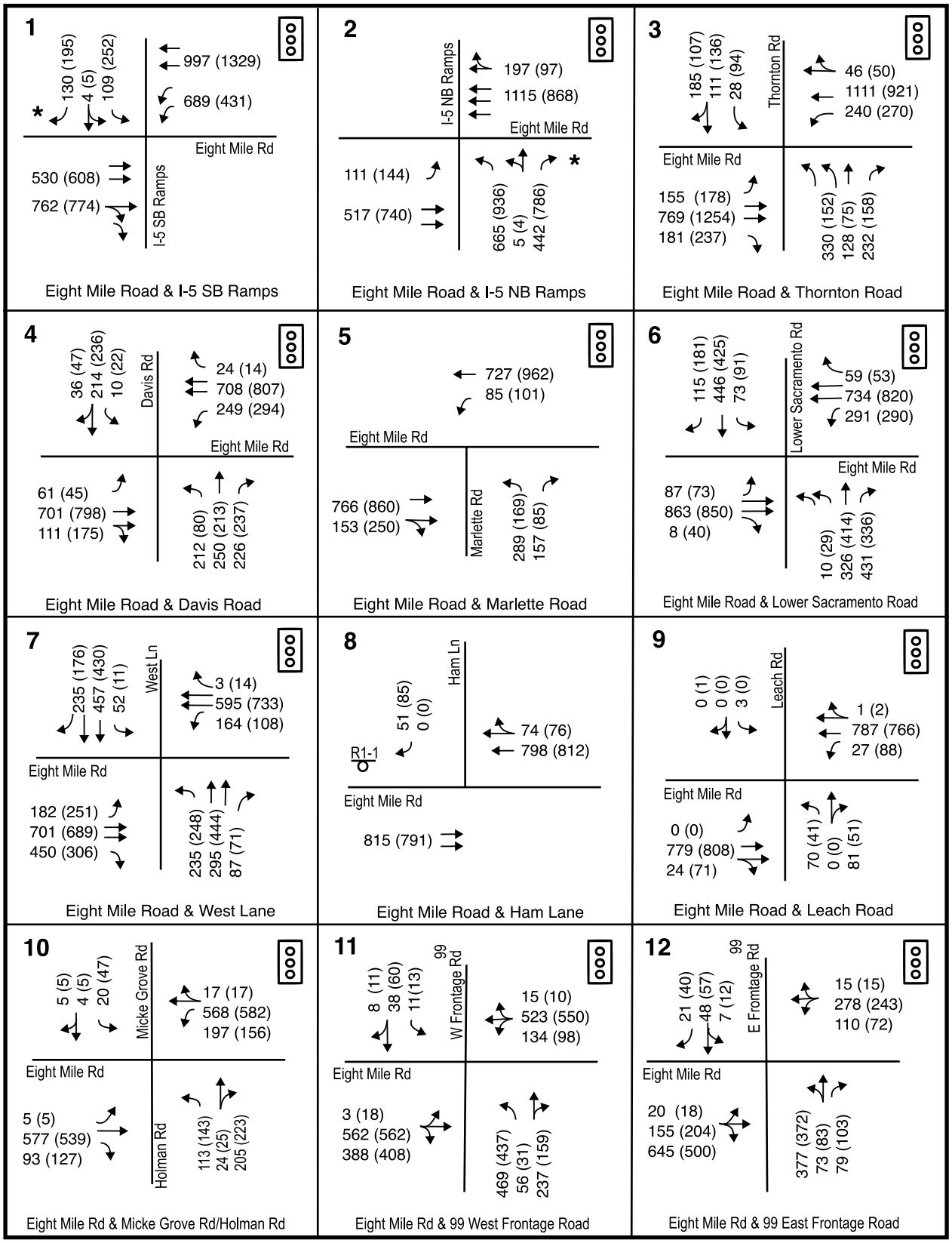


Figure 7 EPAP No Project Traffic Volumes and Lane Configurations

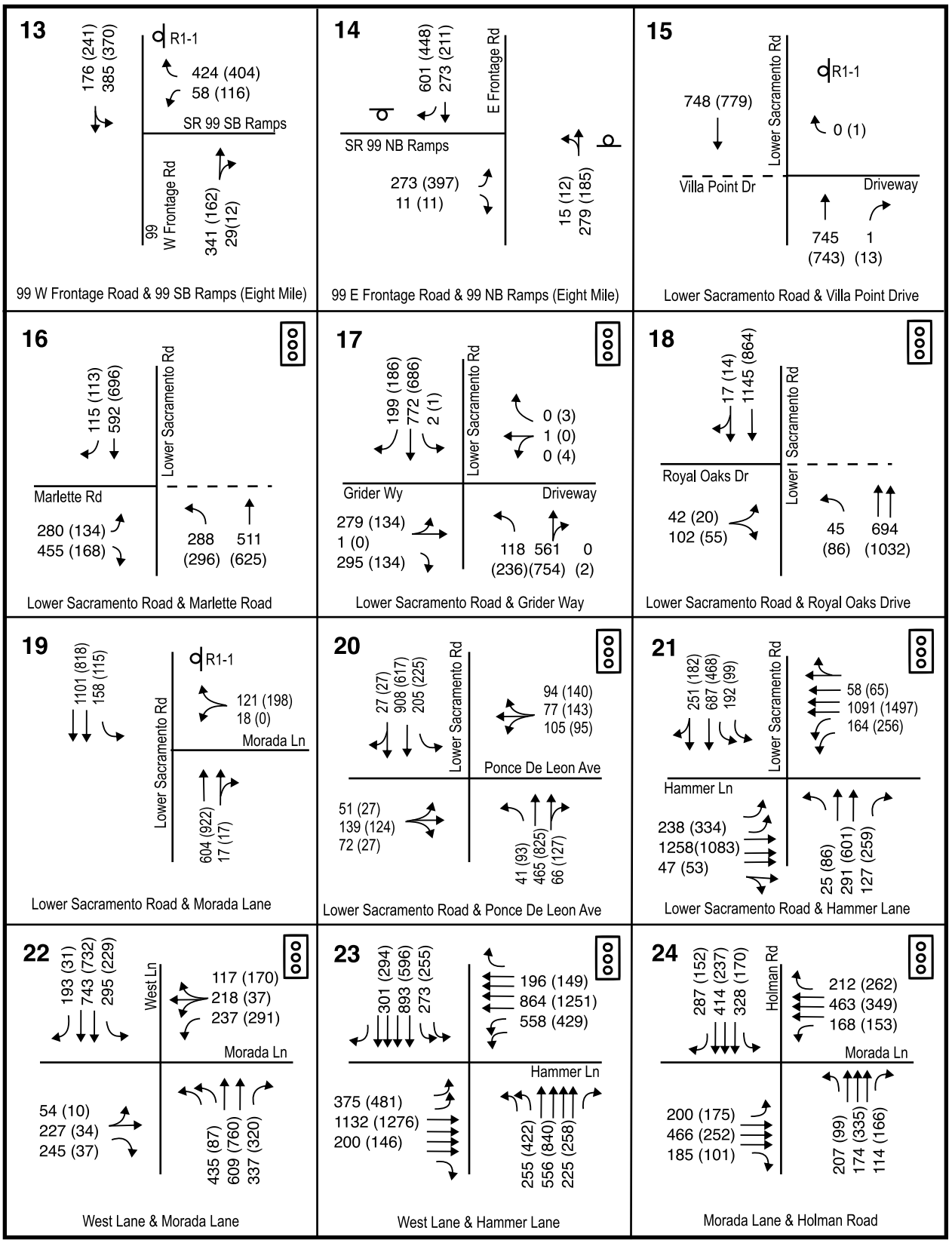
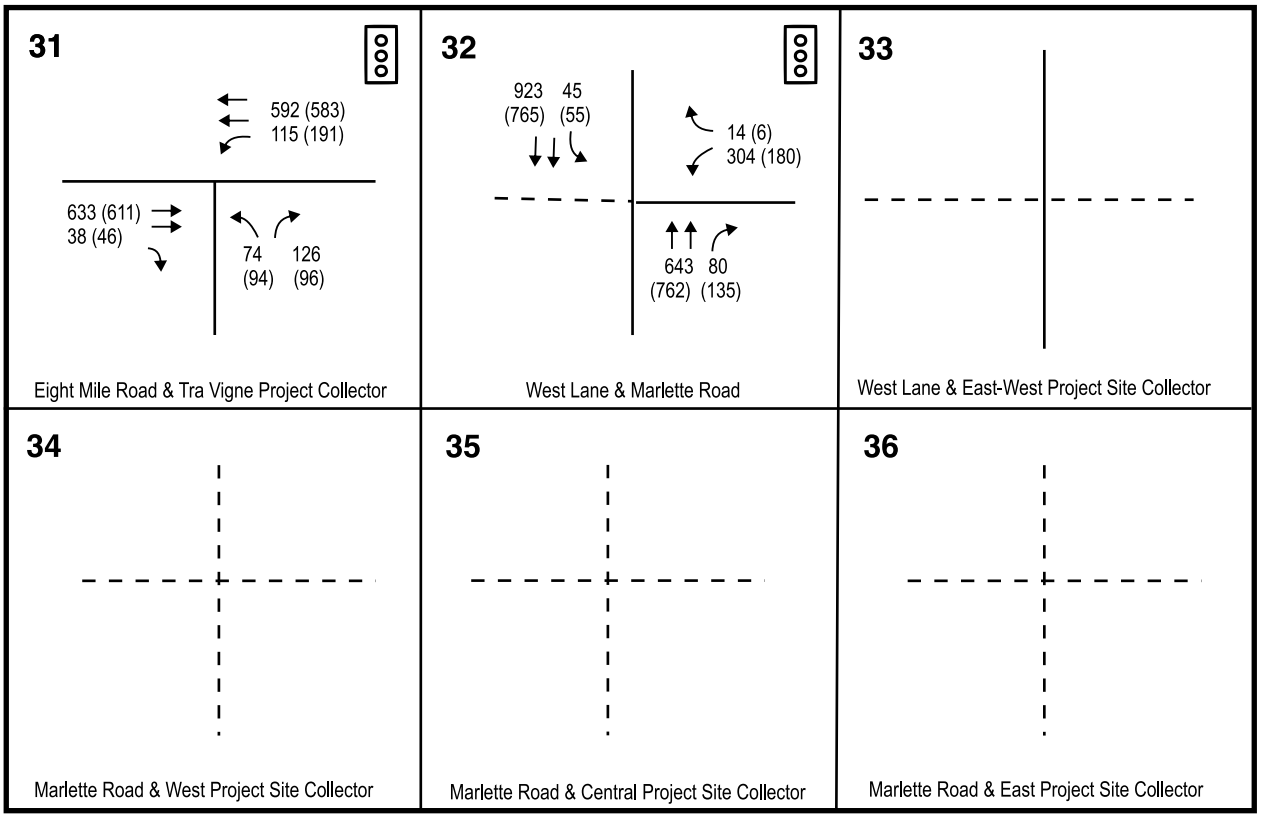


Figure 7 EPAP No Project Traffic Volumes and Lane Configurations



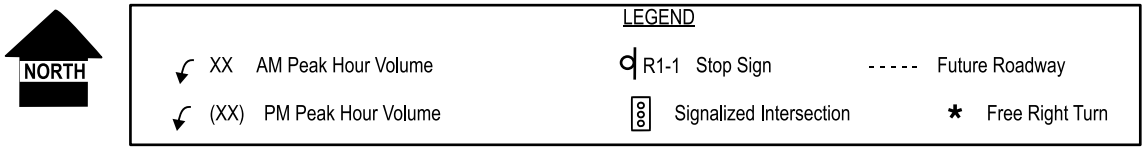


Figure 7 EPAP No Project Traffic Volumes and Lane Configurations

Table 10. Roadway Segment Level of Service - EPAP No Project

Roadway Segment	Number of Lanes	Daily Volume	Level of Service
41 - Interstate 5 Eight Mile Road to SR 12	6	77,325	C
42 - Interstate 5 Eight Mile Road to Hammer Lane	6	84,466	C
43 - Eight Mile Road Marlette Road to Lower Sacramento Road	2	23,847	F
44 - Lower Sacramento Road Eight Mile Road to Marlette Road	2	18,131	F
45 - Lower Sacramento Road Marlette Road to Grider Way	2	21,242	F
46 - Eight Mile Road Lower Sacramento Road to West Lane	2	31,519	F
47 - Eight Mile Road West Lane to Leach Road	4	20,348	A
48 - West Lane Eight Mile Road to Marlette Road	4	18,249	A
49 - West Lane Marlette Road to Morada Lane	4	21,613	C
50 - Morada Lane West Lane to McNair Lane	2	4,721	A
51 - Morada Lane West Lane to Caywood Drive	2	13,925	D
52 - State Route 99 Eight Mile Road to Armstrong Road	6	82,048	C
53 - State Route 99 Eight Mile Road to Morada Lane	6	88,753	C

- Circulation improvements associated with the Cannery Park project, including improvements to the Eight Mile Road interchange on SR 99 and construction of the Holman Road extension from PFC Jesse Mizener Street north to Eight Mile Road. The Holman Road extension includes the Holman Road bridge over Bear Creek.

- Access roadways included in the Tra Vigne Development Project and improvements to Eight Mile Road and West Lane.

- Access roadways for the Gill Medical Center project.

For the EPAP No Project conditions, the resulting lane geometrics for intersections are shown in **Figure 7**, and for roadway segments are shown in **Table 10**.

INTERSECTION LEVELS OF SERVICE

Table 11 presents the a.m. peak hour and p.m. peak hour LOS at the study intersections under EPAP No Project conditions. The values shown for the a.m. peak hour represent the one-hour period with the highest traffic volumes within the period from 7:00 a.m. to 9:00 a.m. The values shown for the p.m. peak hour represent the one-hour period with the highest traffic volumes within the period from 4:00 p.m. to 6:00 p.m. The worksheets presenting the calculation of LOS are included in the Technical Appendix.

Traffic volumes under EPAP No Project conditions would be generally higher than under Existing Conditions and, as a result, vehicle delay at study intersections under EPAP No Project conditions would be higher than under Existing Conditions.

Under EPAP No Project conditions, LOS at 23 of the 26 study intersections would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No improvements are needed at these 23 intersections to achieve acceptable LOS.

Intersection 6, Eight Mile Road & Lower Sacramento Road, would operate at LOS E with 57.8 seconds of delay during the a.m. peak hour and LOS D with 50.5 seconds of delay during the p.m. peak hour. As noted earlier in the *General Plan Policy Consistency Criteria* section of this traffic impact study, LOS E at this intersection is considered acceptable. Therefore, no improvements are recommended for this intersection.

The following describes the two study intersections that would operate at unacceptable LOS under EPAP No Project conditions.

Table 11. Intersection Level of Service - EPAP No Project Conditions

	Study Intersections	Inters. Control	Signal Warrant Met?	AM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay
1	Eight Mile Road & I-5 SB Ramps	Signal		B	17.9	B	15.0
2	Eight Mile Road & I-5 NB Ramps	Signal		C	28.4	C	26.9
3	Eight Mile Road & Thornton Road	Signal		D	53.8	D	49.4
4	Eight Mile Road & Davis Road	Signal		D	54.0	D	46.4
5	Eight Mile Road & Marlette Road	Signal		B	16.4	B	19.4
6	Eight Mile Road & Lower Sacramento Road	Signal		E	57.8	D	50.5
7	Eight Mile Road & West Lane	Signal		D	51.7	D	49.2
8	Eight Mile Road & Ham Lane	Unsig	No	A	0.4	A	0.6
	Worst Approach			B	12.6	B	13.3
9	Eight Mile Road & Leach Road	Signal		B	13.7	B	13.3
10	Eight Mile Road & Micke Grove Rd/Holman Rd	Signal		C	31.7	C	28.4
11	Eight Mile Road & SR 99 West Frontage Road	Signal		F	290.7	F	287.3
12	Eight Mile Road & SR 99 East Frontage Road	Signal		D	40.6	D	38.2
13	99 W. Frontage Rd & 99 SB Ramps (Eight Mile Rd)	Unsig	Yes	B	13.7	C	19.7
	Worst Approach			D	32.3	E	43.2
14	99 E. Frontage Rd & 99 NB Ramps (Eight Mile Rd)	Unsig	Yes	B	11.3	B	10.4
	Worst Approach			B	11.6	B	10.5
15	Lower Sacramento Road & Villa Point Drive	Unsig	No	A	0.0	A	0.0
	Worst Approach			A	0.0	B	14.5
16	Lower Sacramento Road & Marlette Road	Signal		D	50.3	C	23.7

Table 11 (Continued). Intersection Level of Service - EPAP No Project Conditions

Study Intersections	Inters. Control	Signal Warrant Met?	AM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay
17 Lower Sacramento Road & Grider Way	Signal		C	33.2	C	35.0
18 Lower Sacramento Road & Royal Oaks Drive	Signal		A	9.5	A	7.6
19 Lower Sacramento Road & Morada Lane	Unsig	Yes	A	2.4	A	2.3
Worst Approach			C	24.1	C	17.1
20 Lower Sacramento Road & Ponce De Leon Avenue	Signal		B	16.9	C	28.5
21 Lower Sacramento Road & Hammer Lane	Signal		C	30.1	C	34.6
22 West Lane & Morada Lane	Signal		E	66.6	C	29.5
23 West Lane & Hammer Lane	Signal		D	37.5	D	42.6
24 Morada Lane & Holman Road	Signal		C	33.6	C	23.7
31 Eight Mile Road & Tra Vigne Project Collector	Signal		A	8.6	B	10.7
32 West Lane & Marlette Road	Signal		B	10.5	A	8.4
33 West Lane & East-West Project Site Collector	- -		- -		- -	
34 Marlette Road & West Project Site Collector	- -		- -		- -	
35 Marlette Road & Central Project Site Collector	- -		- -		- -	
36 Marlette Road & East Project Site Collector	- -		- -		- -	

Notes: LOS = Level of Service. "Inters. Control" = Type of intersection control.
"Signal" = Signalized light control. "Unsig" = Unsignalized stop-sign control. "AWSC" = All-way stop control.
"SB" = Southbound. "NB" = Northbound. Dashes ("- -") indicate intersection not present under this scenario.
Delay is measured in seconds per vehicle. Reported delay of 0.0 indicates a value rounded to less than 0.1.
Per City of Stockton guidelines, intersection average delay is reported for all intersections, including unsignalized intersections.

11. Eight Mile Road & SR 99 West Frontage Road

Under EPAP No Project Conditions, this intersection would operate at LOS F with 290.7 seconds of delay during the a.m. peak hour, and LOS F with 287.3 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Improvements are recommended for this intersection. As described below, either the assumed signalized intersection should be improved, or a roundabout should be installed.

Improve Signalized Intersection. If the signalized intersection is improved, the improvements should include:

- Install permitted phasing on the north-south approaches.
- Install permitted phasing on the east-west approaches.
- Widen the eastbound approach to include an eastbound combined through/left-turn lane and an exclusive eastbound-to-southbound right-turn lane.

Install Roundabout. If a roundabout is installed, the roundabout should include channelization for:

- the eastbound-to-southbound right-turn movement, and
- the northbound-to-eastbound right-turn movement.

Both improvements to the signalized intersection and installation of a roundabout would require widening the Eight Mile Road bridge over Bear Creek, which is to the west of the intersection.

A summary of LOS with recommended improvements is presented in **Table 12.** With improvement of the signalized intersection, this intersection would operate at LOS D with 52.6 seconds of delay in the a.m. peak hour and at LOS D with 43.6 seconds of delay in the p.m. peak hour.

With installation of a roundabout, this intersection would operate at LOS C with 24.6 seconds of delay in the a.m. peak hour and at LOS C with 19.7 seconds of delay in the p.m. peak hour.

Table 12. Intersection Level of Service - EPAP No Project Conditions With Recommended Improvements

Study Intersections	Inters. Control	AM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay
11 Eight Mile Road & SR 99 West Frontage Road	Signal	D	52.6	D	43.6
With Roundabout	Round	C	24.6	C	19.7
22 West Lane & Morada Lane	Signal	D	49.8	C	30.9

Notes: LOS = Level of Service. "Inters. Control" = Type of intersection control.
"Signal" = Signalized light control. "Round" = Roundabout
Delay is measured in seconds per vehicle.

22. West Lane & Morada Lane

Under EPAP No Project Conditions, this intersection would operate at LOS E with 66.6 seconds of delay during the a.m. peak hour, and LOS C with 29.5 seconds of delay during the p.m. peak hour. LOS E is considered unacceptable. The following improvements are recommended:

- Widen the westbound approach to include:

  - an exclusive westbound-to-southbound left-turn lane,
  - an exclusive westbound through lane, and
  - an exclusive westbound-to northbound right-turn lane.

- Restripe the eastbound approach to include:

  - an exclusive eastbound-to-northbound left-turn lane,
  - an exclusive eastbound through lane, and
  - an exclusive eastbound-to-southbound right-turn lane.

- Change the east-west signal phasing to protected.

A summary of LOS with recommended improvements is presented in **Table 12**. With these recommended improvements, this intersection would operate at LOS D with 49.8 seconds of delay during the a.m. peak hour and LOS C with 30.9 seconds of delay during the p.m. peak hour. LOS C and D are considered acceptable.

These improvements are also recommended for Existing Conditions.

ROADWAY SEGMENT LEVELS OF SERVICE

Table 10 presents a summary of LOS on the 13 study roadway segments under EPAP No Project conditions. Nine of the roadway segments would operate at acceptable LOS D or better. No improvements are needed on these nine roadway segments to achieve acceptable LOS. The following describes the four study roadway segments that would operate at unacceptable LOS under EPAP No Project conditions.

43 Eight Mile Road - Marlette Road to Lower Sacramento Road

Under EPAP No Project Conditions, this roadway segment would operate at LOS F. LOS F is considered unacceptable. The following improvement is recommended:

- Widen this roadway segment from two lanes (one lane in each direction) to four lanes.

A summary of roadway segment LOS with recommended improvements is presented in **Table 13.** With this recommended improvement, this roadway segment would operate at LOS B. LOS B is considered acceptable.

This improvement is also recommended for Existing Conditions.

44 Lower Sacramento Road -Eight Mile Road to Marlette Road

Under EPAP No Project Conditions, this roadway segment would operate at LOS F. LOS F is considered unacceptable. The following improvement is recommended:

- Widen this roadway segment from two lanes (one lane in each direction) to four lanes.

A summary of roadway segment LOS with recommended improvements is presented in **Table 13**. With this recommended improvement, this roadway segment would operate at LOS A. LOS A is considered acceptable.

This improvement is also recommended for Existing Conditions.

Table 13. Roadway Segment Level of Service - EPAP No Project With Recommended Improvements

Roadway Segment	Number of Lanes	Daily Volume	Level of Service
43 - Eight Mile Road Marlette Road to Lower Sacramento Road	4	23,847	B
44 - Lower Sacramento Road Eight Mile Road to Marlette Road	4	18,131	A
45 - Lower Sacramento Road Marlette Road to Grider Way	4	21,242	C
46 - Eight Mile Road Lower Sacramento Road to West Lane	4	31,519	C

45 Lower Sacramento Road - Marlette Road to Grider Way

Under EPAP No Project Conditions, this roadway segment would operate at LOS F. LOS F is considered unacceptable. The following improvement is recommended:

- Widen this roadway segment from two lanes (one lane in each direction) to four lanes.

A summary of roadway segment LOS with recommended improvements is presented in **Table 13**. With this recommended improvement, this roadway segment would operate at LOS C. LOS C is considered acceptable.

This improvement is also recommended for Existing Conditions.

46 Eight Mile Road - Lower Sacramento Road to West Lane

Under EPAP No Project Conditions, this roadway segment would operate at LOS F. LOS F is considered unacceptable. The following improvement is recommended:

- Widen this roadway segment from two lanes (one lane in each direction) to four lanes.

A summary of roadway segment LOS with recommended improvements is presented in **Table 13**. With this recommended improvement, this roadway segment would operate at LOS C. LOS C is considered acceptable.

This improvement is also recommended for Existing Conditions.

RAMP JUNCTION LEVELS OF SERVICE

The following is a description of traffic operating conditions on study freeway ramp junctions under EPAP No Project Conditions.

Table 14 presents a summary of LOS at the eight study freeway ramp junctions under EPAP No Project Conditions. All eight of the study ramp junctions would operate at acceptable LOS D or better under EPAP No Project Conditions. No improvements are needed at these ramp junctions to achieve acceptable LOS.

Table 14. Freeway Ramp Merge and Diverge Level of Service - EPAP No Project Conditions

Ramp Junction	AM Peak Hour		PM Peak Hour	
	Density	Level of Service	Density	Level of Service
I-5 Southbound Diverge to Eight Mile Road Off-Ramp	14.3	B	20.9	C
I-5 Southbound Merge from Eight Mile Road On-Ramp	15.9	B	18.9	B
I-5 Northbound Merge from Eight Mile Road On-Ramp	8.0	A	5.3	A
I-5 Northbound Diverge to Eight Mile Road Off-Ramp	5.9	A	10.3	B
SR 99 Southbound Diverge to Eight Mile Road Off-Ramp	22.3	C	22.9	C
SR 99 Southbound Merge from Eight Mile Road On-Ramp	19.7	B	19.6	B
SR 99 Northbound Merge from Eight Mile Road On-Ramp	23.4	C	29.0	D
SR 99 Northbound Diverge to Eight Mile Road Off-Ramp	23.8	C	31.3	D

Notes: LOS = I-5 = Interstate 5. SR = State Route. Density is expressed in passenger cars per mile per lane.

EXISTING PLUS APPROVED PROJECTS PLUS LeBARON RANCH PROJECT CONDITIONS

EPAP Plus LeBaron Ranch Project conditions represent a near-term future condition with the proposed Project. This condition is also referred to in this traffic impact study as EPAP Plus Project conditions.

Development of land uses and roadway improvements associated with the LeBaron Ranch Project are assumed. The results of analysis of EPAP Plus Project conditions can be compared to analysis of EPAP No Project conditions to identify changes due to the LeBaron Ranch Project.

The development of the LeBaron Ranch Project would result in vehicle traffic to and from the Project site. The amount of traffic on a particular section of the street network depends on three factors:

- Trip Generation, the number of new trips generated by the project,
- Trip Distribution, the direction of travel for the new traffic, and
- Trip Assignment, the specific routes used by the new traffic.

TRIP GENERATION

Development of the LeBaron Ranch Project would generate new vehicle trips and potentially affect traffic operations on study facilities. The number of vehicle trips expected to be generated by the proposed Project has been estimated using typical trip generation rates that have been developed based on the nature and size of project land uses. Data compiled by the Institute of Transportation Engineers (ITE) and presented in the publication *Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers 2021) are the source of trip generation rates.

The trip generation rates used in this traffic impact study are presented in **Table 15**. The trip generation rates are applied to the amount of project-related land uses described in the *Project Description* section of this traffic impact study. The resulting trip generation estimates are presented in **Table 16**.

As shown in **Table 16**, the proposed Project would generate 12,784 trips per day, 930 trips during the a.m. peak hour, and 1,243 trips during the p.m. peak hour.

Table 15. LeBaron Ranch - Trip Generation Rates

Land Use and ITE Land Use Code	Units	Trips per Unit						
		Weekday Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Single-Family Detached Housing (ITE Code 210)	Dwelling Units	9.43	0.18	0.52	0.70	0.59	0.35	0.94
Multifamily Housing (Low Rise) Not Close to Rail Transit (ITE Code 220)	Dwelling Units	6.74	0.10	0.30	0.40	0.32	0.19	0.51

Source: Institute of Transportation Engineers *Trip Generation Manual 11th Edition*.
Note: Trip generation rates are based on average rates.

Table 16. LeBaron Ranch - Trip Generation Estimates

Land Use and ITE Land Use Code	Quantity	Trips Generated						
		Weekday Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Single-Family Detached Housing (ITE Code 210)	1217 Dwelling Units	11,476	219	633	852	718	426	1,144
Multifamily Housing (Low Rise) Not Close to Rail Transit (ITE Code 220)	194 Dwelling Units	1,308	19	58	78	62	37	99
		12,784	238	691	930	780	463	1,243

Source: Institute of Transportation Engineers *Trip Generation Manual 11th Edition*.
Total may not equal the sum of components due to rounding.

TRIP DISTRIBUTION

Project-related trips were geographically distributed over the study area roadway network. The geographical distribution of trips is based on the relative attractiveness or utility of possible destinations. Trip distribution percentages applied in this traffic impact study are presented in **Table 17**.

The City of Stockton travel demand models (City of Stockton 2004 and Zeng pers. comm.) were used to estimate trip distribution percentages. The travel demand models are considered to be valid sources for the trip distribution percentages because they directly address:

- the location of destinations of project-related trips,
- the magnitude of land uses that would attract project-related trips, and
- the quality of access to the destinations via the roadway network.

This traffic impact study includes analysis of scenarios based on two different background development conditions:

- Existing Plus Approved Projects (EPAP), and
- Cumulative Conditions.

The travel demand models were used to estimate trip distribution percentages for each of these background conditions. Background (non-project) land uses are different in each of the travel demand models. The different land uses result in different geographic distributions of travel. As a result, the trip distribution percentages are different for each of the two background development conditions. **Table 17** presents the trip distribution percentages for each of the two background development scenarios.

A "select link" analysis was conducted using each of the travel demand models to determine the geographic distribution of project-related travel. The select link analysis identifies vehicle trips associated with the proposed Project site, and identifies the direction of travel to and from the Project site. Raw, pre-adjustment, traffic model results used in the development of trip distribution percentages are presented in the Technical Appendix.

TRIP ASSIGNMENT

Traffic that would be generated by the LeBaron Ranch Project was added to EPAP No Project Conditions traffic volumes. **Figure 8** displays the project-related-only traffic volumes for each study intersection in the a.m. peak hour and p.m. peak hour. **Figure 9** displays the resulting EPAP Plus LeBaron Ranch Project traffic volumes anticipated for each study intersection in the peak hours.

Table 17. LeBaron Ranch Project Trip Distribution Percentages

Direction of Travel	EPAP Background	Cumulative Background
North on Interstate 5	1.2	1.7
North on Thornton Road	0.2	0.2
North on Davis Road	0.3	0.6
North on Lower Sacramento Road	1.5	0.5
North on West Lane	5.1	1.5
North on Ham Lane	0.3	0.1
North on Micke Grove Road	2.5	0.1
North on State Route 99	1.9	2.0
West on Eight Mile Road	2.0	1.1
Thornton Road South of Eight Mile Road	1.1	0.5
West of Lower Sacramento Road, South of Eight Mile Road	5.7	0.5
Southeast of Eight Mile Road and West Lane	7.9	0.2
Holman Road South of Eight Mile Road	3.7	0.5
East on Eight Mile Road	1.7	1.6
North of Morada Ln, Between Lower Sacramento Rd & West Ln	1.2	0.2
South of Morada Ln, Between Lower Sacramento Rd & West Ln	3.9	0.5
Morada Lane East of West Lane	5.5	1.5
South on Interstate 5	0.3	10.0
West on Hammer Lane	1.3	6.9
South on Lower Sacramento Road	3.1	9.0
South on West Lane	30.1	33.1
Hammer Lane East of West Lane	7.2	2.9
South on State Route 99	12.3	24.8
TOTAL	100.0	100.0

Source: City of Stockton General Plan Travel Demand Model Select Link Analysis.

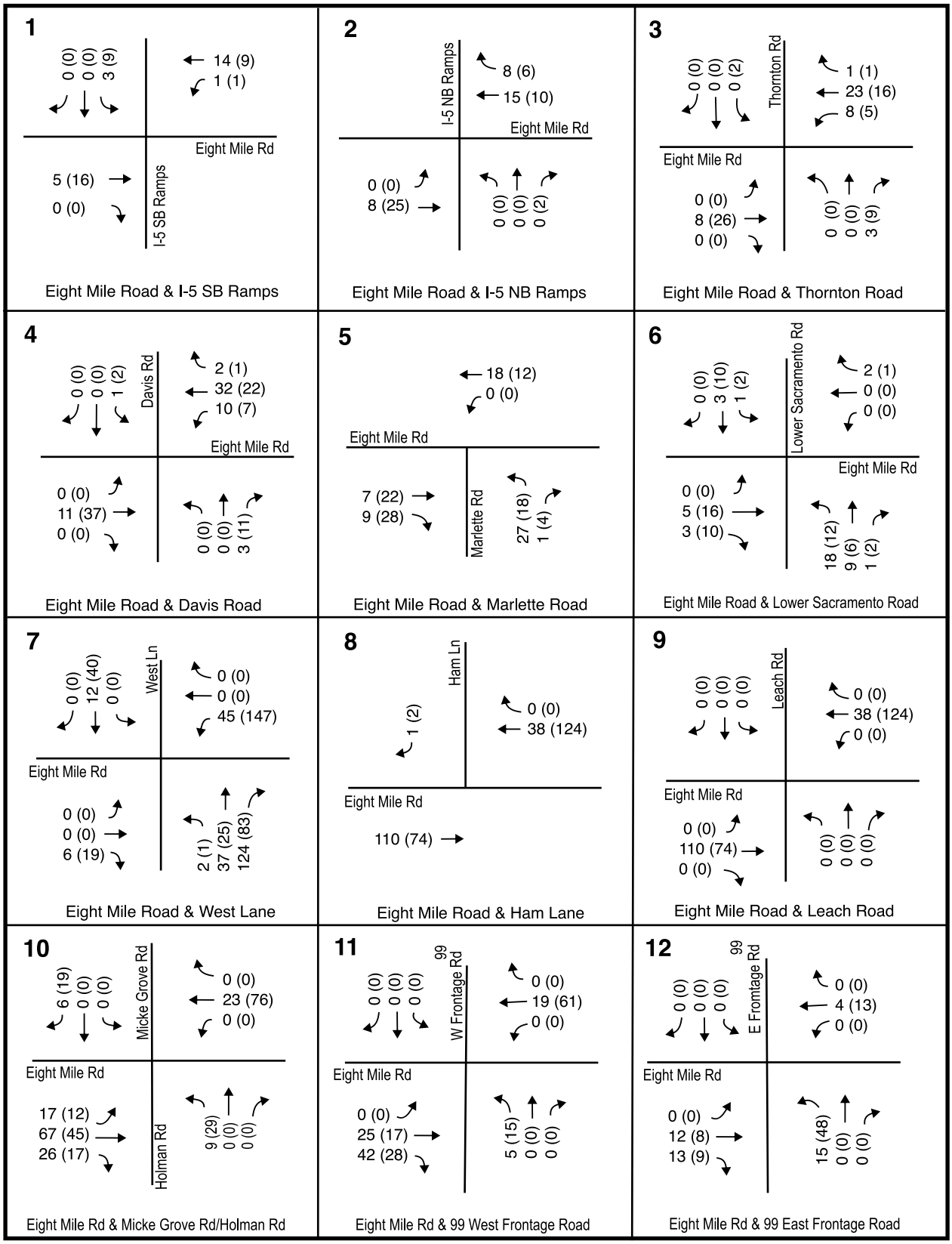


Figure 8 Project - Only Traffic Volumes

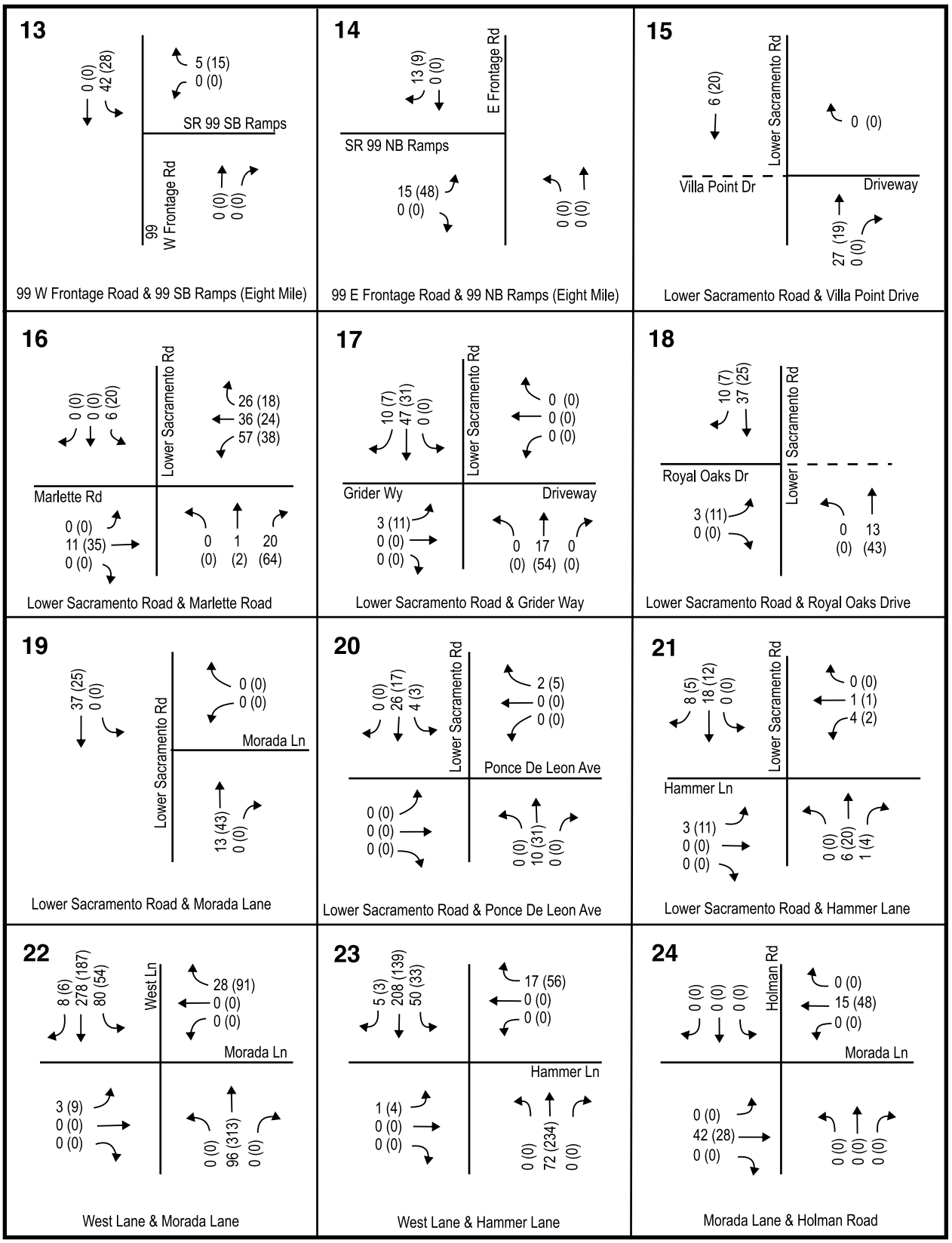
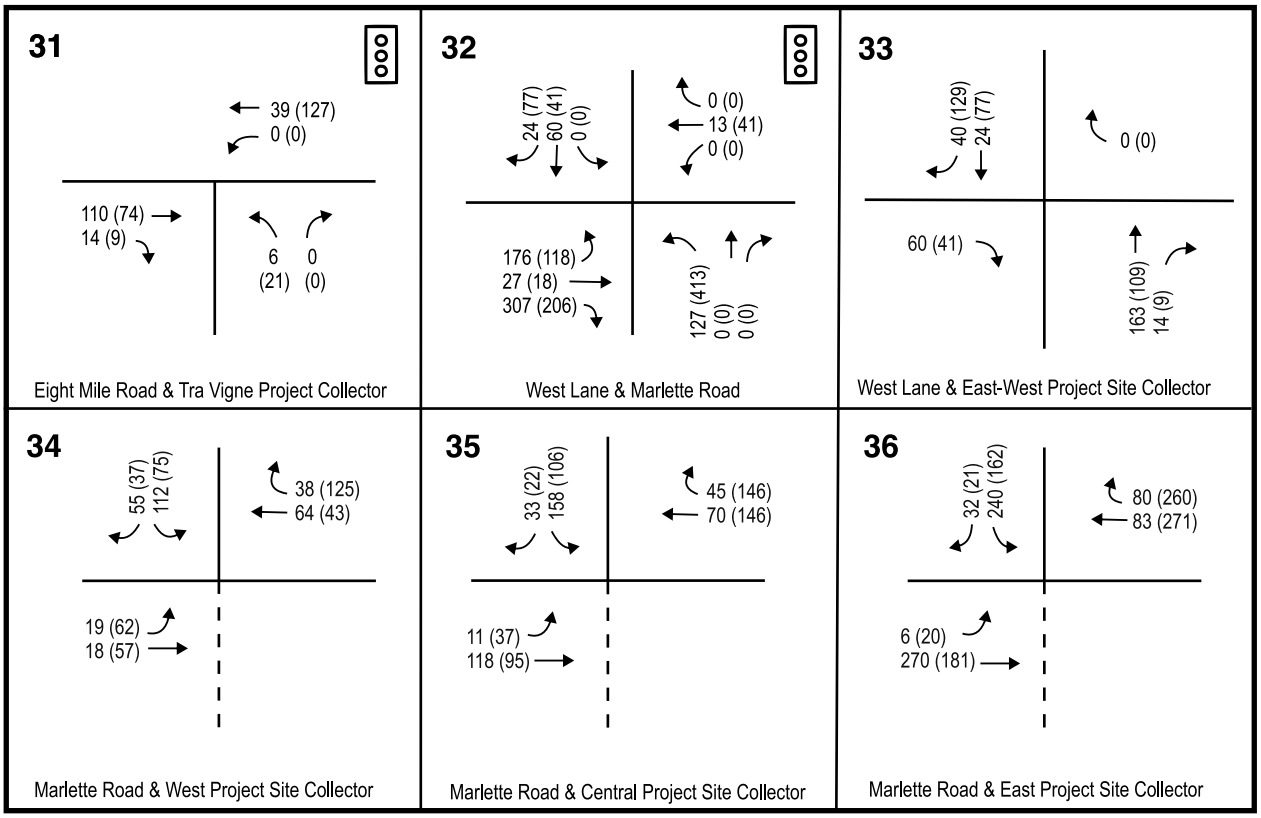


Figure 8 Project Only Traffic Volumes





LEGEND

XX AM Peak Hour Volume

(X X) PM Peak Hour Volume

----- Future Roadway

Figure 8 Project - Only Traffic Volumes

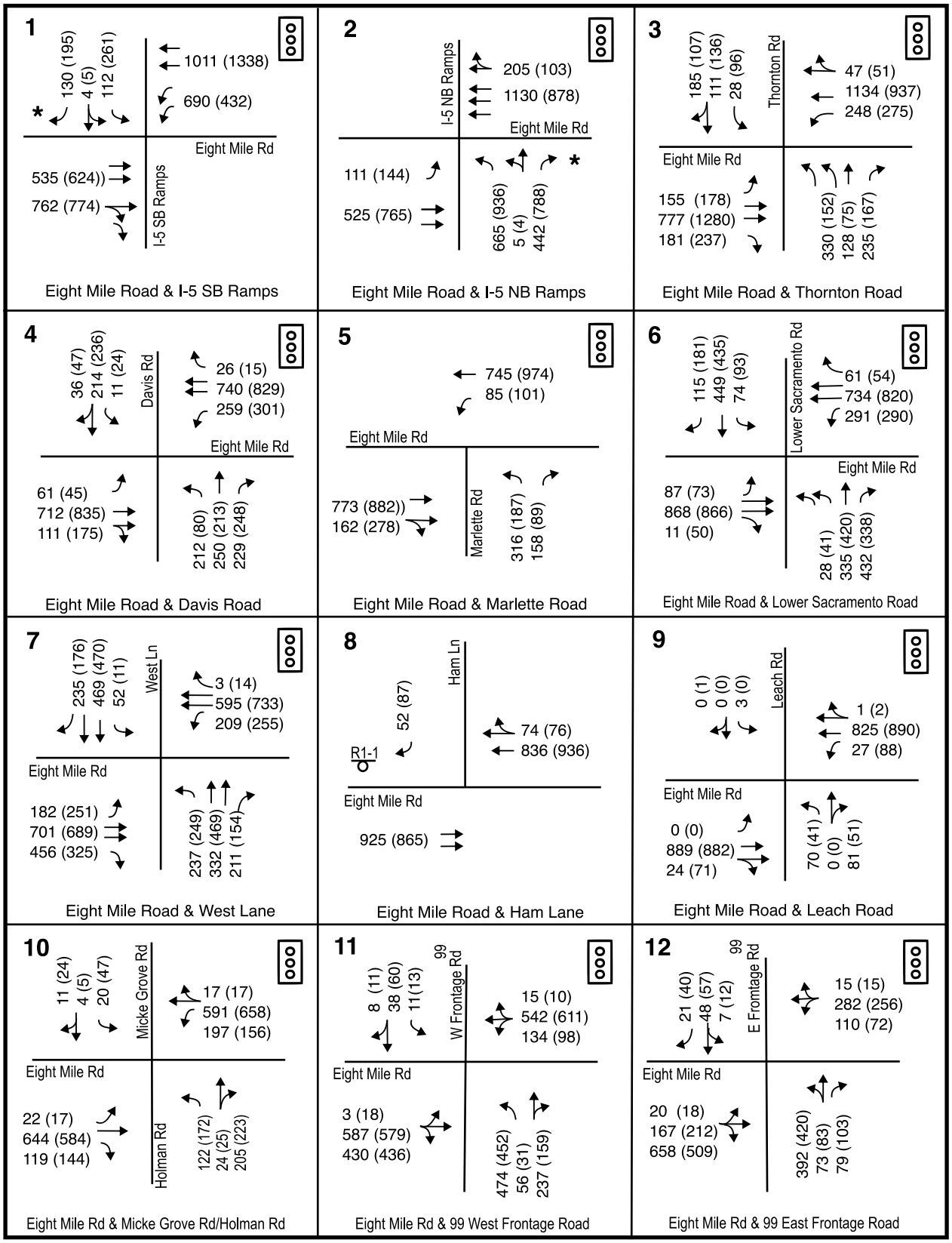


Figure 9 EPAP Plus Project Traffic Volumes and Lane Configurations

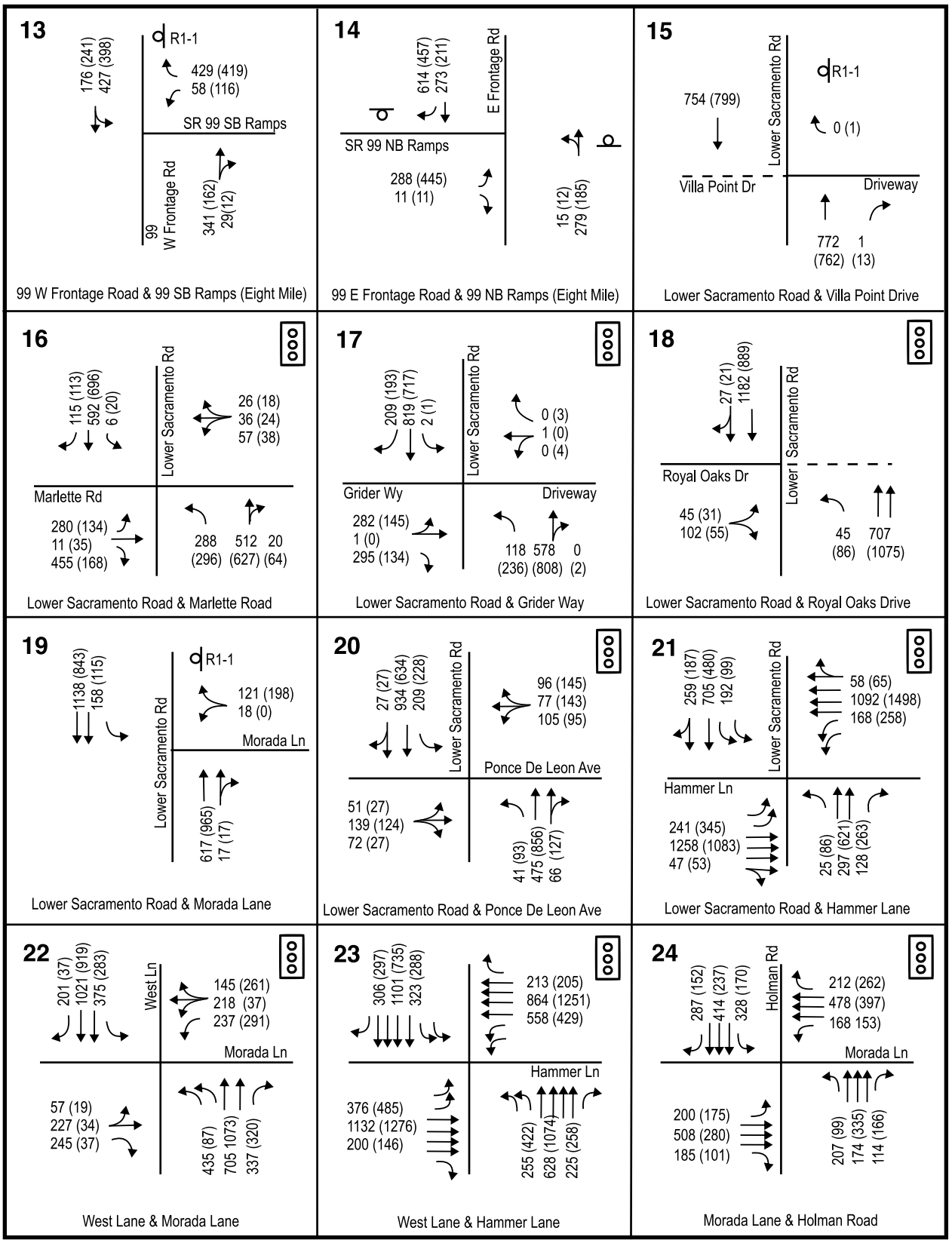


Figure 9 EPAP Plus Project Traffic Volumes and Lane Configurations

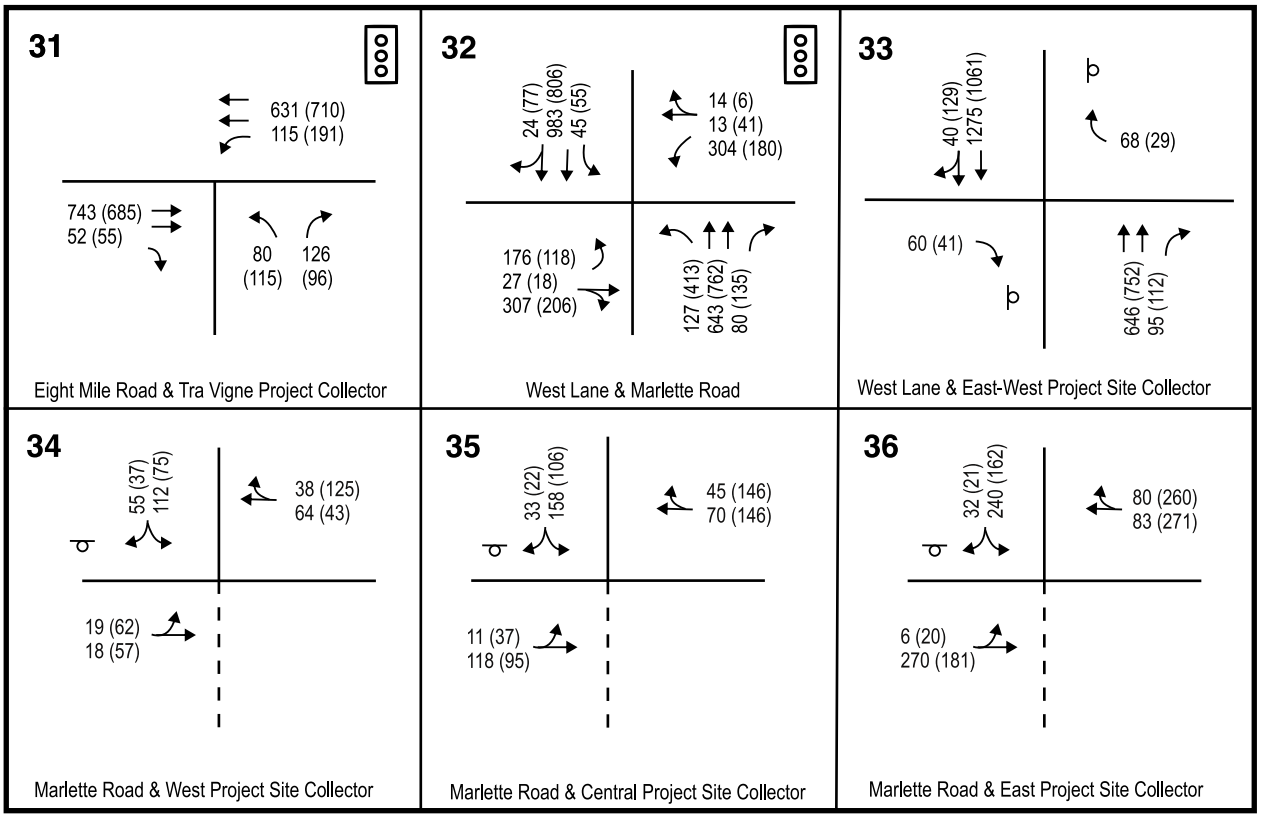


Figure 9 EPAP Plus Project Traffic Volumes and Lane Configurations

ROADWAY IMPROVEMENTS

The EPAP Plus Project condition assumes roadway improvements assumed for the EPAP No Project condition have been made. In addition, as noted in the *Project Description* section of this traffic impact study, the LeBaron Ranch Project would include roadway connections to provide access to the Project site.

- An extension of the west-east trending Marlette Road would provide access points to the proposed development, and also connect to West Lane and Lower Sacramento Road
- Three project site access roads would connect with the Marlette Road extension.
- One project site roadway would connect with West Lane between Eight Mile Road and the Marlette Road extension.

Figure 9 displays the resulting EPAP Plus Project lane geometrics for each study intersection.

INTERSECTION LEVELS OF SERVICE

Table 18 presents a summary of a.m. peak hour and p.m. peak hour LOS at the 30 study intersections under EPAP Plus Project conditions. The worksheets presenting the calculation of LOS are included in the Technical Appendix.

Traffic volumes under EPAP Plus Project conditions would be generally higher than under EPAP No Project Conditions and, as a result, vehicle delay at study intersections under EPAP Plus Project conditions would be higher than under EPAP No Project Conditions.

Under EPAP Plus Project conditions, 23 of the 30 study intersections would operate at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No improvements would be needed at these 23 intersections to achieve acceptable LOS.

Intersection 6, Eight Mile Road & Lower Sacramento Road, would operate at LOS E with 59.5 seconds of delay during the a.m. peak hour and LOS D with 52.9 seconds of delay during the p.m. peak hour. Intersection 7, Eight Mile Road & West Lane, would operate at LOS E with 57.7 seconds of delay during the a.m. peak hour and LOS E with 66.9 seconds of delay during the p.m. peak hour. As noted earlier in the *General Plan Policy Consistency Criteria* section of this traffic impact study, LOS E at these two intersections is considered acceptable. Therefore, no improvements are recommended for these two intersections.

The following describes the five study intersections that would operate at unacceptable LOS under EPAP Plus Project conditions.

The worksheets presenting the calculation of LOS for all study intersections are included in the Technical Appendix.

Table 18. Intersection Level of Service - EPAP Plus Project Conditions

	Study Intersections	Inters. Control	Signal Warrant Met?	AM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay
1	Eight Mile Road & I-5 SB Ramps	Signal		B	17.8	B	15.1
2	Eight Mile Road & I-5 NB Ramps	Signal		C	28.6	C	27.0
3	Eight Mile Road & Thornton Road	Signal		E	55.7	D	51.5
4	Eight Mile Road & Davis Road	Signal		E	57.3	E	67.2
5	Eight Mile Road & Marlette Road	Signal		B	17.9	C	21.6
6	Eight Mile Road & Lower Sacramento Road	Signal		E	59.5	D	52.9
7	Eight Mile Road & West Lane	Signal		E	57.7	E	66.9
8	Eight Mile Road & Ham Lane	Unsig	No	A	0.4	A	0.6
	Worst Approach			B	12.9	B	14.5
9	Eight Mile Road & Leach Road	Signal		B	15.1	B	14.2
10	Eight Mile Road & Micke Grove Rd/Holman Rd	Signal		D	37.0	C	32.3
11	Eight Mile Road & SR 99 West Frontage Road	Signal		F	314.8	F	321.9
12	Eight Mile Road & SR 99 East Frontage Road	Signal		D	44.2	D	45.0
13	99 W. Frontage Rd & 99 SB Ramps (Eight Mile Rd)	Unsig	Yes	C	16.0	C	24.0
	Worst Approach			E	39.2	F	53.9
14	99 E. Frontage Rd & 99 NB Ramps (Eight Mile Rd)	Unsig	Yes	B	11.3	B	10.4
	Worst Approach			B	11.6	B	10.5
15	Lower Sacramento Road & Villa Point Drive	Unsig	No	A	0.0	A	0.0
	Worst Approach			A	0.0	B	14.7
16	Lower Sacramento Road & Marlette Road	Signal		D	51.3	C	23.4

Table 18 (Continued). Intersection Level of Service - EPAP Plus Project Conditions

Study Intersections	Inters. Control	Signal Warrant Met?	AM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay
17 Lower Sacramento Road & Grider Way	Signal		D	37.6	D	38.3
18 Lower Sacramento Road & Royal Oaks Drive	Signal		A	9.7	A	7.8
19 Lower Sacramento Road & Morada Lane	Unsig	Yes	A	2.5	A	2.3
Worst Approach			D	25.3	C	17.8
20 Lower Sacramento Road & Ponce De Leon Avenue	Signal		B	17.3	C	29.9
21 Lower Sacramento Road & Hammer Lane	Signal		C	30.9	D	36.0
22 West Lane & Morada Lane	Signal		F	104.5	E	76.1
23 West Lane & Hammer Lane	Signal		D	41.6	D	43.9
24 Morada Lane & Holman Road	Signal		C	33.5	C	23.6
31 Eight Mile Road & Tra Vigne Project Collector	Signal		A	8.8	B	10.7
32 West Lane & Marlette Road	Signal		E	59.8	D	53.3
33 West Lane & East-West Project Site Collector	Unsig	No	A	0.8	A	0.4
Worst Approach			C	16.7	B	14.8
34 Marlette Road & West Project Site Collector	Unsig	No	A	6.0	A	4.3
Worst Approach			B	10.2	B	11.0
35 Marlette Road & Central Project Site Collector	Unsig	No	A	5.2	A	3.5
Worst Approach			B	11.5	B	12.8
36 Marlette Road & East Project Site Collector	Unsig	No	A	6.5	A	4.3
Worst Approach			C	16.8	C	20.7

Notes: LOS = Level of Service. "Inters. Control" = Type of intersection control.
"Signal" = Signalized light control. "Unsig" = Unsignalized stop-sign control. "AWSC" = All-way stop control.
"SB" = Southbound. "NB" = Northbound.
Delay is measured in seconds per vehicle. Reported delay of 0.0 indicates a value rounded to less than 0.1.
Per City of Stockton guidelines, intersection average delay is reported for all intersections, including unsignalized intersections.

3. Eight Mile Road & Thornton Road

Under EPAP Plus Project conditions, this intersection would operate at LOS E with 55.7 seconds of delay during the a.m. peak hour, and LOS D with 51.5 seconds of delay during the p.m. peak hour. LOS E is considered unacceptable. Compared to EPAP No Project Conditions, the project-related increase in delay would result in traffic operations degrading from acceptable LOS D to unacceptable LOS E in the a.m. peak hour. Therefore, based on criteria presented in the *General Plan Policy Consistency Criteria* section of this traffic impact study, the project-related inconsistency with General Plan policies is considered substantial. The following improvement is recommended to improve operating conditions to acceptable LOS and reduce the project-related inconsistency with General Plan policies to a less than substantial level:

- Modify signal timing during the a.m. peak hour. Signal timing should be modified for future traffic volumes.

A summary of LOS with recommended improvements is presented in **Table 19**. With this recommended improvement, this intersection would operate at LOS D with 54.5 seconds of delay during the a.m. peak hour and LOS D with 51.5 seconds of delay during the p.m. peak hour. LOS D is considered acceptable.

4. Eight Mile Road & Davis Road

Under EPAP Plus Project conditions, this intersection would operate at LOS E with 57.3 seconds of delay during the a.m. peak hour, and LOS E with 67.2 seconds of delay during the p.m. peak hour. LOS E is considered unacceptable. Compared to EPAP No Project Conditions, the project-related increase in delay would result in traffic operations degrading from acceptable LOS D to unacceptable LOS E in the a.m. peak hour and the p.m. peak hour. Therefore, based on criteria presented in the *General Plan Policy Consistency Criteria* section of this traffic impact study, the project-related inconsistency with General Plan policies is considered substantial. The following improvement is recommended to improve operating conditions to acceptable LOS and reduce the project-related inconsistency with General Plan policies to a less than substantial level:

- Modify signal timing during both the a.m. peak hour and p.m. peak hour. Signal timing should be optimized for future traffic volumes.

A summary of LOS with recommended improvements is presented in **Table 19**. With this recommended improvement, this intersection would operate at LOS D with 46.5 seconds of delay during the a.m. peak hour and LOS C with 20.3 seconds of delay during the p.m. peak hour. LOS C and D are considered acceptable.

Table 19. Intersection Level of Service - EPAP Plus Project Conditions With Recommended Improvements

	Study Intersections	Inters. Control	AM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay
3	Eight Mile Road & Thornton Road	Signal	D	54.5	D	51.5
4	Eight Mile Road & Davis Road	Signal	D	46.5	C	20.3
11	Eight Mile Road & SR 99 West Frontage Road	Signal	D	53.7	D	45.4
	With Roundabout	Round	D	27.8	D	27.2
22	West Lane & Morada Lane	Signal	D	43.0	D	47.2
32	West Lane & Marlette Road	Signal	D	48.5	D	40.6

Notes: LOS = Level of Service. "Inters. Control" = Type of intersection control.
"Signal" = Signalized light control. "Round" = Roundabout.
Delay is measured in seconds per vehicle.

11. Eight Mile Road & SR 99 West Frontage Road

Under EPAP Plus Project Conditions, this intersection would operate at LOS F with 314.8 seconds of delay during the a.m. peak hour, and LOS F with 321.9 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Compared to EPAP No Project Conditions, the project-related increase in delay would be greater than five seconds during both the a.m. peak hour and p.m. peak hour. Therefore, based on criteria presented in the *General Plan Policy Consistency Criteria* section of this traffic impact study, the project-related inconsistency with General Plan policies is considered substantial. Improvements are recommended for this intersection to improve operating conditions to acceptable LOS and reduce the project-related inconsistency with General Plan policies to a less than substantial level. As described below, either the assumed signalized intersection should be improved, or a roundabout should be installed.

Improve Signalized Intersection. If the signalized intersection is improved, the improvements should include:

- Install permitted phasing on the north-south approaches.
- Install permitted phasing on the east-west approaches.
- Widen the eastbound approach to include an eastbound combined through/left-turn lane and an exclusive eastbound-to-southbound right-turn lane.

Install Roundabout. If a roundabout is installed, the roundabout should include channelization for:

- the eastbound-to-southbound right-turn movement, and
- the northbound-to-eastbound right-turn movement.

Both improvements to the signalized intersection and installation of a roundabout would require widening the Eight Mile Road bridge over Bear Creek, which is to the west of the intersection.

The improvements recommended above are the same as those recommended for the EPAP No Project condition.

A summary of LOS with recommended improvements is presented in **Table 19.** With improvement of the signalized intersection, this intersection would operate at LOS D with 53.7 seconds of delay in the a.m. peak hour and at LOS D with 45.4 seconds of delay in the p.m. peak hour.

With installation of a roundabout, this intersection would operate at LOS D with 27.8 seconds of delay in the a.m. peak hour and at LOS D with 27.2 seconds of delay in the p.m. peak hour. LOS D is considered acceptable.

22. West Lane & Morada Lane

Under EPAP Plus Project Conditions, this intersection would operate at LOS F with 104.5 seconds of delay during the a.m. peak hour, and LOS E with 76.1 seconds of delay during the p.m. peak hour. LOS E and F are considered unacceptable. Compared to EPAP No Project Conditions, the project-related increase in delay would be greater than five seconds during the a.m. peak hour, and the project would result in a degradation of traffic operations from acceptable LOS C to unacceptable LOS E during the p.m. peak hour. Therefore, based on criteria presented in the *General Plan Policy Consistency Criteria* section of this traffic impact study, the project-related inconsistency with General Plan policies is considered substantial. The following improvements are recommended to improve operating conditions to acceptable LOS and reduce the project-related inconsistency with General Plan policies to a less than substantial level:

- Widen the westbound approach to include:

  - an exclusive westbound-to-southbound left-turn lane,
  - an exclusive westbound through lane, and
  - a westbound combined through/right-turn lane.

- Restripe the eastbound approach to include:

  - an exclusive eastbound-to-northbound left-turn lane,
  - two exclusive eastbound through lanes, and
  - an exclusive eastbound-to-southbound right-turn lane.

- Change the east-west signal phasing to protected.

- Install permitted plus overlap phasing on the eastbound-to-southbound right-turn movement. This would require prohibiting northbound-to-southbound U-turn movements.

- Modify the signal timing. Signal timing should be optimized for future traffic volumes.

A summary of LOS with recommended improvements is presented in **Table 19**. With these recommended improvements, this intersection would operate at LOS D with 43.0 seconds of delay during the a.m. peak hour and LOS D with 47.2 seconds of delay during the p.m. peak hour. LOS D is considered acceptable.

Widening the westbound and eastbound approaches to this intersection, with one through lane in each direction, and changing the east-west signal phasing to protected is also recommended under EPAP No Project scenario.

The two westbound through lanes and two eastbound through lanes would be consistent with the recommended improvement (described below) for Roadway Segment 51, Morada Lane - West Lane to Caywood Drive, to widen the portions of this roadway segment from one lane in each direction to two lanes in each direction.

32. West Lane & Marlette Road

Under EPAP Plus Project conditions, this intersection would operate at LOS E with 59.8 seconds of delay during the a.m. peak hour, and LOS D with 53.3 seconds of delay during the p.m. peak hour. LOS E is considered unacceptable. Compared to EPAP No Project Conditions, the project-related increase in delay would result in traffic operations degrading from acceptable LOS B to unacceptable LOS E in the a.m. peak hour. Therefore, based on criteria presented in the *General Plan Policy Consistency Criteria* section of this traffic impact study, the project-related inconsistency with General Plan policies is considered substantial. The following improvement is recommended to improve operating conditions to acceptable LOS and reduce the project-related inconsistency with General Plan policies to a less than substantial level:

- Split the eastbound combined through/right-turn lane into an exclusive eastbound-through lane and an exclusive eastbound-to-southbound right-turn lane.

- Install permitted plus overlap phasing on the eastbound-to-southbound right-turn movement. This would require prohibiting northbound-to-southbound U-turn movements.

A summary of LOS with recommended improvements is presented in **Table 19**. With these recommended improvements, this intersection would operate at LOS D with 48.5 seconds of delay during the a.m. peak hour and LOS D with 40.6 seconds of delay during the p.m. peak hour. LOS D is considered acceptable.

ROADWAY SEGMENT LEVELS OF SERVICE

Table 20 presents a summary of LOS on the 13 study roadway segments under EPAP Plus Project conditions. Eight of the 13 roadway segments would operate at acceptable LOS D or better, and the proposed Project is considered to be consistent with General Plan policies on LOS for these eight roadway segments. No improvements are needed on these eight roadway segments to achieve acceptable LOS.

The following four roadway segments would operate at LOS F under EPAP Plus Project conditions and the proposed Project would increase traffic volumes on the roadway segments. However, the increase in traffic volumes would not be greater than five percent. As described in the *General Plan Policy Consistency Criteria* section of this traffic impact study, an increase in traffic volumes not greater than five percent is not considered a substantial inconsistency with General Plan policies. Therefore, no improvements are required to reduce the General Plan policy inconsistency to a less-than-substantial level.

- Roadway Segment 43 Eight Mile Road - Marlette Road to Lower Sacramento Road
- Roadway Segment 44 Lower Sacramento Road - Eight Mile Road to Marlette Road
- Roadway Segment 45 Lower Sacramento Road - Marlette Road to Grider Way
- Roadway Segment 46 Eight Mile Road - Lower Sacramento Road to West Lane

The following roadway segment would operate at unacceptable LOS and have a substantial inconsistency with General Plan policies under EPAP Plus Project conditions.

51. Morada Lane – West Lane to Caywood Drive

Under EPAP Plus Project conditions, this roadway segment would operate at LOS E. This LOS is considered unacceptable. Compared to EPAP No Project Conditions, the project-related increase in volumes would be greater than five percent. Therefore, based on criteria presented in the *General Plan Policy Consistency Criteria* section of this traffic impact study, the project-related inconsistency with General Plan policies is considered substantial. The following improvement is recommended to reduce the inconsistency to a less-than-substantial level

- Widen this roadway segment from two lanes to four lanes.

This improvement is consistent with planned widening of this roadway under future General Plan conditions. This improvement is also consistent with recommended improvements to Intersection 22, West Lane & Morada Lane, under EPAP Plus Project conditions described earlier in this traffic impact study.

A summary of LOS with recommended improvements is presented in **Table 21**. With this recommended improvement, this roadway segment would operate at LOS A. LOS A is considered acceptable.

Table 20. Roadway Segment Level of Service - EPAP Plus Project

Roadway Segment	Number of Lanes	Daily Volume	Level of Service
41 - Interstate 5 Eight Mile Road to SR 12	6	77,479	C
42 - Interstate 5 Eight Mile Road to Hammer Lane	6	84,492	C
43 - Eight Mile Road Marlette Road to Lower Sacramento Road	2	24,219	F
44 - Lower Sacramento Road Eight Mile Road to Marlette Road	2	18,551	F
45 - Lower Sacramento Road Marlette Road to Grider Way	2	22,309	F
46 - Eight Mile Road Lower Sacramento Road to West Lane	2	31,689	F
47 - Eight Mile Road West Lane to Leach Road	4	22,700	A
48 - West Lane Eight Mile Road to Marlette Road	4	21,442	C
49 - West Lane Marlette Road to Morada Lane	4	28,396	D
50 - Morada Lane West Lane to McNair Lane	2	4,875	A
51 - Morada Lane West Lane to Caywood Drive	2	15,414	E
52 - State Route 99 Eight Mile Road to Armstrong Road	6	82,291	C
53 - State Route 99 Eight Mile Road to Morada Lane	6	89,539	C

Table 21. Roadway Segment Level of Service - EPAP Plus Project With Recommended Improvements

Roadway Segment	Number of Lanes	Daily Volume	Level of Service
51 - Morada Lane West Lane to Caywood Drive	4	15,414	A

RAMP JUNCTION LEVELS OF SERVICE

The following is a description of traffic operating conditions on study freeway ramp junctions under EPAP Plus Project Conditions.

Table 22 presents a summary of LOS at the eight study freeway ramp junctions under EPAP Plus Project Conditions. All eight of the study ramp junctions would operate at acceptable LOS D or better under EPAP Plus Project Conditions, and the proposed Project is considered to be consistent with General Plan policies on LOS.

PUBLIC TRANSIT IMPACTS

Implementation of the LeBaron Ranch Project would result in an increase in demand for public transit service in the vicinity of the Project site. However, the proposed Project would not disrupt an existing transit facility or service, and would not interfere with the implementation of future transit service. Therefore, based on criteria presented in the *Level of Service and Significance Thresholds* section of this traffic impact study, the impact of the LeBaron Ranch Project on public transit service is considered less than significant. No mitigation measures are required.

While the impact of the LeBaron Ranch Project on public transit service is considered less than significant and no mitigation measures are required, it is recommended the City of Stockton and the project applicants consult with San Joaquin Regional Transit District. This consultation could include identifying the potential for public transit service being provided to the Project site, in particular the high-density residential portion of the Project site, and identifying Project site design features that would facilitate public transit service to the Project site.

Table 22. Freeway Ramp Merge and Diverge Level of Service - EPAP Plus Project Conditions

Ramp Junction	AM Peak Hour		PM Peak Hour	
	Density	Level of Service	Density	Level of Service
I-5 Southbound Diverge to Eight Mile Road Off-Ramp	14.3	B	21.0	C
I-5 Southbound Merge from Eight Mile Road On-Ramp	15.9	B	18.9	B
I-5 Northbound Merge from Eight Mile Road On-Ramp	8.0	A	5.4	A
I-5 Northbound Diverge to Eight Mile Road Off-Ramp	5.9	A	10.3	B
SR 99 Southbound Diverge to Eight Mile Road Off-Ramp	22.4	C	23.0	C
SR 99 Southbound Merge from Eight Mile Road On-Ramp	20.1	C	19.9	B
SR 99 Northbound Merge from Eight Mile Road On-Ramp	23.5	C	29.0	D
SR 99 Northbound Diverge to Eight Mile Road Off-Ramp	23.9	C	31.6	D

Notes: LOS = I-5 = Interstate 5. SR = State Route. Density is expressed in passenger cars per mile per lane.

BICYCLE AND PEDESTRIAN IMPACTS

As shown graphically in **Figure 3** and described in the *Project Description* section of this traffic impact study, implementation of the LeBaron Ranch Project would result in the construction of a network of bicycle and pedestrian facilities. These facilities would include:

- enhanced sidewalks (also referred to as "wellness walks") throughout the Project site;
- Class IV bikeways (separated bikeways) along Lower Sacramento Road, West Lane and Eight Mile Road; and
- a Class I bike path between the proposed Project and the Woodbridge Irrigation Ditch.

Implementation of the LeBaron Ranch Project would not disrupt existing bicycle or pedestrian facilities, interfere with planned bicycle or pedestrian facilities; or cause other changes to bicycle or pedestrian systems that would be inconsistent with performance expectations established in adopted bicycle or pedestrian system plans, guidelines, policies, or standards. Therefore, based on criteria presented in the *Level of Service and Significance Thresholds* section of this traffic impact study, the impact of the LeBaron Ranch Project on bicycle and pedestrian facilities is considered less than significant. No mitigation measures are required.

TRAFFIC, BICYCLE AND PEDESTRIAN ACCIDENTS

As described in the *Accidents* section of this traffic impact study, the City of Stockton *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* (City of Stockton 2018c) presents information on the number and location of traffic accidents, bicycle accidents, and pedestrian accidents. The *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* identifies for the six years between 2009 and 2014:

- the 21 locations in the City with the highest number of reported accidents,
- the seven locations in the City with the highest number of reported bicycle accidents, and
- the nine street corridors in the City with the highest number of vehicle-pedestrian injury collisions.

One of the intersections analyzed for this traffic impact study, the intersection of West Lane & Hammer Lane, is listed as a location with a high number of bicycle accidents. One of the corridors analyzed for this traffic impact study, the Hammer Lane street corridor, is listed as a street corridor with a high number of pedestrian accidents. As shown in **Figure 8**, the proposed Project is expected to result in project-related traffic through the intersection and along the street corridor. However, as shown in **Table 18**, the project is not expected to result in congested, potentially unsafe, traffic operations.

Implementation of the proposed Project would provide site access via collector roadway connections with West Lane and Marlette Road. The roadway connections would be designed and constructed per local design standards and requirements, consistent with accepted design guidelines for safety. The internal Project streets would be designed to meet the City's geometric design standards to avoid creating hazardous driving conditions. The internal Project streets would provide ADA compliant sidewalk along each side of the roadways so that pedestrians would be separated from vehicle traffic per city standards. Proposed roadway geometries/cross-sections and design features would be reviewed as part of final maps and improvement plan review to confirm that proposed designs are consistent with the local code and design standards and confirm that design features do not limit sight distance. As a result, implementation of the proposed Project would not be anticipated to introduce hazardous geometric design features.

Because the proposed Project would not substantially exacerbate an existing safety problem, and is not anticipated to introduce new hazardous geometric design features, the Project is considered to have a less than significant impact on traffic, bicycle and pedestrian accidents. No mitigation measures are required.

CUMULATIVE NO PROJECT CONDITIONS

The Cumulative No Project condition represents a long-term future background condition. Development of approved and planned land uses and roadway improvements are assumed in this condition. The Cumulative No Project condition, therefore, serves as the baseline condition used to assess the significance of long-term project-related traffic effects.

The Cumulative No Project condition does not include development of the LeBaron Ranch project as proposed. Consistent with the approach described in the *City of Stockton Transportation Impact Analysis Guidelines: INTERIM* (City of Stockton 2021), this scenario serves as a baseline condition for determining project-related effects, and the traffic analysis of this condition assumes land uses on the Project site consistent with the City of Stockton General Plan (City of Stockton 2018b).

TRAFFIC VOLUME FORECASTS

As previously described in the *Travel Forecasting* section of this traffic impact study, the City of Stockton Travel Demand Model (City of Stockton 2018b and Zeng pers. comm.) was used to develop forecasts of background increases in traffic volumes under Cumulative No Project conditions. The increases in traffic volumes reflect development of land uses consistent with approved land use designations. The model was modified in the vicinity of the Project site to add detail to the model and more accurately represent how land uses are provided access to the roadway network. Minor changes were also made to land uses in the model to reflect existing and planned development.

Land uses assumed for Project site in the Cumulative No Project scenario are consistent with the current General Plan use designation. Application of the methods described in the *Travel Forecasting* section of this traffic impact study results in the a.m. peak hour and p.m. peak hour traffic intersection volumes presented in **Figure 10**, and the daily traffic volumes presented in **Table 23**.

ROADWAY IMPROVEMENTS

The analysis of Cumulative No Project conditions assumes roadway improvements consistent with the City of Stockton General Plan (City of Stockton 2018b). These roadway improvements are needed to support the additional land use development assumed in the General Plan.

In the past, improvements to the Eight Mile Road interchange on SR 99 were considered by the City of Stockton and Caltrans. A Project Study Report (PSR) was prepared for these improvements. But the interchange improvement project has not progressed recently. At the direction of Caltrans staff, these interchange improvement projects have not been assumed in the analysis of Cumulative No Project conditions (Nguyen pers. comm.).

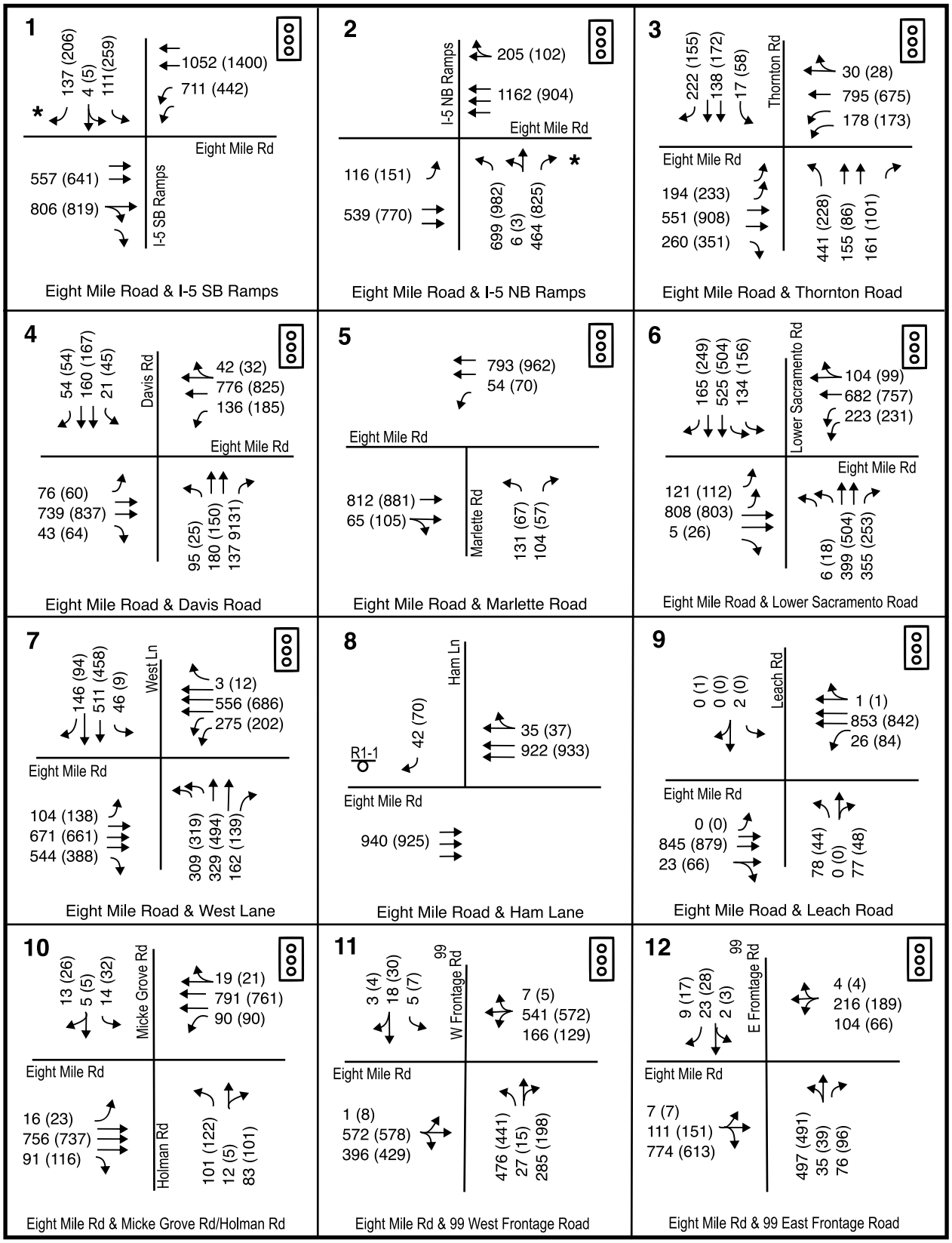


Figure 10 Cumulative No Project Traffic Volumes and Lane Configurations

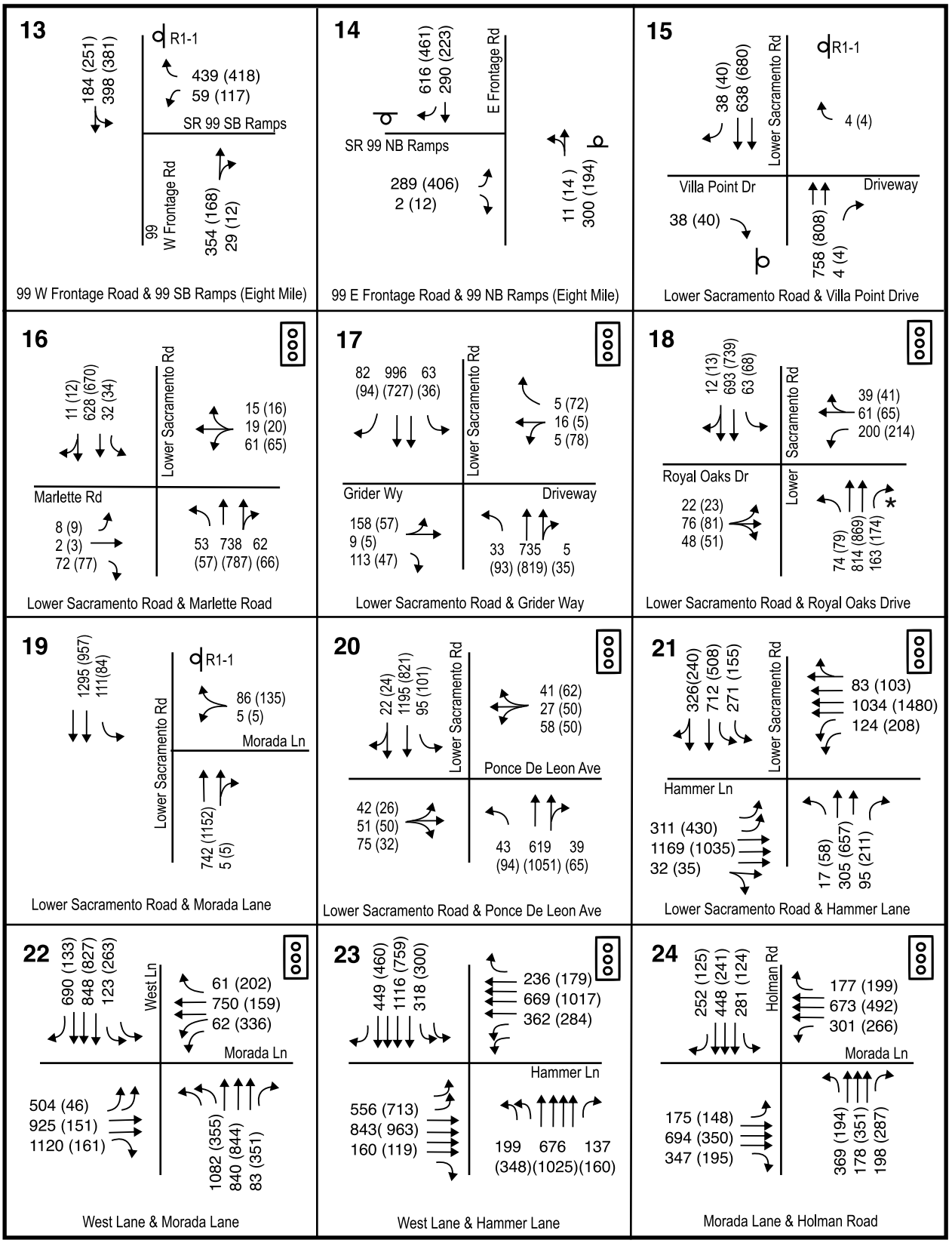
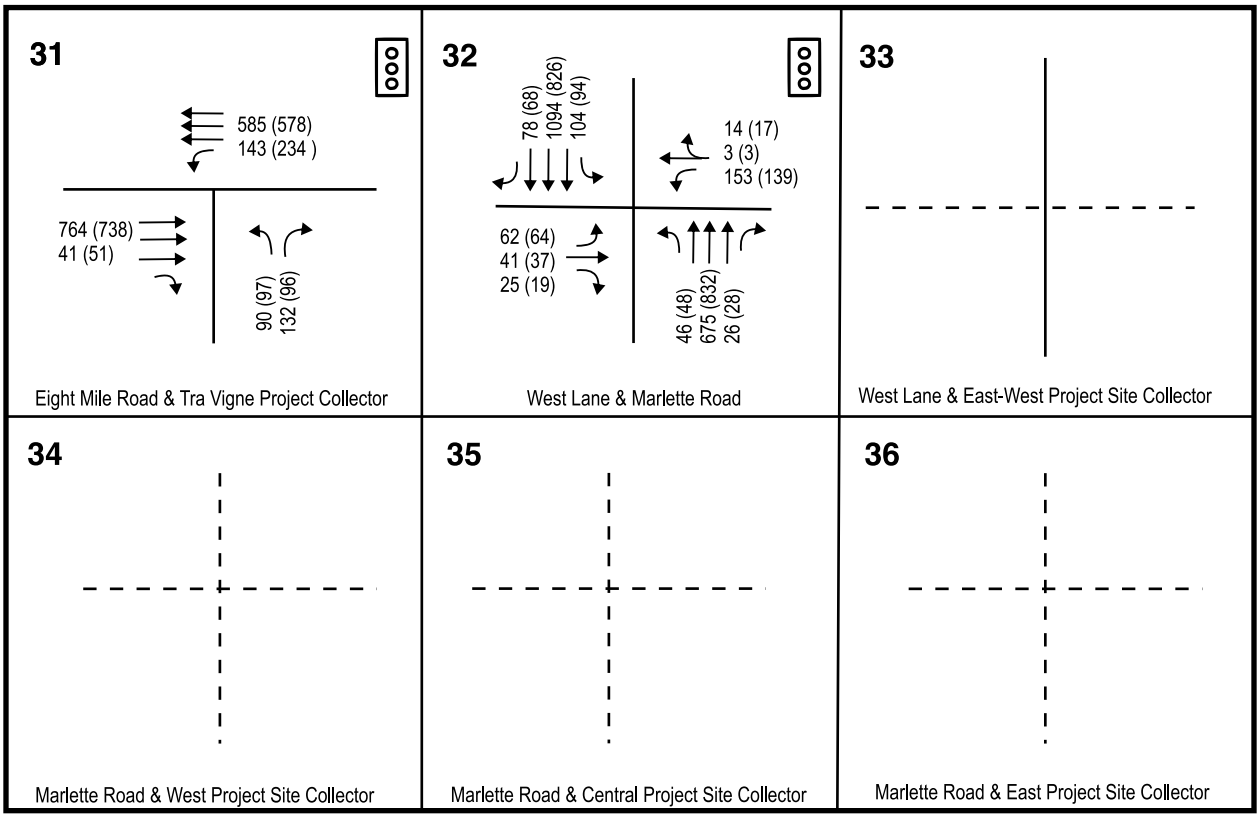


Figure 10 Cumulative No Project Traffic Volumes and Lane Configurations



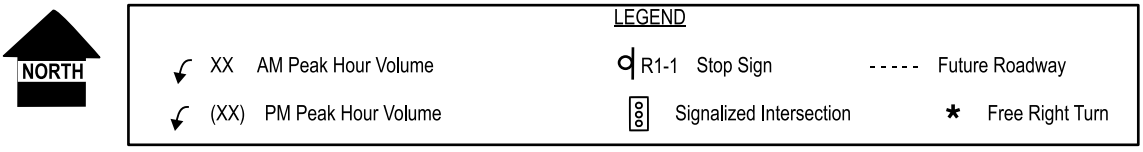


Figure 10 Cumulative No Project Traffic Volumes and Lane Configurations

Table 23. Roadway Segment Level of Service - Cumulative No Project

Roadway Segment	Number of Lanes	Daily Volume	Level of Service
41 - Interstate 5 Eight Mile Road to SR 12	8	91,056	C
42 - Interstate 5 Eight Mile Road to Hammer Lane	10	86,163	B
43 - Eight Mile Road Marlette Road to Lower Sacramento Road	4	23,674	B
44 - Lower Sacramento Road Eight Mile Road to Marlette Road	4	18,307	A
45 - Lower Sacramento Road Marlette Road to Grider Way	4	22,707	C
46 - Eight Mile Road Lower Sacramento Road to West Lane	4	29,905	C
47 - Eight Mile Road West Lane to Leach Road	6	21,308	A
48 - West Lane Eight Mile Road to Marlette Road	6	22,649	A
49 - West Lane Marlette Road to Morada Lane	6	25,080	A
50 - Morada Lane West Lane to McNair Lane	4	19,667	B
51 - Morada Lane West Lane to Caywood Drive	4	18,297	A
52 - State Route 99 Eight Mile Road to Armstrong Road	8	96,886	C
53 - State Route 99 Eight Mile Road to Morada Lane	8	104,395	C

In some cases, the roadway improvements described above include intersection improvements. The resulting intersection lane geometrics assumed for Cumulative No Project conditions are shown in **Figure 10**. The resulting number of travel lanes assumed for study roadway segments are shown in **Table 23**.

INTERSECTION LEVELS OF SERVICE

Table 24 presents the a.m. peak hour and p.m. peak hour LOS at the study intersections under Cumulative No Project conditions. The values shown for the a.m. peak hour represent the one-hour period with the highest traffic volumes within the period from 7:00 a.m. to 9:00 a.m. The values shown for the p.m. peak hour represent the one-hour period with the highest traffic volumes within the period from 4:00 p.m. to 6:00 p.m. The worksheets presenting the calculation of LOS are included in the Technical Appendix.

Under Cumulative No Project conditions, LOS at 21 of the 26 study intersections would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No improvements are needed at these 21 intersections to achieve acceptable LOS.

Intersection 23, West Lane & Hammer Lane, would operate at LOS D with 45.2 seconds of delay during the a.m. peak hour and LOS E with 61.8 seconds of delay during the p.m. peak hour. As noted earlier in the *General Plan Policy Consistency Criteria* section of this traffic impact study, LOS E at this intersection is considered acceptable. Therefore, no improvements are recommended for this intersection.

The following describes the four study intersection that would operate at unacceptable LOS under Cumulative No Project conditions.

3. Eight Mile Road & Thornton Road

Under Cumulative No Project conditions, this intersection would operate at LOS E with 60.3 seconds of delay during the a.m. peak hour, and LOS C with 31.0 seconds of delay during the p.m. peak hour. LOS E is considered unacceptable. The following improvement is recommended:

- Install permitted plus overlap phasing on the southbound-to-westbound right-turn movement. This would require prohibiting eastbound-to-westbound U-turn movements.

A summary of LOS with recommended improvements is presented in **Table 25**. With this recommended improvement, this intersection would operate at LOS C with 27.9 seconds of delay during the a.m. peak hour and LOS D with 39.8 seconds of delay during the p.m. peak hour. LOS C and D are considered acceptable.

Table 24. Intersection Level of Service - Cumulative No Project Conditions

Study Intersections	Inters. Control	Signal Warrant Met?	AM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay
1 Eight Mile Road & I-5 SB Ramps	Signal		B	18.5	B	15.4
2 Eight Mile Road & I-5 NB Ramps	Signal		C	29.1	C	27.6
3 Eight Mile Road & Thornton Road	Signal		E	60.3	C	31.0
4 Eight Mile Road & Davis Road	Signal		C	21.1	C	22.6
5 Eight Mile Road & Marlette Road	Signal		A	9.8	A	9.0
6 Eight Mile Road & Lower Sacramento Road	Signal		C	30.9	C	27.8
7 Eight Mile Road & West Lane	Signal		D	43.3	C	27.9
8 Eight Mile Road & Ham Lane	Unsig	No	A	0.3	A	0.6
Worst Approach			B	14.5	C	15.5
9 Eight Mile Road & Leach Road	Signal		B	11.9	B	10.8
10 Eight Mile Road & Micke Grove Rd/Holman Rd	Signal		B	14.6	B	15.1
11 Eight Mile Road & SR 99 West Frontage Road	Signal		F	306.1	F	296.8
12 Eight Mile Road & SR 99 East Frontage Road	Signal		C	34.0	C	33.2
13 99 W. Frontage Rd & 99 SB Ramps (Eight Mile Rd)	Unsig	Yes	C	15.6	C	22.6
Worst Approach			E	37.7	F	50.6
14 99 E. Frontage Rd & 99 NB Ramps (Eight Mile Rd)	Unsig	Yes	B	11.4	B	10.5
Worst Approach			B	11.7	B	10.6
15 Lower Sacramento Road & Villa Point Drive	Unsig	No	A	0.3	A	0.3
Worst Approach			B	11.2	B	11.4
16 Lower Sacramento Road & Marlette Road	Signal		B	10.9	B	11.1

Table 24 (Continued). Intersection Level of Service - Cumulative No Project Conditions

Study Intersections	Inters. Control	Signal Warrant Met?	AM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay
17 Lower Sacramento Road & Grider Way	Signal		B	16.1	B	16.0
18 Lower Sacramento Road & Royal Oaks Drive	Signal		C	21.9	C	23.6
19 Lower Sacramento Road & Morada Lane	Unsig	Yes	A	1.2	A	1.9
Worst Approach			C	16.4	C	24.7
20 Lower Sacramento Road & Ponce De Leon Avenue	Signal		B	14.6	B	14.8
21 Lower Sacramento Road & Hammer Lane	Signal		C	34.4	D	46.4
22 West Lane & Morada Lane	Signal		F	242.5	C	32.3
23 West Lane & Hammer Lane	Signal		D	45.2	E	61.8
24 Morada Lane & Holman Road	Signal		E	63.6	C	31.6
31 Eight Mile Road & Tra Vigne Project Collector	Signal		A	9.2	B	14.8
32 West Lane & Marlette Road	Signal		B	16.6	B	15.9
33 West Lane & East-West Project Site Collector	- -		- -		- -	
34 Marlette Road & West Project Site Collector	- -		- -		- -	
35 Marlette Road & Central Project Site Collector	- -		- -		- -	
36 Marlette Road & East Project Site Collector	- -		- -		- -	

Notes: LOS = Level of Service. "Inters. Control" = Type of intersection control.
"Signal" = Signalized light control. "Unsig" = Unsignalized stop-sign control. "AWSC" = All-way stop control.
"SB" = Southbound. "NB" = Northbound. Dashes ("- -") indicate intersection not present under this scenario.
Delay is measured in seconds per vehicle. Reported delay of 0.0 indicates a value rounded to less than 0.1.
Per City of Stockton guidelines, intersection average delay is reported for all intersections, including unsignalized intersections.

Table 25. Intersection Level of Service - Cumulative No Project Conditions With Recommended Improvements

	Study Intersections	Inters. Control	AM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay
3	Eight Mile Road & Thornton Road	Signal	C	27.9	D	39.8
22	West Lane & Morada Lane	Signal	F	114.1	C	30.5
24	Morada Lane & Holman Road	Signal	D	54.9	C	29.7

Notes: LOS = Level of Service. "Inters. Control" = Type of intersection control.
"Signal" = Signalized light control.
Delay is measured in seconds per vehicle.

11. Eight Mile Road & SR 99 West Frontage Road

Under Cumulative No Project conditions, this intersection would operate at LOS F with 306.1 seconds of delay during the a.m. peak hour, and LOS F with 296.8 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable.

Achieving acceptable LOS would require additional east-west through lanes on the interchange overcrossing. This would require reconstruction of the interchange. Reconstruction of the interchange is recommended under Cumulative No Project conditions.

Widening of the overcrossing and reconstructing the interchange could result in acceptable traffic operations at the interchange. The overall layout and design details of the reconstructed interchange would need to be developed in consultation with Caltrans, and would determine the LOS and vehicle delay with implementation of the improvements.

22. West Lane & Morada Lane

Under Cumulative No Project conditions, this intersection would operate at LOS F with 242.5 seconds of delay during the a.m. peak hour, and LOS C with 32.3 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. The following improvement is

recommended:

- Install permitted plus overlap phasing on the eastbound-to-southbound right-turn movement and on the southbound-to-westbound right-turn movement. This would require prohibiting northbound-to-southbound U-turn movements and eastbound-to-westbound U-turn movements.

A summary of LOS with recommended improvements is presented in **Table 25**. With this recommended improvement, this intersection would operate at LOS F with 114.1 seconds of delay during the a.m. peak hour and LOS C with 30.5 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable.

Further improving traffic operations at this intersection to achieve acceptable LOS would require additional widening of the intersection. Adding lanes to this intersection is not recommended because of existing adjacent land use and the amount of pedestrian travel through the intersection due to the high school northwest of the intersection.

24. Morada Lane & Holman Road

Under Cumulative No Project conditions, this intersection would operate at LOS E with 63.6 seconds of delay during the a.m. peak hour, and LOS C with 31.6 seconds of delay during the p.m. peak hour. LOS E is considered unacceptable. The following improvement is recommended:

- Install permitted plus overlap phasing on the eastbound-to-southbound right-turn movement. This would require prohibiting northbound-to-southbound U-turn movements.

A summary of LOS with recommended improvements is presented in **Table 25**. With this recommended improvement, this intersection would operate at LOS D with 54.9 seconds of delay during the a.m. peak hour and LOS C with 29.7 seconds of delay during the p.m. peak hour. LOS C and D are considered acceptable.

ROADWAY SEGMENT LEVELS OF SERVICE

Table 23 presents a summary of LOS on the 13 study roadway segments under Cumulative No Project conditions. All 13 of the roadway segments would operate at acceptable LOS C or better. No improvements are needed on these 13 roadway segments to achieve acceptable LOS.

RAMP JUNCTION LEVELS OF SERVICE

The following is a description of traffic operating conditions on study freeway ramp junctions under Cumulative No Project Conditions.

Table 26 presents a summary of LOS at the eight study freeway ramp junctions under Cumulative No Project Conditions. All eight of the study ramp junctions would operate at acceptable LOS C or better under Cumulative No Project Conditions. No improvements are needed at these ramp junctions to achieve acceptable LOS.

Table 26. Freeway Ramp Merge and Diverge Level of Service - Cumulative No Project Conditions

Ramp Junction	AM Peak Hour		PM Peak Hour	
	Density	Level of Service	Density	Level of Service
I-5 Southbound Diverge to Eight Mile Road Off-Ramp	10.9	B	16.4	B
I-5 Southbound Merge from Eight Mile Road On-Ramp	12.1	B	14.4	B
I-5 Northbound Merge from Eight Mile Road On-Ramp	6.6	A	4.5	A
I-5 Northbound Diverge to Eight Mile Road Off-Ramp	4.6	A	9.7	A
SR 99 Southbound Diverge to Eight Mile Road Off-Ramp	19.4	B	19.9	B
SR 99 Southbound Merge from Eight Mile Road On-Ramp	17.3	B	17.2	B
SR 99 Northbound Merge from Eight Mile Road On-Ramp	20.3	C	24.6	C
SR 99 Northbound Diverge to Eight Mile Road Off-Ramp	19.9	B	27.8	C

Notes: LOS = I-5 = Interstate 5. SR = State Route. Density is expressed in passenger cars per mile per lane.

CUMULATIVE PLUS PROJECT CONDITIONS

The analysis of Cumulative Plus Project conditions describes long-term traffic operations in the year 2040 assuming both background land use development consistent with the City General Plan and the LeBaron Ranch project. Comparing traffic operation under this condition to traffic operations under Cumulative No Project conditions allows an identification of the long-term project-related effects of the proposed Project.

The development of the LeBaron Ranch project would result in vehicle traffic to and from the Project site. Methods used to estimate the amount of additional project-related traffic and the geographic distribution of project-related traffic under Cumulative Plus Project conditions are consistent with the methods previously described in the *Existing Plus Approved Projects Plus LeBaron Ranch Conditions* section of this traffic impact study.

Figure 11 displays the resulting Cumulative Plus Project traffic volumes anticipated for each study intersection in the peak hours.

ROADWAY IMPROVEMENTS

The Cumulative Plus Project conditions assumes roadway improvements assumed for the Cumulative No Project condition. In addition, as noted in the *Project Description* section of this traffic impact study, the LeBaron Ranch Project would include connections to provide access to the Project site.

- Three project site access roads would connect with the Marlette Road extension.
- One project site roadway would connect with West Lane between Eight Mile Road and the Marlette Road extension.

Figure 11 displays the resulting Cumulative Plus Project intersection lane geometrics for each study intersection.

INTERSECTION LEVELS OF SERVICE

Table 27 presents the a.m. peak hour and p.m. peak hour LOS at the 30 study intersections under Cumulative Plus Project conditions. The values shown for the a.m. peak hour represent the one-hour period with the highest traffic volumes within the period from 7:00 a.m. to 9:00 a.m. The values shown for the p.m. peak hour represent the one-hour period with the highest traffic volumes within the period from 4:00 p.m. to 6:00 p.m. The worksheets presenting the calculation of LOS are included in the Technical Appendix.

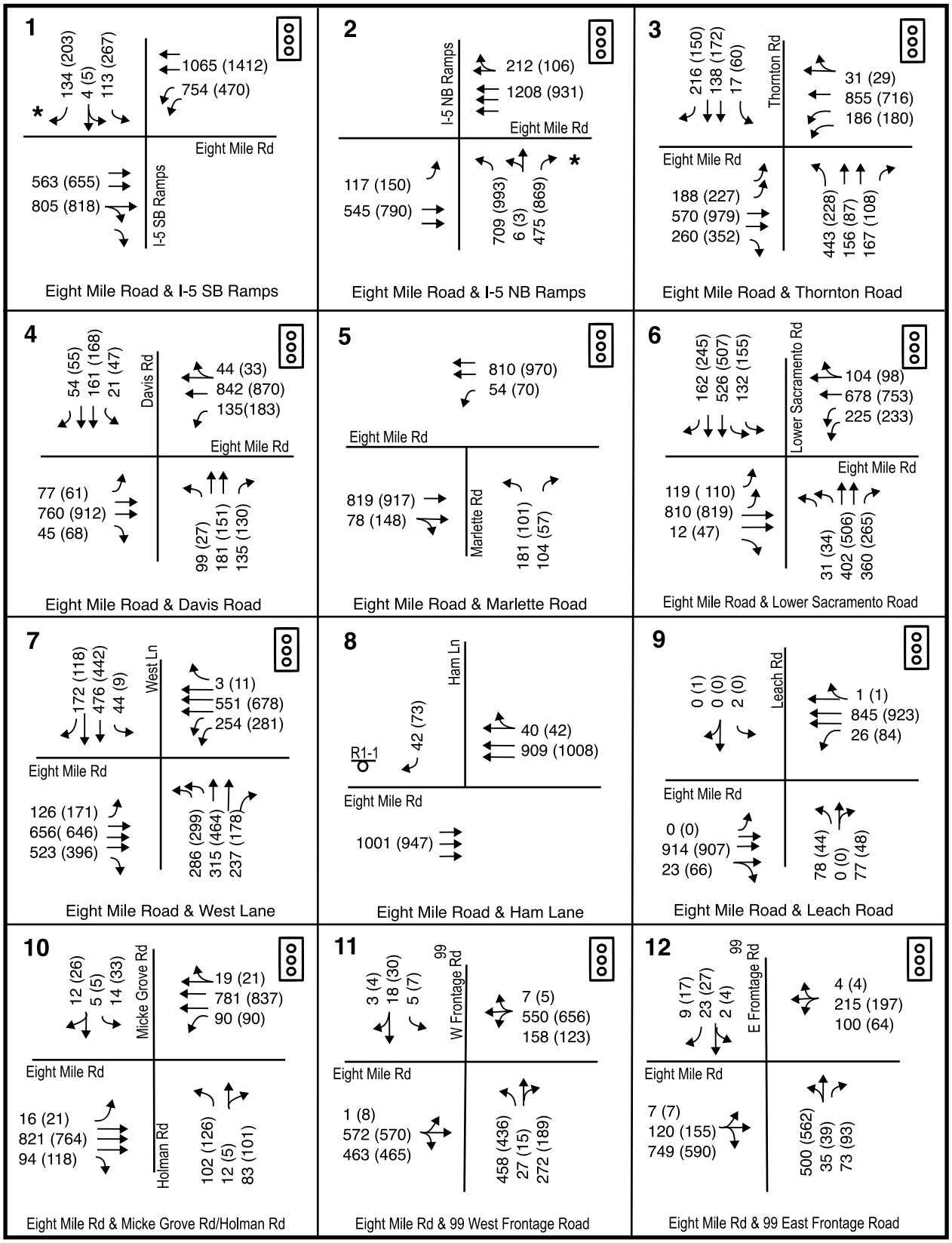


Figure 11 Cumulative Plus Project Traffic Volumes and Lane Configurations

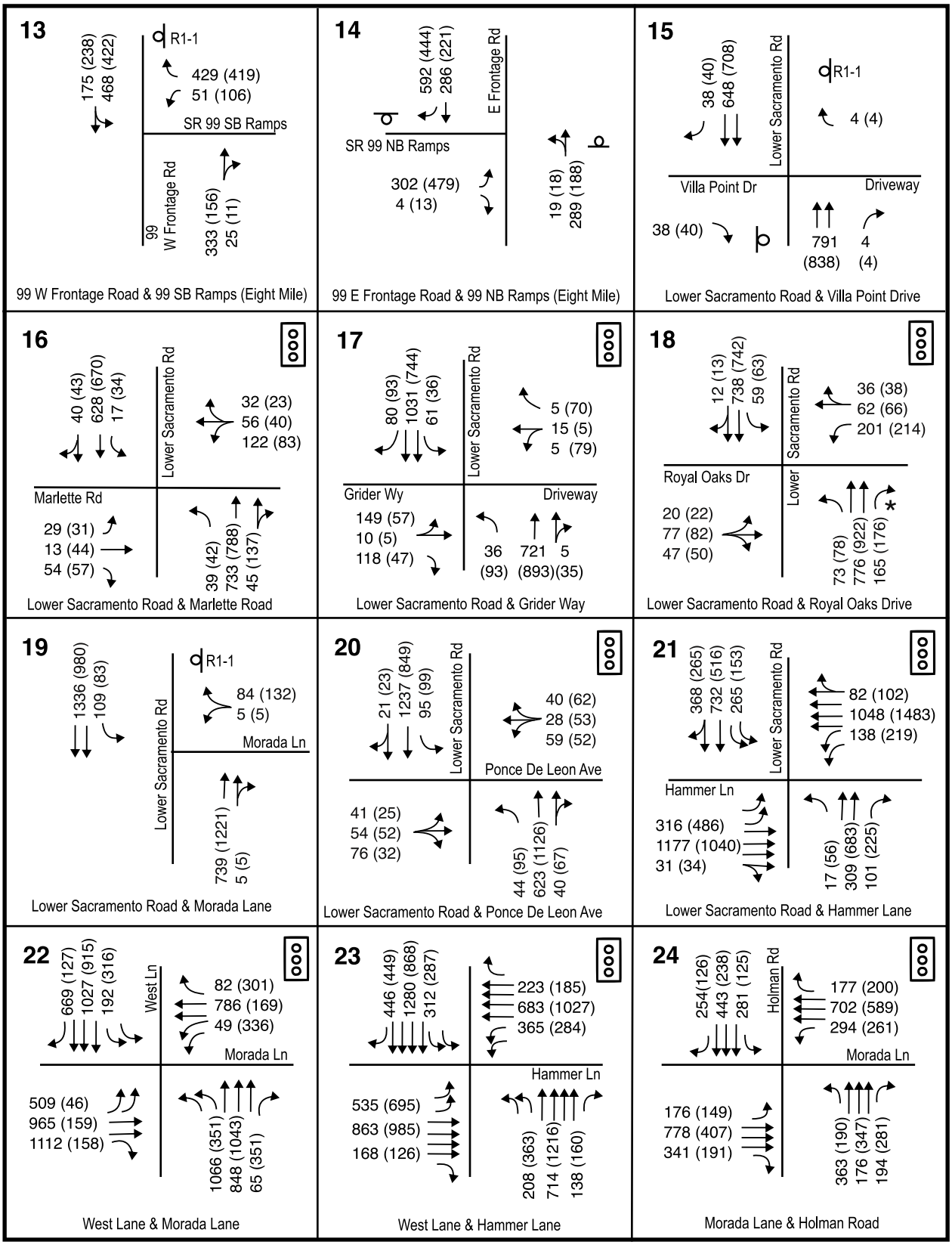
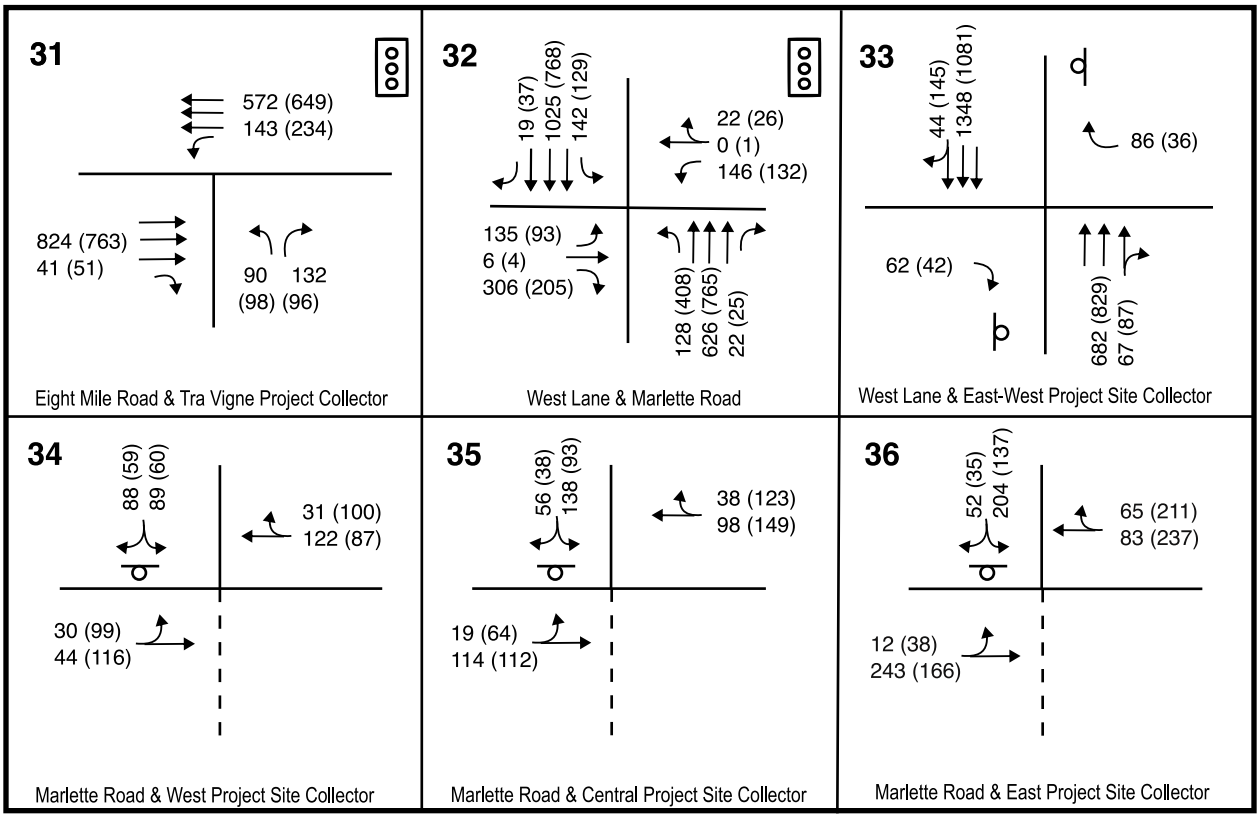


Figure 11 Cumulative Plus Project Traffic Volumes and Lane Configurations



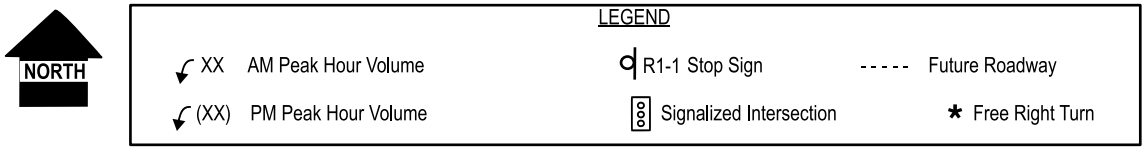


Figure 11 Cumulative Plus Project Traffic Volumes and Lane Configurations

Table 27. Intersection Level of Service - Cumulative Plus Project Conditions

	Study Intersections	Inters. Control	Signal Warrant Met?	AM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay
1	Eight Mile Road & I-5 SB Ramps	Signal		B	17.8	B	15.5
2	Eight Mile Road & I-5 NB Ramps	Signal		C	29.6	C	27.8
3	Eight Mile Road & Thornton Road	Signal		E	61.4	C	31.9
4	Eight Mile Road & Davis Road	Signal		C	21.4	C	23.4
5	Eight Mile Road & Marlette Road	Signal		B	10.5	A	10.0
6	Eight Mile Road & Lower Sacramento Road	Signal		C	31.4	C	28.5
7	Eight Mile Road & West Lane	Signal		D	38.0	C	32.2
8	Eight Mile Road & Ham Lane	Unsig	No	A	0.3	A	0.6
	Worst Approach			B	14.4	C	16.4
9	Eight Mile Road & Leach Road	Signal		B	12.0	B	10.7
10	Eight Mile Road & Micke Grove Rd/Holman Rd	Signal		B	14.6	B	15.1
11	Eight Mile Road & SR 99 West Frontage Road	Signal		F	315.7	F	325.4
12	Eight Mile Road & SR 99 East Frontage Road	Signal		C	34.3	D	42.5
13	99 W. Frontage Rd & 99 SB Ramps (Eight Mile Rd)	Unsig	Yes	C	16.4	C	23.2
	Worst Approach			E	40.4	F	52.7
14	99 E. Frontage Rd & 99 NB Ramps (Eight Mile Rd)	Unsig	Yes	B	11.5	B	10.5
	Worst Approach			B	11.9	B	10.6
15	Lower Sacramento Road & Villa Point Drive	Unsig	No	A	0.3	A	0.3
	Worst Approach			B	11.3	B	11.6
16	Lower Sacramento Road & Marlette Road	Signal		B	12.4	B	11.8

Table 27 (Continued). Intersection Level of Service - Cumulative Plus Project Conditions

Study Intersections	Inters. Control	Signal Warrant Met?	AM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay
17 Lower Sacramento Road & Grider Way	Signal		B	15.9	B	16.1
18 Lower Sacramento Road & Royal Oaks Drive	Signal		C	21.7	C	23.8
19 Lower Sacramento Road & Morada Lane	Unsig	Yes	A	1.1	A	2.0
Worst Approach			C	16.5	D	27.6
20 Lower Sacramento Road & Ponce De Leon Avenue	Signal		B	15.4	B	15.9
21 Lower Sacramento Road & Hammer Lane	Signal		D	38.6	E	56.3
22 West Lane & Morada Lane	Signal		F	237.3	D	41.0
23 West Lane & Hammer Lane	Signal		D	43.3	E	64.5
24 Morada Lane & Holman Road	Signal		E	61.5	C	30.5
31 Eight Mile Road & Tra Vigne Project Collector	Signal		A	9.4	B	14.7
32 West Lane & Marlette Road	Signal		D	37.2	F	123.4
33 West Lane & East-West Project Site Collector	Unsig	No	A	1.1	A	0.5
Worst Approach			C	20.4	C	17.0
34 Marlette Road & West Project Site Collector	Unsig	No	A	5.4	A	4.3
Worst Approach			B	11.0	B	12.1
35 Marlette Road & Central Project Site Collector	Unsig	No	A	5.2	A	3.9
Worst Approach			B	11.8	B	13.5
36 Marlette Road & East Project Site Collector	Unsig	No	A	6.0	A	4.2
Worst Approach			C	15.1	C	18.2

Notes: LOS = Level of Service. "Inters. Control" = Type of intersection control.
"Signal" = Signalized light control. "Unsig" = Unsignalized stop-sign control. "AWSC" = All-way stop control.
"SB" = Southbound. "NB" = Northbound.
Delay is measured in seconds per vehicle. Reported delay of 0.0 indicates a value rounded to less than 0.1.
Per City of Stockton guidelines, intersection average delay is reported for all intersections, including unsignalized intersections.

Under Cumulative Plus Project conditions, LOS at 23 of the 30 study intersections would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No improvements are needed at these 23 intersections to achieve acceptable LOS.

Intersection 3, Eight Mile Road & Thornton Road, would operate at LOS E with 61.4 seconds of delay during the a.m. peak hour. LOS E is considered unacceptable. However, the proposed Project would not result in a.m. peak hour delay at this intersection increasing by more than five seconds. Based on criteria presented in the *City of Stockton Traffic Impact Analysis Guidelines: INTERIM* (City of Stockton 2021) as described earlier in the *General Plan Policy Consistency Criteria* section of this traffic impact study, the proposed Project is not considered to have a substantial inconsistency with General Plan policies.

Intersection 22, West Lane & Morada Lane, would operate at LOS F with 237.3 seconds of delay during the a.m. peak hour. LOS F is considered unacceptable. However, the proposed Project would not result in a.m. peak hour delay at this intersection increasing by more than five seconds. Based on criteria presented in the *City of Stockton Traffic Impact Analysis Guidelines: INTERIM* as described earlier in the *General Plan Policy Consistency Criteria* section of this traffic impact study, the proposed Project is not considered to have a substantial inconsistency with General Plan policies.

Intersection 23, West Lane & Hammer Lane, would operate at LOS D with 43.3 seconds of delay during the a.m. peak hour and LOS E with 64.5 seconds of delay during the p.m. peak hour. As noted earlier in the *General Plan Policy Consistency Criteria* section of this traffic impact study, LOS E at this intersection is considered acceptable. Therefore, no improvements are recommended for this intersection.

Intersection 24, Morada Lane & Holman Road, would operate at LOS E with 61.5 seconds of delay during the a.m. peak hour. LOS E is considered unacceptable. However, the proposed Project would not result in a.m. peak hour delay at this intersection increasing by more than five seconds. Based on criteria presented in the *City of Stockton Traffic Impact Analysis Guidelines: INTERIM* as described earlier in the *General Plan Policy Consistency Criteria* section of this traffic impact study, the proposed Project is not considered to have a substantial inconsistency with General Plan policies.

The following describes the three study intersections that would operate at unacceptable LOS under Cumulative Plus Project conditions.

The worksheets presenting the calculation of LOS for all study intersections are included in the Technical Appendix.

11. Eight Mile Road & SR 99 West Frontage Road

Under Cumulative Plus Project conditions, this intersection would operate at LOS F with 315.7 seconds of delay during the a.m. peak hour, and LOS F with 325.4 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Compared to Cumulative No Project Conditions, the project-related increase in delay would be greater than five seconds during both the a.m. peak hour and p.m. peak hour. Therefore, based on criteria presented in the *General Plan Policy Consistency Criteria* section of this traffic impact study, the project-related inconsistency with General Plan policies is considered substantial.

Achieving acceptable LOS would require additional east-west through lanes on the interchange overcrossing. This would require reconstruction of the interchange. Reconstruction of the interchange is recommended under Cumulative Plus Project conditions. This improvement is also recommended under Cumulative No Project conditions.

Widening of the overcrossing and reconstructing the interchange could result in acceptable traffic operations at the interchange. The overall layout and design details of the reconstructed interchange would need to be developed in consultation with Caltrans, and would determine the LOS and vehicle delay with implementation of the improvements.

21. Lower Sacramento Road & Hammer Lane

Under Cumulative Plus Project conditions, this intersection would operate at LOS D with 38.6 seconds of delay during the a.m. peak hour, and LOS E with 56.3 seconds of delay during the p.m. peak hour. LOS E is considered unacceptable. Compared to Cumulative No Project Conditions, the project-related increase in delay would result in traffic operations degrading from acceptable LOS D to unacceptable LOS E in the p.m. peak hour. Therefore, based on criteria presented in the *General Plan Policy Consistency Criteria* section of this traffic impact study, the project-related inconsistency with General Plan policies is considered substantial.

The following improvement is recommended:

- Modify signal timing during the p.m. peak hour. Signal timing should be optimized for future traffic volumes.

A summary of LOS with recommended improvements is presented in **Table 28**. With this recommended improvement, this intersection would operate at LOS D with 38.6 seconds of delay during the a.m. peak hour and LOS D with 41.1 seconds of delay during the p.m. peak hour. LOS D is considered acceptable.

Table 28. Intersection Level of Service - Cumulative Plus Project Conditions With Recommended Improvements

Study Intersections	Inters. Control	AM Peak LOS	AM Peak Delay	PM Peak LOS	PM Peak Delay
21 Lower Sacramento Road & Hammer Lane	Signal	D	38.6	D	41.1
32 West Lane & Marlette Road	Signal	D	37.2	D	37.0

Notes: LOS = Level of Service. "Inters. Control" = Type of intersection control.
"Signal" = Signalized light control.
Delay is measured in seconds per vehicle.

32. West Lane & Marlette Road

Under Cumulative Plus Project conditions, this intersection would operate at LOS D with 37.2 seconds of delay during the a.m. peak hour, and LOS F with 123.4 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Compared to Cumulative No Project Conditions, the project-related increase in delay would result in traffic operations degrading from acceptable LOS B to unacceptable LOS F in the p.m. peak hour. Therefore, based on criteria presented in the *General Plan Policy Consistency Criteria* section of this traffic impact study, the project-related inconsistency with General Plan policies is considered substantial.

The following improvement is recommended:

- Modify signal timing during the p.m. peak hour. Signal timing should be optimized for future traffic volumes.

A summary of LOS with recommended improvements is presented in **Table 28**. With this recommended improvement, this intersection would operate at LOS D with 37.2 seconds of delay during the a.m. peak hour and LOS D with 37.0 seconds of delay during the p.m. peak hour. LOS D is considered acceptable.

ROADWAY SEGMENT LEVELS OF SERVICE

Table 29 presents a summary of LOS on the 13 study roadway segments under Cumulative Plus Project conditions. All 13 of the roadway segments would operate at acceptable LOS C or better, and the proposed Project is considered to be consistent with General Plan policies on LOS. No improvements are needed on these 13 roadway segments to achieve acceptable LOS.

RAMP JUNCTION LEVELS OF SERVICE

The following is a description of traffic operating conditions on study freeway ramp junctions under Cumulative Plus Project Conditions.

Table 30 presents a summary of LOS at the eight study freeway ramp junctions under Cumulative Plus Project Conditions. All eight of the study ramp junctions would operate at acceptable LOS D or better under Cumulative Plus Project Conditions, and the proposed Project is considered to be consistent with General Plan policies on LOS.

Table 29. Roadway Segment Level of Service - Cumulative Plus Project

Roadway Segment	Number of Lanes	Daily Volume	Level of Service
41 - Interstate 5 Eight Mile Road to SR 12	8	91,172	C
42 - Interstate 5 Eight Mile Road to Hammer Lane	10	87,050	B
43 - Eight Mile Road Marlette Road to Lower Sacramento Road	4	24,068	B
44 - Lower Sacramento Road Eight Mile Road to Marlette Road	4	18,878	B
45 - Lower Sacramento Road Marlette Road to Grider Way	4	23,291	C
46 - Eight Mile Road Lower Sacramento Road to West Lane	4	30,061	C
47 - Eight Mile Road West Lane to Leach Road	6	22,053	A
48 - West Lane Eight Mile Road to Marlette Road	6	23,020	A
49 - West Lane Marlette Road to Morada Lane	6	29,330	B
50 - Morada Lane West Lane to McNair Lane	4	19,677	B
51 - Morada Lane West Lane to Caywood Drive	4	20,005	B
52 - State Route 99 Eight Mile Road to Armstrong Road	8	97,069	C
53 - State Route 99 Eight Mile Road to Morada Lane	8	104,967	C

Table 30. Freeway Ramp Merge and Diverge Level of Service - Cumulative Plus Project Conditions

Ramp Junction	AM Peak Hour		PM Peak Hour	
	Density	Level of Service	Density	Level of Service
I-5 Southbound Diverge to Eight Mile Road Off-Ramp	10.9	B	16.5	B
I-5 Southbound Merge from Eight Mile Road On-Ramp	12.3	B	14.6	B
I-5 Northbound Merge from Eight Mile Road On-Ramp	6.7	A	4.5	A
I-5 Northbound Diverge to Eight Mile Road Off-Ramp	4.7	A	10.3	B
SR 99 Southbound Diverge to Eight Mile Road Off-Ramp	19.1	B	19.7	B
SR 99 Southbound Merge from Eight Mile Road On-Ramp	17.9	B	17.4	B
SR 99 Northbound Merge from Eight Mile Road On-Ramp	20.1	C	24.4	C
SR 99 Northbound Diverge to Eight Mile Road Off-Ramp	20.0	B	28.4	D

Notes: LOS = I-5 = Interstate 5. SR = State Route. Density is expressed in passenger cars per mile per lane.

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TECHNICAL APPENDICES

IN ELECTRONIC FILES

APPENDIX G

Water Supply Assessment

FINAL REPORT | DECEMBER 2023

LeBaron Ranch Project
Water Supply Assessment

PREPARED FOR

City of Stockton

CITY OF STOCKTON

PREPARED BY

WEST YOST
Water. Engineered.

LeBaron Ranch Project
Water Supply Assessment

Prepared for

City of Stockton

Project No. 129-60-23-56



Prepared by: Whitney Jones, PE — December 1, 2023 (Date)

QA/QC Review: Elizabeth T. Drayer, PE — December 1, 2023 (Date)

WEST YOST
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FINAL REPORT | DECEMBER 2023

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LIST OF ACRONYMS AND ABBREVIATIONS

AF	Acre-Feet
AFY	Acre-Feet Per Year
Cal Water	California Water Service
City	City of Stockton
COSMUD	City of Stockton Municipal Utilities Department
County	San Joaquin County
Delta	Sacramento-San Joaquin Delta
DJWWTP	Dr. Joe Waidhofer Water Treatment Plant
DU	Dwelling Unit
DWR	California Department of Water Resources
DWTP	Delta Water Treatment Plant
EIR	Environmental Impact Report
ETo	Evapotranspiration
°F	Fahrenheit
Gpd	Gallons Per Day
GPU	General Plan Update
GSP	Groundwater Sustainability Plan
GWA	Eastern San Joaquin Groundwater Authority
LUSD	Lodi Unified School District
MGD	Million Gallons Per Day
Proposed Project	Proposed LeBaron Ranch Project
SB	Senate Bill
SEWD	Stockton East Water District
Sf	Square Feet
SGMA	Sustainable Groundwater Management Act
SOI	Sphere of Influence
SOI/MSR	City of Stockton Sphere of Influence Plan/Municipal Service Review
State Water Board	State Water Resources Control Board
USBR	United States Bureau of Reclamation
UWMP	Urban Water Management Plan
Water Code	California Water Code
WID	Woodbridge Irrigation District
WSA	Water Supply Assessment
WSCP	Water Shortage Contingency Plan

EXECUTIVE SUMMARY

Purpose of Water Supply Assessment

The purpose of this Water Supply Assessment (WSA) is to perform the evaluation required by California Water Code Sections 10910 through 10915, as established by Senate Bill (SB) 610, and verification of sufficient water supply, as established by SB 221, in connection with the proposed LeBaron Ranch Project (Proposed Project). The Proposed Project consists of 306.03 acres located just north of the City of Stockton's (City) northern city limits, within an unincorporated area of San Joaquin County that falls within the City's Sphere of Influence (Project Site). The Proposed Project would be annexed into the City and receive potable water supply from the City of Stockton Municipal Utilities Department (COSMUD).

This WSA evaluates the adequacy and sufficiency of the COSMUD total projected water supplies, including existing water supplies and future planned water supplies, to meet the existing and projected future water demands, including those future water demands associated with the Proposed Project, under all hydrologic conditions (Normal Years, Single Dry Years, and Multiple Dry Years).

Proposed Project Overview

The Project Site is bounded by Eight Mile Road to the north, West Lane to the east, and Lower Sacramento Road to the west. The future Marlette Road, between Lower Sacramento Road and West Lane, will form the property's southern boundary. The Project Site can be divided into three distinct planning areas: (1) the Development Area, (2) the Non-Development Area, and (3) the Right-of-Way Annexation Area. All three planning areas will be annexed into the City as part of the Proposed Project. However, only the Development Area will be subsequently developed and so it is the focus of this WSA.

The Development Area of the Proposed Project will include 421 low density residential dwelling units, 796 medium density residential dwelling units, and 194 high density residential dwelling units, for a total of 1,411 residential dwelling units. Approximately 12.2 acres of parks will also be included. There is a second Proposed Project scenario where 79 of the proposed medium density residential dwelling units would instead be used for a new K-8 school. This scenario is dependent on whether the local school district decides they would like to build a school in that area. Therefore, for the purposes of this WSA, the 79 medium density residential units are assumed to be built instead of the school, since that results in the greatest water demand, thus representing the worst-case scenario. This is also consistent with what was assumed in the Environmental Impact Report (EIR) for the Proposed Project.

With its 1,411 dwelling units, the Proposed Project meets the definition of a "Project" per California Water Code Sections 10910 through 10915, as established by SB 610 in 2001, thus requiring the preparation of this WSA.

Potable and Recycled Water Demands and Supply Availability

Projected potable demands for buildout of the Proposed Project total approximately 424 acre-feet per year (AFY). No recycled water demand is expected for the Proposed Project.

It is anticipated that potable water demands for the Proposed Project, if approved by the City, would be served by the COSMUD existing and future water supplies. The inclusion of existing and planned future water supplies is specifically allowed by the California Water Code:

> *California Water Code Section 10631(b): Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).*

Pursuant to California Water Code Section 10910(4) and based on the technical analyses described in this WSA, this WSA demonstrates that the COSMUD existing and additional planned future water supplies are sufficient to meet the COSMUD existing water demands, including those future water demands associated with the Proposed Project.

Determination of Water Supply Sufficiency

As described in Section 7, this WSA demonstrates water supply sufficiency per the requirements of SB 610. Water demand within the COSMUD water service area is not expected to exceed the COSMUD water supplies at buildout under any hydrologic condition through 2045. To remain conservative in planning, the City's 2020 Urban Water Management Plan (UWMP) assumes no reduction in water demand during dry years. However, water conservation and demand reduction methods detailed in the adopted Water Shortage Contingency Plan, included in Appendix I of the City's 2020 UWMP, can reduce demands by up to and greater than 50 percent under water supply shortage conditions and other emergencies.

Section 8 of this WSA also provides written verification of supply sufficiency per the requirements of SB 221 by demonstrating that water supplies available during Normal, Single Dry and Multiple Dry years within a 20-year projection will meet the projected demand associated with the Proposed Project, in addition to existing and planned future uses, including, but not limited to, agriculture and industrial uses.

1.0 INTRODUCTION

1.1 Legal Requirement for Water Supply Assessment

California Senate Bill (SB) 610 amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 sought to promote more collaborative planning between local water suppliers and cities and counties. It requires detailed information regarding water supply availability to be provided to the city and county decision-makers prior to approval of specified large development projects. The purpose of this coordination is to ensure that prudent water supply planning has been conducted, and that planned water supplies are adequate to meet existing demands, anticipated demands from approved projects and tentative maps, and the demands of proposed projects.

SB 610 amended California Water Code (Water Code) Sections 10910 through 10915 (inclusive) to require land use lead agencies to:

- Identify any public water purveyor that may supply water for a proposed development project
- Request a Water Supply Assessment (WSA) from the identified water purveyor

The purpose of the WSA is to demonstrate the sufficiency of the purveyor's water supplies to satisfy the water demands of the proposed project, while still meeting the water purveyor's existing and planned future uses. Water Code Sections 10910 through 10915 delineate the specific information that must be included in the WSA.

1.2 Need for and Purpose of Water Supply Assessment

The purpose of this WSA is to perform the evaluation required by Water Code Sections 10910 through 10915 in connection with the LeBaron Ranch Project (Proposed Project). It is not to reserve water, or to function as a "will serve" letter or any other form of commitment to supply water (see Water Code Section 10914). The provision of water service will continue to be undertaken in a manner consistent with applicable policies and procedures, consistent with existing law.

1.3 Water Supply Assessment Preparation, Format and Organization

The format of this WSA is intended to follow Water Code Sections 10910 through 10915 to clearly delineate compliance with the specific requirements for a WSA. The WSA includes the following sections:

- Section 1: Introduction
- Section 2: Description of Proposed Project
- Section 3: Required Determinations
- Section 4: City of Stockton Municipal Utilities Department Water Service Area
- Section 5: City of Stockton Municipal Utilities Department Water Demands
- Section 6: City of Stockton Municipal Utilities Department Water Supplies
- Section 7: Determination of Water Supply Sufficiency Based on the Requirements of SB 610
- Section 8: Verification of Sufficient Water Supply Based on the Requirements of SB 221
- Section 9: Water Supply Assessment Approval Process
- Section 10: References

Relevant citations of Water Code Sections 10910 through 10915 are included throughout this WSA in *italics* to demonstrate compliance with the specific requirements of SB 610.

2.0 DESCRIPTION OF PROPOSED PROJECT

The Proposed Project location, description, and projected water demands are discussed below. This information is based on the Notice of Preparation for the Proposed Project.[1]

2.1 Proposed Project Location and Existing Use

The Proposed Project consists of 306.03 acres located just north of the City of Stockton's (City) northern city limits, within an unincorporated area of San Joaquin County that falls within the City's Sphere of Influence (Project Site). The Project Site is bounded by Eight Mile Road to the north, West Lane to the east, and Lower Sacramento Road to the west. The future Marlette Road, between Lower Sacramento Road and West Lane, will form the property's southern boundary. The Project Site is currently surrounded by agricultural land use to the north, south, and east, and residential land use to the west. Bear Creek and McNair High School are also located to the south of the Project Site. The location of the Proposed Project is shown on Figure 2-1.

The Project Site can be subdivided into three distinct planning areas:

1. **Development Area** – Currently consists of 236.30 acres of agricultural land use, which will be developed into residential and other land uses, as explained below.
2. **Non-Development Area** – Currently consists of 56.03 acres of agricultural land use, one building of commercial use, and a church. This area is situated in the northwest portion of the Project Site and will not be redeveloped.
3. **Right-of-Way Annexation Area** – Includes 13.7 acres of remaining right-of-way intended to be annexed into the City. This includes Eight Mile Road forming the northern border of the Project Site.

All three planning areas will be annexed into the City as part of the Proposed Project. However, only the Development Area will be subsequently developed, as further described in Section 2.2 below. A vicinity map for the Proposed Project is presented on Figure 2-2. It shows the locations of the Development Area and the Non-Development Area of the Proposed Project.

2.2 Proposed Land Uses and Projected Water Demand

Since the Development Area is the only portion of the Proposed Project that will undergo future development, it is the focus of this WSA. The Development Area of the Proposed Project will include 421 low density residential dwelling units, 796 medium density residential dwelling units, and 194 high density residential dwelling units, for a total of 1,411 residential dwelling units. Approximately 12.2 acres of parks will also be included. A map of the Proposed Project is presented on Figure 2-3.

There is a second Proposed Project scenario where a portion of the Development Area that is scoped for 79 of the proposed medium density residential dwelling units would instead be used for a new K-8 school to be developed by Lodi Unified School District (LUSD). This would result in 717 medium density residential dwelling units, for a total of 1,332 residential dwelling units. This scenario is dependent on whether LUSD decides they would like to build a school in that area. However, for the purposes of this WSA, the

[1] City of Stockton, 2023. Notice of Preparation – LeBaron Project. July 31, 2023. Environmental/Other Projects - City of Stockton, CA (stocktonca.gov)

79 medium density residential units are assumed to be built instead of the school, since that results in the greatest water demand for the Proposed Project, thus representing the worst-case scenario.[2] This is also consistent with what will be assumed in the Environmental Impact Report (EIR) for the Proposed Project.

To determine the projected water demand for the Proposed Project, the updated water use factors from the City's 2021 Water Master Plan Update were used. These water use factors are based on recent water consumption trends within the COSMUD service area. The total projected water demand for the Proposed Project is 424 acre-feet/year (AFY) as shown in Table 2-1. All the water demands from the Proposed Project are anticipated to be served by the COSMUD North Stockton water system.

Table 2-1. Total Projected Water Demand

Land Use Type	Dwelling Units, DU	Gross Area, acres	Water Use Factor[(a)]	Non-Revenue Water[(b)]	Projected Water Demand[(c)], AFY
Low Density Residential (LDR)	421	-	242 gpd/DU 0.27 AFY/DU	8%	124
Medium Density Residential (MDR)	796	-	242 gpd/DU 0.27 AFY/DU	8%	235
High Density Residential (HDR)	194	-	175 gpd/DU 0.20 AFY/DU	8%	41
Parks	-	12.2	1.85 AFY/acre	8%	25
Totals	**1,411**	**-**	**-**	**-**	**424**

(a) Water use factors are from the City of Stockton 2021 Water Master Plan Update.

(b) Non-revenue water is 8 percent of the total water demand, with the total water demand including the non-revenue water itself. This assumption is based on the City of Stockton 2021 Water Master Plan Update.

(c) The projected water demand was determined by multiplying the dwelling units or gross acres by the water use factor for each land use type and then adding 8 percent non-revenue water.

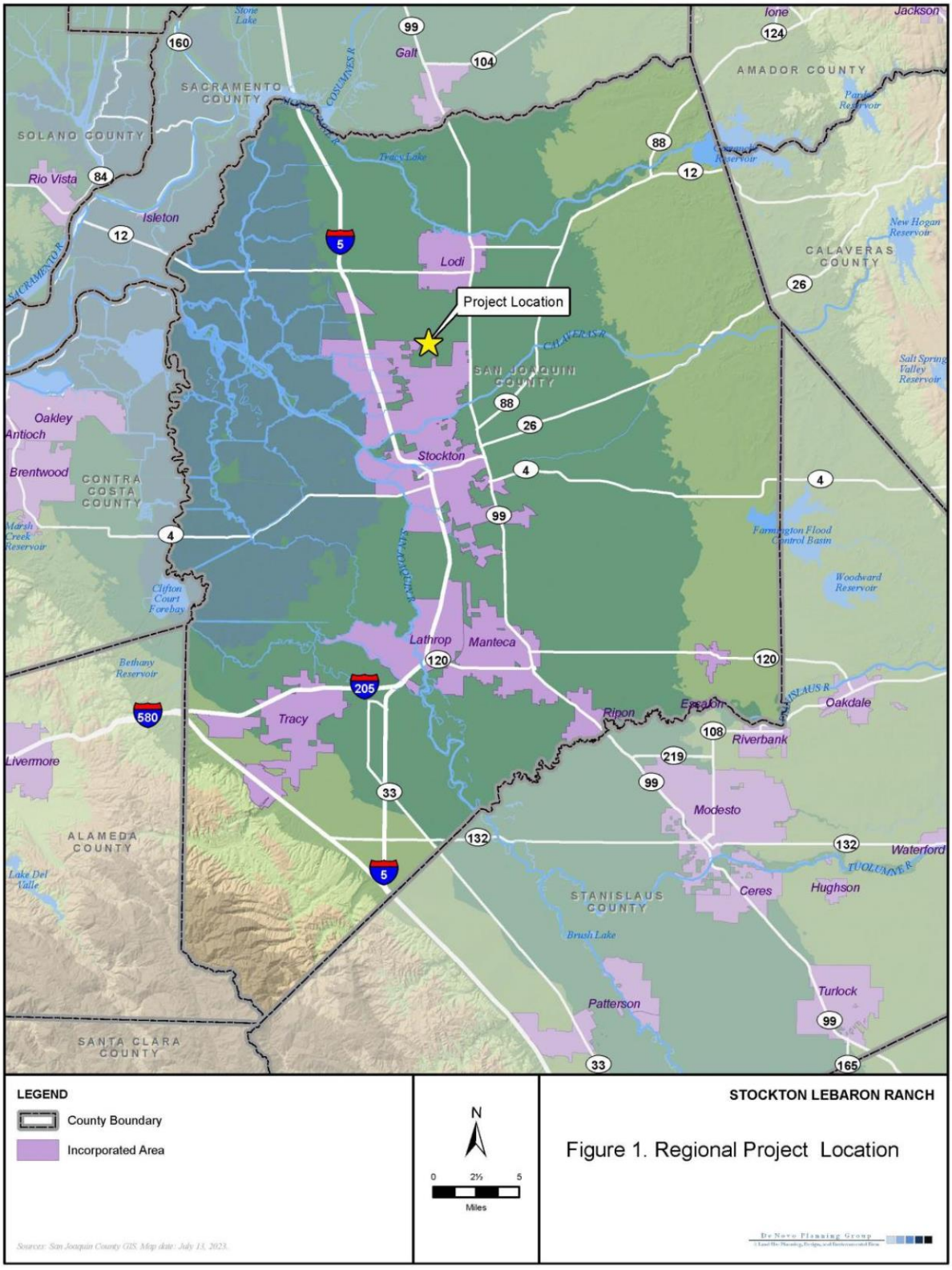
gpd/DU = gallons per day per dwelling unit; AFY/DU = acre-feet per year per dwelling unit

2.3 Projected Water Supply

Water demands for the Proposed Project will be served using the COSMUD existing and future portfolio of water supplies discussed in Section 6. The inclusion of existing and planned future water supplies is specifically allowed by the Water Code:

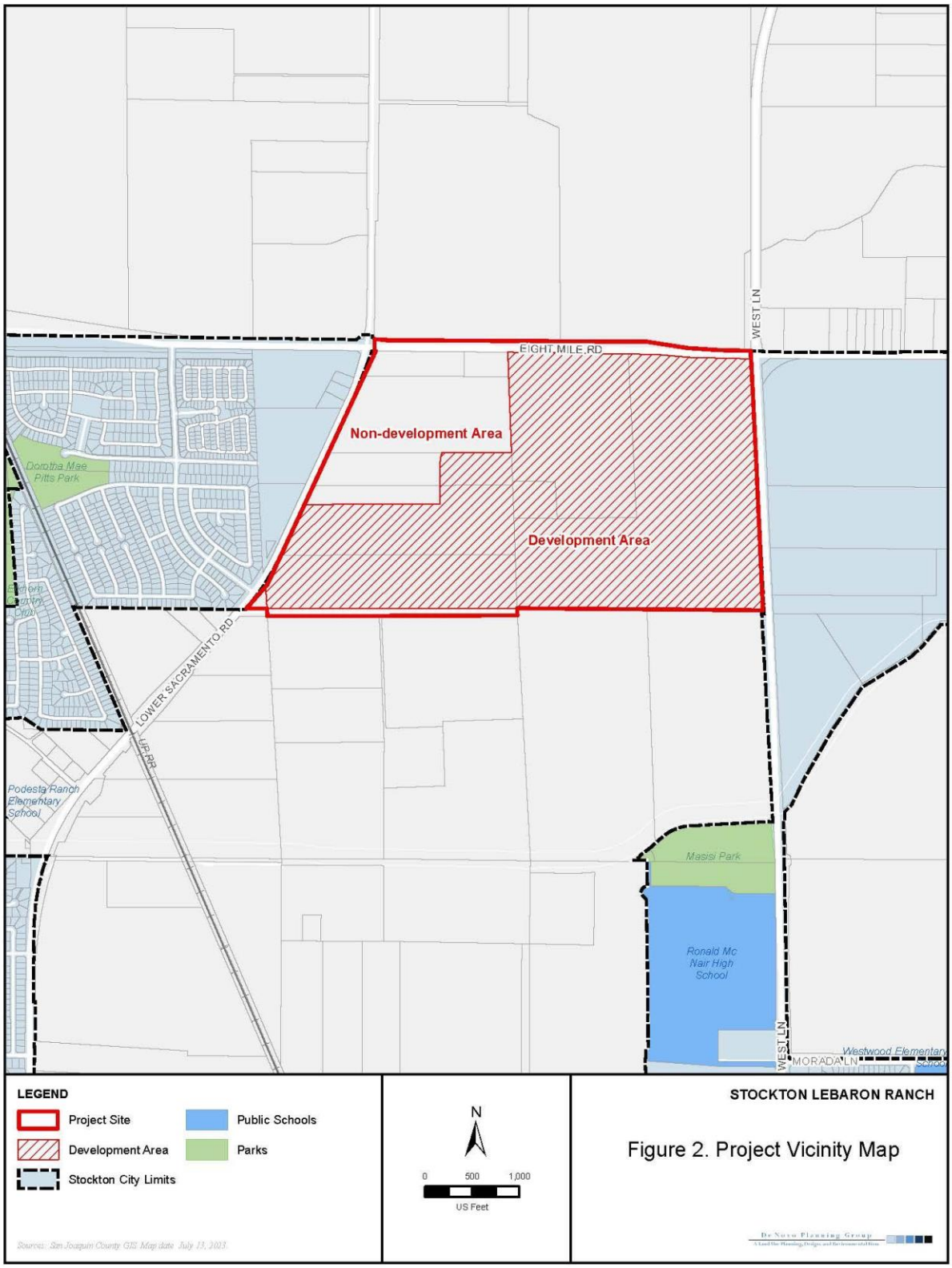
> *Water Code Section 10631(b): Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).*

[2] According to the Notice of Preparation for the Proposed Project, the K-8 school would be built on a 12-acre parcel. Applying the commercial water use factor (1.62 AFY/acre) and 8 percent non-revenue water (NRW) to that parcel results in a projected water demand of approximately 21.1 AFY. This is less than the demand that results from 79 medium density residential units (water use factor of 0.27 AFY/DU), and 8 percent NRW, which is approximately 23.2 AFY.



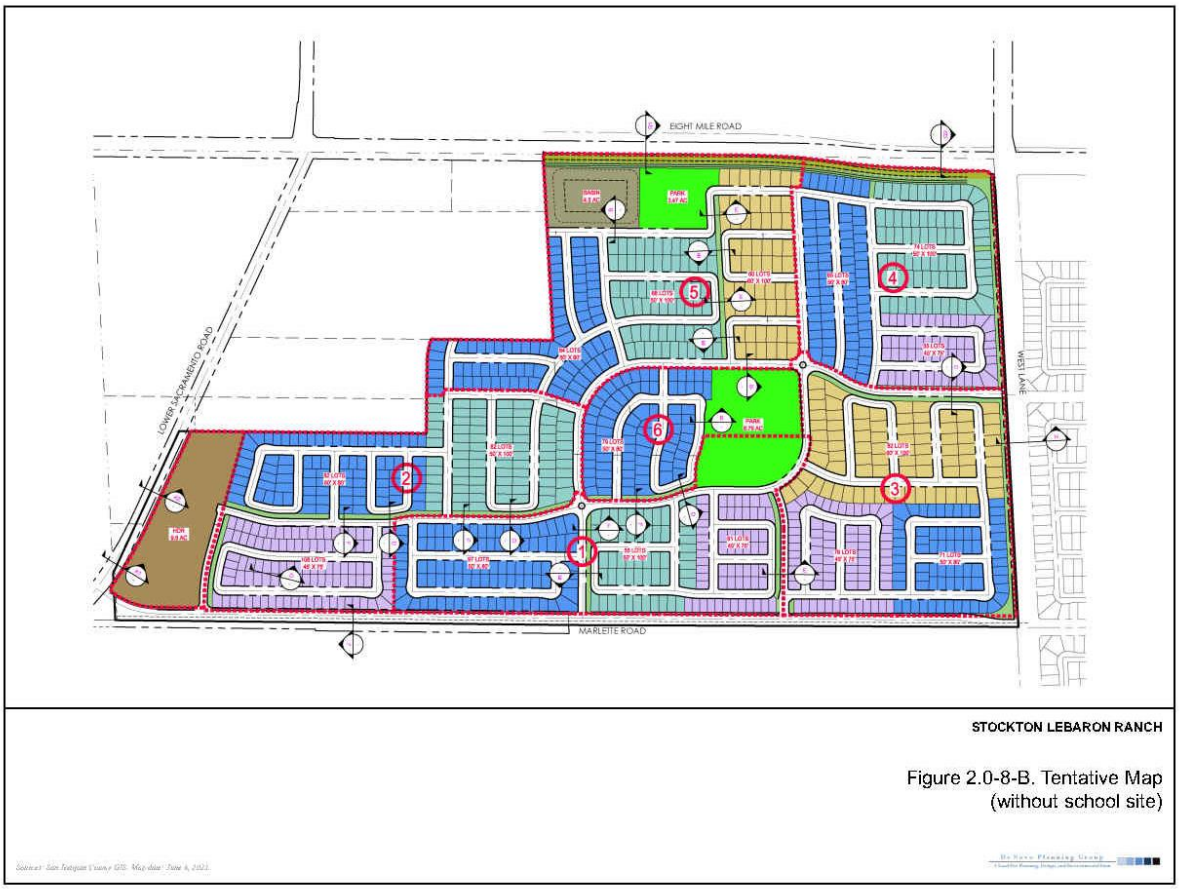
Source: City of Stockton, 2023. Notice of Preparation for LeBaron Project.

Figure 2-1. Proposed Project Location



Source: City of Stockton, 2023. Notice of Preparation for LeBaron Project.

Figure 2-2. Proposed Project Vicinity Map



Source: City of Stockton, 2023. Notice of Preparation for LeBaron Project.

Figure 2-3. Proposed Project

3.0 REQUIRED DETERMINATIONS

3.1 Does SB 610 apply to the Proposed Project?

Water Code Section 10910 (a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

Water Code Section 10912 (a) "Project" means any of the following:

(1) A proposed residential development of more than 500 dwelling units.

(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project.

Based on the following facts, SB 610 does apply to the Proposed Project.

- The City has determined that the Proposed Project is subject to the California Environmental Quality Act and that an EIR is required.
- The Proposed Project, with 1,411 dwelling units, meets the definition of a "project" as specified in Water Code Section 10912(a) paragraph (1) as defined for a residential development.

The Proposed Project has not been the subject of a previously adopted WSA and has not been included in an adopted WSA for a larger project. Therefore, according to Water Code Section 10910(a), a WSA is required for the Proposed Project.

3.2 Does SB 221 apply to the Proposed Project?

In 2001, SB 221 amended State law to require that approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply. Per California Government Code Section 66473.7(a)(1), a subdivision means a proposed residential development of more than 500 dwelling units. The Proposed Project, with its proposed 1,411 residential DUs, is therefore subject to the requirements of SB 221. Section 8 of this WSA provides the required written verification of sufficient water supply.

3.3 Who is the Identified Public Water System?

> *Water Code Section 10910(b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined by Section 10912, that may supply water for the project.*
>
> *Water Code Section 10912 (c) "Public water system" means a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections…*

The Proposed Project is located within the City's Sphere of Influence and would be annexed into the City of Stockton and served by the COSMUD. Therefore, the COSMUD is the identified public water system for the Proposed Project.

3.4 Does the City have an adopted Urban Water Management Plan (UWMP) and does the UWMP include the projected water demand for the Proposed Project?

> *Water Code Section 10910(c)(1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).*

The most recent COSMUD UWMP (2020 UWMP) was adopted by City Council in June 2021 and is incorporated by reference into this WSA.[3] The 2020 UWMP included water demand projections for current water demands within the COSMUD water service area (baseline demand) and anticipated water demands associated with future development projects and planning areas within the COSMUD water service area through 2045, including projected water demand for the Proposed Project.

The ability of the COSMUD to meet the projected water demands for the Proposed Project is described in Section 7 of this WSA.

[3] West Yost. June 2021. City of Stockton 2020 Urban Water Management Plan.

4.0 CITY OF STOCKTON MUNICIPAL UTILITIES DEPARTMENT WATER SERVICE AREA

4.1 Water Service Area

The City is located in north-central California, approximately 70 miles east of the San Francisco Bay Area and 50 miles south of Sacramento. California State Highway 99 and Interstate 5 run north and south through the City on the east and west boundaries, respectively, and California State Highway 4 (the Crosstown Freeway) connects the two. The San Joaquin River flows from the south and terminates at the Delta area of Central Stockton.

The COSMUD provides water service to North and South Stockton while the central portion of the City is served by California Water Service (Cal Water). North Stockton is primarily residential, and South Stockton is largely comprised of residential (on the west side), industrial and agricultural land uses. The COSMUD water service area extends beyond the City Limits into unincorporated San Joaquin County, in conjunction with the City's General Plan. The COSMUD provides water service as new developments are approved within its water service area and/or annexed into the City.

4.2 Population

The existing (2020) population for the COSMUD water service area was estimated in the 2020 UWMP to be 184,402 people. Population projections for 2025 through 2040 presented in the 2020 UWMP were estimated in the City's 2021 Water Master Plan Update[4]. These projections through 2040 were based on future land uses as defined in the City's 2040 General Plan Update (GPU) and the April 2020 *City of Stockton Sphere of Influence Plan/Municipal Service Review* (SOI/MSR). Finally, as 2045 is outside of the SOI/MSR Report and 2021 Water Master Plan Update planning horizon, an annualized growth rate of 1.44 percent was used to estimate the 2045 projected population for the 2020 UWMP.

Table 4-1 shows the COSMUD historical and projected population in five-year increments from 1995 to 2045.

Table 4-1. Historical and Projected Population for the COSMUD Water Service Area

Time Frame	Year	Population
Historical[(a)]	1995	117,303
	2000	135,716
	2005	177,127
	2010	178,387
	2015	170,417
Projected[(b)]	2020	184,402
	2025	188,601
	2030	192,800
	2035	239,380
	2040	285,960
	2045	307,150

(a) City of Stockton 2015 UWMP, Table 2-2, July 2016.
(b) City of Stockton 2020 UWMP, Table 3-2, June 2021.

[4] West Yost. January 2021. City of Stockton 2021 Water Master Plan Update Chapter 3.

4.3 Climate

The COSMUD water service area is located in the Central Valley of California and generally experiences hot, dry summers with daytime temperatures well over 100 degrees Fahrenheit (°F). Winter temperatures can drop to 30°F but are generally mild. A majority of the annual average 10.4 inches of rainfall generally falls from November through March. The average reference evapotranspiration (ETo) is 52.6 inches.

Table 4-2 summarizes the average temperature and rainfall data for the COSMUD water service area.

Table 4-2. Monthly Average Climate Data Summary

Month[a]	Standard Monthly Average ET, inches	Average Total Rainfall, inches	Average Temperature, degrees Fahrenheit	
			Maximum	Minimum
Manteca (CIMIS Station No. 70, WRCC Station No. 045303)[a]				
January	1.11	1.65	53.7	36.3
February	1.96	1.35	61.1	39.3
March	3.54	1.52	66.3	42.1
April	5.09	0.95	72.4	45.2
May	6.77	0.21	80.9	50.5
June	7.73	0.09	88.6	55.9
July	8.01	0.12	93.2	59.2
August	7.04	0.23	91.5	58.5
September	5.16	0.24	87.7	55.9
October	3.41	0.97	77.7	49.2
November	1.70	1.58	61.1	40.4
December	1.05	1.51	53.8	35.4
Totals	52.57	10.41	-	-

Source: City of Stockton 2020 UWMP, Table 3-1, June 2021.

(a) Period of record is 1971 to 2000.

5.0 CITY OF STOCKTON MUNICIPAL UTILITIES DEPARTMENT WATER DEMANDS

Water Code Section 10910(c)(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

The descriptions provided below for the COSMUD water demands have been taken, for the most part, from the 2020 UWMP, which was adopted in June 2021.

5.1 Historical and Existing Water Demand

The COSMUD water demand decreased significantly from 2012 to 2015 due to drought conditions and associated conservation measures. However, water demands have rebounded somewhat in recent years with the end of drought conditions.

Table 5-1 shows the COSMUD historical water demand from 2012 to 2020.

Table 5-1. Historical Potable Water Demand (includes Non-Revenue Water), AFY

Condition	2012	2013	2014	2015	2016	2017	2018	2019	2020[b]
Total Water Demand	37,100	36,692	31,603	26,312	27,845	29,241	30,103	30,684	34,404

(a) 2012 through 2019 source: City of Stockton 2021 Water Master Plan Update, Table 3-1, January 2021.
(b) 2020 source: City of Stockton 2020 UWMP, Table 4-2, June 2021.

5.2 Future Water Demand

Projected future water demands presented in the City's 2020 UWMP used land-use based water demand projections developed for the City's 2021 Water Master Plan Update. Water demand projections were based on the anticipated growth within the COSMUD water service area as defined by City's 2040 GPU and confirmed with the City's Community Development Department; the Proposed Project is included in these projections. Projected water demands for 2045 are assumed to be the same as projected water demands in 2040 since the development of future planned developments beyond 2040 is not defined in the City's 2040 GPU.

Projected water demands for the COSMUD water service area are summarized in Table 5-2 and indicate a 39 percent increase in water demand from 2020 to 2045.

Table 5-2. Summary of Future Water Demand (includes Non-Revenue Water), AFY

Demand Projection Source	2025	2030	2035	2040	2045
2020 UWMP	34,789	37,878	43,161	48,444	48,444

Source: City of Stockton 2020 UWMP, Table 4-3, June 2021.

5.3 Dry Year Water Demand

For planning purposes and to be conservative, the COSMUD assumes no reduction in water demand during dry years. The adopted Water Shortage Contingency Plan, outlined in Appendix I of the 2020 UWMP, includes a six-stage plan describing specific actions to reduce water demand by up to and greater than 50 percent in the event of a water supply shortage or other emergency.

6.0 CITY OF STOCKTON MUNICIPAL UTILITIES DEPARTMENT WATER SUPPLIES

Water Code Section 10910(c)(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f) and (g).

Water Code Section 10910(d)(1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.

Water Code Section 10910(d)(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:

(A) Written contracts or other proof of entitlement to an identified water supply.

(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.

(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.

(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

Water Code Section 10910(e) If no water has been received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts, the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall also include in its water supply assessment pursuant to subdivision (c), an identification of the other public water systems or water service contract-holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has identified as a source of water supply within its water supply assessments.

The Proposed Project, if approved by the City, is anticipated to be served from the COSMUD's existing and future portfolio of water supplies. The inclusion of existing and planned future water supplies is specifically allowed by the Water Code:

Water Code Section 10631(b): Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).

The water supply for the Proposed Project will have the same water supply reliability and water quality as the water supply available to the other COSMUD existing and future water customers. Proponents of the Proposed Project will provide their proportionate share of required funding to the COSMUD for the acquisition and delivery of treated potable water supplies to the Proposed Project area.

The water supplies needed to serve the Proposed Project (together with existing water demands and planned future uses) are predominantly described in the City's 2020 UWMP. When relevant, the descriptions provided below have been updated with information provided by COSMUD staff.

6.1 Existing Potable Water Supplies

The COSMUD currently receives water supply from the following sources:

- Surface water from the San Joaquin River that is diverted at the Intake Pump Station on Empire Tract located in the Sacramento-San Joaquin Delta (Delta) and treated at the City's Delta Water Treatment Plant (DWTP), supplemented by surface water from the Mokelumne River diverted and conveyed by Woodbridge Irrigation District (WID), and treated at the City's DWTP, when the City's San Joaquin River supplies are curtailed;
- Surface water from the Mokelumne River diverted and conveyed by WID, and treated at the City's DWTP;
- Potable water purchased from Stockton East Water District (SEWD); and
- Groundwater pumped from City owned and operated wells from the underlying Eastern San Joaquin Groundwater Subbasin.

Water from SEWD can be conveyed to both the North and South Stockton distribution systems. SEWD also supplies the COSMUD Walnut Plant service area that is surrounded by the Cal Water system through two interconnects. Cal Water conveys SEWD supply to the Walnut Plant service area via a wheeling agreement with COSMUD. Water supplies from local groundwater wells are used to supply both the COSMUD North and South Stockton water service areas. The Proposed Project will be served by the North Stockton water system.

To improve water supply resiliency and enhance water supply availability, the City plans to explore the potential of surface water/stormwater capture for the Groundwater Recharge Improvement Project. The COSMUD may pursue additional water resource exchanges or transfers. The COSMUD has no sources of ocean water, brackish water, or groundwater that provide a viable opportunity for development of desalinated water as a long-term supply.

Each of the COSMUD existing water supplies is described in more detail below. Table 6-1 shows the COSMUD source of its existing water supplies and actual volume used in 2020.

Table 6-1. Existing (2020) Water Supplies

Supply Source	Additional Detail on Water Supply	Actual Volume, AFY
Purchased Water (treated surface water)	SEWD	6,939
Purchased Water (untreated surface water)	WID	8,657
Surface Water (untreated)	San Joaquin River	9,970
Groundwater	Eastern San Joaquin Subbasin	8,662
	Total	**34,228**

Source: City of Stockton 2020 UWMP, Table 6-13, June 2021.

6.1.1 Purchased Water

The City purchases treated potable water from SEWD and untreated surface water from WID as described below.

6.1.1.1 Stockton East Water District

SEWD is a wholesale water supplier that provides treated potable water to the urban water retailers within the Stockton Metropolitan Area, including COSMUD, Cal Water, and two small maintenance districts in the County (Urban Contractors). SEWD receives and treats surface water from New Melones Reservoir and New Hogan Reservoir through agreements with the United States Bureau of Reclamation (USBR). SEWD has filed several water right applications to divert excess wet weather flow from Calaveras River, Littlejohns Creek, and other tributaries. The applications are currently undergoing the permitting process with the State Water Resources Control Board (State Water Board).

To alleviate severe groundwater overdraft in the region, SEWD constructed the Dr. Joe Waidhofer Water Treatment Plant (DJWWTP) with a capacity of 30 million gallons per day (mgd) in the mid-1970s. Since then, the DJWWTP has been expanded to a current capacity of 65 mgd.

6.1.1.2 Woodbridge Irrigation District

WID provides agricultural water supply north of the City boundaries. When the DWTP is curtailed from diverting water from the San Joaquin River, the COSMUD obtains untreated surface water from WID to supplement its water supply. WID's water supply is from the Mokelumne River.

In 2008, COSMUD executed a 40-year purchase agreement with WID for 6,500 AFY for municipal and industrial water use. This water augments supply to the DWTP when supply from the San Joaquin River is not available due to environmental restrictions. The water is conveyed to the DWTP through WID's Wilkerson Canal system and Pixley lateral pipeline for treatment and conveyance to the COSMUD water service area.

The COSMUD 2008 contract with WID includes a provision for increase in water supply as WID-served agricultural lands in the northern part of the City are annexed to the City for municipal and industrial use. Under this contract, an additional 6,500 AFY of WID supply will become available to the City at a rate of 3.0 AFY per acre annexed. WID supply may potentially increase from 6,500 AFY to 13,000 AFY by 2030.

6.1.2 Surface Water

Water supply from the San Joaquin River is a recent addition to the COSMUD water supply portfolio since the completion of the DWTP in 2012 and currently provides a significant portion of existing water supplies. The City has a water right to Delta water because portions of the COSMUD water service area fall within the legally defined Delta and area of origin. Water supply from the San Joaquin River and substantially all of the groundwater that the COSMUD pumps are delivered primarily to the North Stockton water system.

6.1.2.1 Water Right Permit

The City's water right Application 30531A with the State Water Board proposed diversions of up to 33,600 AFY from the Delta and the Place of Use was confined to the City's 1990 General Plan boundary. Through this application, the City was granted a water right permit under Water Code Section 1485. The City's water right permit from the State Water Board was issued on March 8, 2006, under Water Right Permit 21176.

Under Water Code Section 1485, Water Right Permit 21176 allows the City to divert from the San Joaquin River as much water as the City's wastewater treatment plant discharges into the San Joaquin River under an indirect potable reuse strategy. The quantity is permitted up to 33,600 AFY from the San Joaquin River under Water Right Permit 21176. However, Section 1485 water is subject to pumping restriction in some months due to environmental restrictions.

The City's supply from the San Joaquin River is curtailed annually from February 15th to June 15th due to U.S. Department of Fish and Wildlife Service, California Department of Fish and Wildlife, and National Marine Fisheries Service restrictions. When water diversion is curtailed, COSMUD obtains supplemental water supply from WID.

6.1.2.2 Delta Water Treatment Plant

Subsequent to the State Water Board water right permit issuance for Application 30531A, the COSMUD proceeded with Phase 1 of its Delta Water Supply Project with an initial treatment plant capacity of 30 mgd. The DWTP and associated water supply facilities were completed and commenced operation in 2012. Since completion of the DWTP, the City has exercised its water right to divert water through its intake facility on the San Joaquin River.

Surface water curtailments are possible in dry years and can be offset with additional groundwater use and/or demand reduction through implementation of the City's Water Shortage Contingency Plan.

6.1.3 Groundwater

Water Code Section 10910(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment.

Water Code Section 10910(f)(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

Water Code Section 10910(f)(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

Water Code Section 10910(f)(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historical use records.

A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historical use records.

Water Code Section 10910(f)(4) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project.

A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

6.1.3.1 Groundwater Overview

The COSMUD has groundwater wells located in the North Stockton and South Stockton water systems. These wells are used conjunctively to meet peak summer demands or during dry years when available surface water supplies may be limited. The City has partnered with other users through the Eastern San Joaquin Groundwater Authority (GWA) to manage the groundwater basin.

The City has determined that the sustainable groundwater yield is 0.75 AFY/acre, or approximately 50,000 AFY for the overall City area. To establish the projected groundwater supply that is reasonably available within the COSMUD service area, COSMUD assumes that the reasonably available groundwater supply for the current water service area (approximately 38,500 acres) is pumped at 0.6 AFY/acre, equivalent to an annual groundwater supply of 23,100 AFY.

6.1.3.2 Groundwater Basin Management

The groundwater basin underlying the City is the San Joaquin Valley Basin, Eastern San Joaquin Subbasin (5-22.01, Subbasin). The Subbasin is defined by the areal extent of unconsolidated to semi consolidated sedimentary deposits that are bounded by the Mokelumne River on the north and northwest; San Joaquin River on the west; Stanislaus River on the south; and consolidated bedrock on the east.

In 2014, the California legislature enacted the Sustainable Groundwater Management Act (SGMA) in response to continued overdraft of California's groundwater resources. The Subbasin is one of 21 basins and subbasins identified by the California Department of Water Resources (DWR) as being in a state of critical overdraft. SGMA requires preparation of a groundwater sustainability plan to address measures necessary to attain sustainable conditions in the Subbasin. Sustainability is generally defined as long-term reliability of the groundwater supply and the absence of undesirable results from over pumping.

The City, along with fifteen other groundwater users and groundwater sustainability agencies, formed a GWA in 2017 in response to SGMA. In 2019, the GWA completed the Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan (GSP) to help achieve groundwater sustainability in the Subbasin by 2040. In general, the GSP shows that groundwater elevations have declined since the 1950s. Water quality issues were detected on the west side of the Subbasin, some of which are from wells underlying the City. The GSP outlined the need to reduce overdraft conditions and identified 23 projects for potential development, along with management actions, that either replace groundwater use or supplement groundwater supplies to meet current and future water demands. The list of 23 potential projects included in the GSP represent a variety of project types including direct and in-lieu recharge, intra-basin water transfers, demand conservation, water recycling, and stormwater reuse to be undertaken by the member agencies. The GSP determined an estimated pumping offset and/or recharge

need of 78,000 AFY Subbasin-wide to achieve sustainability. This amount may be reevaluated after additional data are collected and analyzed.[5]

From 2020 to 2045, members of the GWA, including the City, will be monitoring and reporting their progress on implementing projects and studies and the impacts of their outreach. Evaluation will be conducted every five years.

6.1.3.3 Groundwater Use

The COSMUD uses groundwater conjunctively with its surface water supply sources, with groundwater generally used to meet increased water demands primarily in the summer months or during dry years when available surface water supplies may be limited. Wells are also depended on for emergency supply in the event of surface water supply interruptions.

Historically, the local groundwater basin provided 100 percent of the COSMUD water supply. However, with SEWD surface water deliveries beginning in the 1980s and the completion and dedication of the DWTP and associated water supply infrastructure in 2012, the reliance on groundwater has significantly reduced. The annual volume of groundwater pumped by the COSMUD is shown in Table 6-2. Groundwater supply provided an average of 4,320 AFY, approximately 14 percent of the total COSMUD water supply between 2016 and 2020.

Table 6-2. Historical Groundwater Volume Pumped by the COSMUD, AFY

Supply Source	2012	2013	2014	2015	2016	2017	2018	2019	2020
Groundwater	3,394	4,085	7,228	6,619	3,748	2,965	3,236	3,778	8,662

Source: City of Stockton 2020 UWMP, Table 6-3, June 2021.

6.1.3.4 Groundwater as a Future Water Supply

In the future, the COSMUD plans to use less groundwater in wet and average years. It plans to continue groundwater use to meet peak demand and in dry years to make up for reductions in surface water deliveries.

6.2 Additional Planned Future Potable Water Supplies

In addition to the existing potable water supplies described above, the COSMUD has additional planned future potable water supplies to meet existing and projected future water demands, including those associated with the Proposed Project. The inclusion of planned future water supplies in this WSA is specifically allowed by the Water Code:

> *Water Code Section 10631(b): Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).*

[5] Eastern San Joaquin Groundwater Authority, Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan, November 2019, Section 6.

As discussed above, the City's application for an additional water right from the San Joaquin River for up to 92,300 AFY, is currently unpermitted. The City plans to pursue this application in the future to meet the COSMUD ultimate water demand. Pursuant to the grant of this additional water right by the State Water Board, several expansion projects are planned for the DWTP, as needed, from the current capacity of 30 mgd, up to 160 mgd.

As discussed in Section 6.1.1.2, the City expects an additional 6,500 AFY of WID supply will become available to the City at a rate of 3.0 AFY per acre annexed, per the City's 2008 contract with WID. This WID supply may potentially increase from 6,500 AFY to 13,000 AFY by 2030.

6.3 Summary of Existing and Additional Planned Future Water Supplies

Table 6-3 provides a summary of the COSMUD projected water supply entitlements. A discussion of the future anticipated availability of these existing and additional planned future water supplies during dry years is provided in the next section.

Table 6-3. Projected Water Supplies[(a)]

Supply Source	Additional Detail on Water Supply	Reasonably Available Volume, AFY				
		2025	2030	2035	2040	2045
Purchased Water (treated surface water)	SEWD	24,300	24,300	24,300	24,300	24,300
Purchased Water (untreated surface water)	WID	6,500	13,000	13,000	13,000	13,000
Surface Water (untreated)	San Joaquin River	23,400	24,800	25,000	25,000	25,000
Groundwater	Eastern San Joaquin Subbasin	23,100	23,100	23,100	23,100	23,100
	Total	**77,300**	**85,200**	**85,400**	**85,400**	**85,400**

Source: City of Stockton 2020 UWMP, Table 6-14, June 2021

(a) A normal year is assumed.

6.4 Water Supply Availability and Reliability

Water Code Section 10910 (c)(4) requires that a WSA include a discussion with regard to "whether total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses." Accordingly, this WSA addresses these three hydrologic conditions through the year 2045. The reliability discussion presented in this section reflects Chapter 7 of the City's 2020 UWMP.

Factors contributing to potential reductions in the COSMUD water supplies include legal limitations due to water rights and contracts that may limit the quantity of water available, environmental constraints, and reductions in availability due to climatic factors. The surface water supplies delivered to the COSMUD are subject to reductions during single and multiple dry years (seasonal and climatic shortages) as discussed below.

Also, in response to drought conditions and the State of Emergency proclaimed by Governor Brown, first in January 2014 and again in April 2015, this WSA provides a discussion of the availability and reliability of the COSMUD available water supplies to meet water demands in the event that the COSMUD surface water supplies are limited under emergency water supply conditions.

6.4.1 Reliability by Water Source

6.4.1.1 SEWD Supply

Review of SEWD's water deliveries from Fiscal Years 2012 through 2018 show that COSMUD received approximately one-third of the total SEWD water supply to the Urban Contractors.[6] SEWD estimated that approximately 72,800 AF will be available to the Urban Contractors. Thus, the normal year volume entered for the COSMUD water service area is estimated to be 24,300 AF, approximately one-third of 72,800 AF.

Per the Second Amended Contract, SEWD is required to deliver a minimum of 20,000 AF to the Urban Contractors. Thus, the water supply availability for the City during the single dry year is assumed to be approximately one-third of the SEWD contractual minimum volume of 20,000 AF.

The water supply availability for the five-consecutive-dry years reflects the City's deliveries from SEWD during the most recent Statewide drought. Available water supplies for the first and fifth years of the five-consecutive-year drought are estimated to be normal year supplies. Available SEWD supplies are reduced in the second year, and then further reduced to minimum deliveries (one-third on the contractual minimum volume) in the third and fourth years.

6.4.1.2 San Joaquin River Supply

Under Water Code Section 1485, Water Right Permit 21176 allows the City to divert from the San Joaquin River as much water as the City's wastewater treatment plant discharges into the San Joaquin River. The quantity is permitted up to 33,600 AFY from the San Joaquin River under Water Right Permit 21176. However, Section 1485 water is subject to pumping restrictions in some months due to environmental restrictions. The City's Water Right Permit summarizes San Joaquin River water available for diversion based on the City's wastewater treatment plant discharge and pumping restrictions due to the environmental restrictions for 2012 through 2040.

Since the Petition for Extension of Time was completed prior to 2020, the volumes for 2020 through 2040 are projections of the anticipated volume available for diversion from the San Joaquin River and are based on the historical volumes available under similar hydrologic years, as shown in Table 6-4.

[6] Stockton East Water District. Fiscal Years 2012/2013 to 2018/2019. Schedule D.

Table 6-4. Anticipated San Joaquin River Water Supplies			
Year Type	Base Year	Volume Available, AFY	Percent of Average Supply
Normal Year	2018	20,500	100
Single-Dry Year	2015	19,100	93
Consecutive Dry Year 1st Year	2013	18,300	89
Consecutive Dry Year 2nd Year	2014	19,000	93
Consecutive Dry Year 3rd Year	2015	19,100	93
Consecutive Dry Year 4th Year	2016	18,100	88
Consecutive Dry Year 5th Year	2017	21,400	104
Source: City of Stockton 2020 UWMP, Table 7-3, June 2021.			

6.4.1.3 WID Supply

Raw water from WID augments supply to the DWTP if the San Joaquin River water is not available due to environmental restrictions. Consistent with the 2020 UWMP, a slight supply reduction from 6,500 AF to 4,500 AF is assumed during a single dry year and the third and fourth years of the five-consecutive-year drought.

6.4.1.4 Groundwater Supply

COSMUD plans to use its groundwater supply conjunctively with the available treated surface water supplies and purchased water supplies. Available groundwater supply is based on the projected groundwater supply that is reasonably available. COSMUD assumes that the reasonably available groundwater for the current water service area (approximately 38,500 acres) is pumped at 0.6 AFY/ac, equivalent to an annual groundwater supply of 23,100 AFY. This volume is assumed to be available under all year types.

6.4.2 Summary of Available Water Supplies Under Normal, Single Dry, and Multiple Dry Years

The reliability of each of the COSMUD existing and additional planned water supplies and their projected availability during normal, single dry, and multiple dry years, as described in Chapter 7 of the 2020 UWMP, is summarized in Tables 6-5, 6-6, and 6-7, respectively.

Table 6-5. Normal Year Water Supply, AFY					
Supply Source	2025	2030	2035	2040	2045
SEWD	24,300	24,300	24,300	24,300	24,300
WID	6,500	13,000	13,000	13,000	13,000
San Joaquin River	23,400	24,800	25,000	25,000	25,000
Groundwater	23,100	23,100	23,100	23,100	23,100
Total	**77,300**	**85,200**	**85,400**	**85,400**	**85,400**
Source: City of Stockton 2020 UWMP, Table 7-6, June 2021.					

Table 6-6. Single Dry Year Water Supply, AFY					
Supply Source	2020	2025	2030	2035	2040
SEWD	6,700	6,700	6,700	6,700	6,700
WID	4,500	9,000	9,000	9,000	9,000
San Joaquin River	21,800	23,100	23,300	23,300	23,300
Groundwater	23,100	23,100	23,100	23,100	23,100
Total	**56,100**	**61,900**	**62,100**	**62,100**	**62,100**
Source: City of Stockton 2020 UWMP, Table 7-7, June 2021.					

Table 6-7. Multiple Dry Years Water Supply, AFY					
Supply	2025	2030	2035	2040	2045
First Year					
SEWD	24,300	24,300	24,300	24,300	24,300
WID	6,500	13,000	13,000	13,000	13,000
San Joaquin River	20,900	22,100	22,300	22,300	22,300
Groundwater	23,100	23,100	23,100	23,100	23,100
Supply Total	**74,800**	**82,500**	**82,700**	**82,700**	**82,700**
Second Year					
SEWD	15,500	15,500	15,500	15,500	15,500
WID	6,500	13,000	13,000	13,000	13,000
San Joaquin River	21,700	23,000	23,200	23,200	23,200
Groundwater	23,100	23,100	23,100	23,100	23,100
Supply Total	**66,800**	**74,600**	**74,800**	**74,800**	**74,800**
Third Year					
SEWD	6,700	6,700	6,700	6,700	6,700
WID	4,500	9,000	9,000	9,000	9,000
San Joaquin River	21,800	23,100	23,300	23,300	23,300
Groundwater	23,100	23,100	23,100	23,100	23,100
Supply Total	**56,100**	**61,900**	**62,100**	**62,100**	**62,100**
Fourth Year					
SEWD	6,700	6,700	6,700	6,700	6,700
WID	4,500	9,000	9,000	9,000	9,000
San Joaquin River	20,700	21,900	22,100	22,100	22,100
Groundwater	23,100	23,100	23,100	23,100	23,100
Supply Total	**55,000**	**60,700**	**60,900**	**60,900**	**60,900**
Fifth Year					
SEWD	24,300	24,300	24,300	24,300	24,300
WID	6,500	13,000	13,000	13,000	13,000
San Joaquin River	24,400	25,900	26,100	26,100	26,100
Groundwater	23,100	23,100	23,100	23,100	23,100
Supply Total	**78,300**	**86,300**	**86,500**	**86,500**	**86,500**

Source: City of Stockton 2020 UWMP, Table 7-9, June 2021.

7.0 DETERMINATION OF WATER SUPPLY SUFFICIENCY BASED ON REQUIREMENTS OF SB 610

Water Code Section 10910 states:

> *10910(c)(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.*

Pursuant to Water Code Section 10910(c)(4) and based on the technical analyses described in this WSA, the total projected water supplies determined to be available for the Proposed Project during normal, single dry, and multiple dry years during a 20-year projection will meet the projected water demand associated with the Proposed Project, in addition to existing and planned future uses.

Table 7-1 summarizes the projected availability of the COSMUD existing and planned future potable water supplies compared with projected water demands in normal, single dry and multiple dry years through buildout. As stated in Section 3.4, the Proposed Project's water demands were included in future water demand projections presented in the 2020 UWMP and in this table.

Table 7-1. Summary of Water Demand Versus Water Supply During Various Hydrologic Conditions

Hydrologic Condition		Normal, Single Dry, and Multiple Dry Years, AFY				
		2025	2030	2035	2040	2045
Normal Year						
Available Water Supply[a]		77,300	85,200	85,400	85,400	85,400
Total Water Demand[b]		34,789	37,878	43,161	48,444	48,444
Potential Surplus (Deficit)		42,511	47,322	42,239	36,956	36,956
Percent Shortfall of Demand		--	--	--	--	--
Single Dry Year						
Available Water Supply(c)		56,100	61,900	62,100	62,100	62,100
Total Water Demand(b)		34,789	37,878	43,161	48,444	48,444
Potential Surplus (Deficit)		21,311	24,022	18,939	13,656	13,656
Percent Shortfall of Demand		--	--	--	--	--
Multiple Dry Years						
Multiple Dry Year 1	Available Water Supply[d]	74,800	82,500	82,700	82,700	82,700
	Total Water Demand[b]	34,789	37,878	43,161	48,444	48,444
	Potential Surplus (Deficit)	40,011	44,622	39,539	34,256	34,256
	Percent Shortfall of Demand	--	--	--	--	--
Multiple Dry Year 2	Available Water Supply[d]	66,800	74,600	74,800	74,800	74,800
	Total Water Demand[b]	35,407	38,935	44,218	48,444	48,444
	Potential Surplus (Deficit)	31,393	35,665	30,582	26,356	26,356
	Percent Shortfall of Demand	--	--	--	--	--
Multiple Dry Year 3	Available Water Supply[d]	56,100	61,900	62,100	62,100	62,100
	Total Water Demand[b]	36,025	39,991	45,274	48,444	48,444
	Potential Surplus (Deficit)	20,075	21,909	16,826	13,656	13,656
	Percent Shortfall of Demand	--	--	--	--	--
Multiple Dry Year 4	Available Water Supply[d]	55,000	60,700	60,900	60,900	60,900
	Total Water Demand[b]	36,642	41,048	46,331	48,444	48,444
	Potential Surplus (Deficit)	18,358	19,652	14,569	12,456	12,456
	Percent Shortfall of Demand	--	--	--	--	--
Multiple Dry Year 5	Available Water Supply[d]	78,300	86,300	86,500	86,500	86,500
	Total Water Demand[b]	37,260	42,104	47,387	48,444	48,444
	Potential Surplus (Deficit)	41,040	44,196	39,113	38,056	38,056
	Percent Shortfall of Demand	--	--	--	--	--

(a) Refer to Table 6-5.
(b) Refer to Table 5-2.
(c) Refer to Table 6-6.
(d) Refer to Table 6-7.

8.0 VERIFICATION OF SUFFICIENT WATER SUPPLY BASED ON THE REQUIREMENTS OF SB 221

The Proposed Project, with up to 1,411 residential dwelling units, is also subject to the requirements of SB 221 (Government Code section 66473.7). SB 221 applies to projects with residential subdivisions with more than 500 dwelling units (such as the Proposed Project) and requires that the water supplier (COSMUD) provide a written verification that the water supply for the Proposed Project is sufficient.

Verification must demonstrate supply sufficiency by showing that water supplies available during Normal, Single Dry and Multiple Dry years within a 20-year projection will meet the projected demand associated with the Proposed Project, in addition to existing and planned future uses, including, but not limited to, agriculture and industrial uses.

Per the requirements of SB 221, the following must be considered:

- Historical Water Deliveries
- Supply Reduction for Specific Water Use Sectors
- Urban Water Shortage Contingency Analysis Prepared for the UWMP
- Amount of Water Expected from Specified Supply Projects

The 2020 UWMP and this WSA for the Proposed Project provide the documentation required to comply with SB 221 and demonstrate that COSMUD's supplies are sufficient to meet the projected demand associated with the Proposed Project, in addition to existing and planned future uses. The specific considerations to be evaluated for the SB 221 verification are described below and reference applicable sections of the 2020 UWMP and this WSA.

8.1 Historical Water Deliveries

COSMUD's historical and current water supplies are summarized in Section 6 of this WSA and described in detail in Chapter 6 of the 2020 UWMP. The use of these supplies will continue into the future as described in Section 6 of this WSA and as shown in Table 6-3 of this WSA.

Water supply availability and reliability during Normal, Single Dry and Multiple Dry years is summarized in Section 6 of this WSA and described in detail in Chapter 7 of the 2020 UWMP.

8.2 Projected Water Demand by Customer Sector

Projected potable water demands in COSMUD's water service area are described in Section 5 of this WSA based on information provided in Chapter 4 of the 2020 UWMP. Projected water demand by customer sector within COSMUD's water service area is documented in the 2020 UWMP and is summarized in Table 8-1.

Table 8-1. Actual and Projected Water Demands by Customer Sector						
Water Source	2020 (actual)[a]	2025[b]	2030[b]	2035[b]	2040[b]	2045[b]
Potable Water, AFY						
Single Family Residential	15,758	15,782	16,066	19,259	22,451	22,451
Multi-Family Residential	3,030	2,927	2,976	3,494	4,012	4,012
Commercial	4,700	4,793	4,856	5,149	5,442	5,442
Industrial	709	3,397	5,797	6,076	6,355	6,355
Landscape	3,255	3,162	3,208	3,786	4,363	4,363
Sales to Other Agencies	1,830	1,830	1,830	1,830	1,830	1,830
Other	132	0	0	0	0	0
Losses	4,991	2,898	3,145	3,568	3,991	3,991
Potable Water Demand Total	**34,404**	**34,789**	**37,878**	**43,161**	**48,444**	**48,444**

(a) From Table 4-2 in the City of Stockton 2020 UWMP.
(b) From Table 4-3 in the City of Stockton 2020 UWMP.

8.3 Water Shortage Contingency Analysis

The City's Water Shortage Contingency Plan (WSCP), included as an appendix to the City's 2020 UWMP, describes the City's strategic plan in preparation for and responses to water shortages. It includes water shortage stages and associated actions that will be implemented in the event of a water supply shortage, including situations when catastrophic water supply interruptions occur due to regional power outage, earthquake, or other disasters; and when drought occurs. As part of the WSCP, the City's legal authorities, communication protocols, compliance and enforcement, and monitoring and reporting are included. Stockton Municipal Code (SMC) Chapter 13.28 Water Conservation and SMC Chapter 13.32 Water Shortage Emergencies supports the City's WSCP actions.

The six Stages of Action outlined in the City's WSCP are intended to promote the proper management and distribution of water supplies during a drought or emergency situation. Each of the six stages describes specific actions to be taken by individual water customer sectors to achieve the water conservation requirement of that particular stage. All of the stages allow for adequate water supply to protect public health and safety and satisfy the fire protection needs of the City. Each of the six stages corresponds to a specific water demand reduction goal. These potable water demand reduction goals are based on the potential supply cutbacks during times of drought, with up to and greater than a 50 percent supply reduction as mandated by the UWMP Act.

If an emergency were to occur, or if drought conditions occurred, requiring the City to implement its WSCP, all of COSMUD's water customers, including those within the Proposed Project, would be subject to the same water conservation measures and water use restrictions as included in City's WSCP.

8.4 Future Water Supplies to Serve Water Demands Associated with Buildout of the Proposed Project

As described in this WSA, the following water supplies will be used to serve the projected COSMUD water demands, including the projected water demands associated with buildout of the Proposed Project:

- Surface water from the San Joaquin River that is diverted at the Intake Pump Station on Empire Tract located in the Sacramento-San Joaquin Delta (Delta) and treated at the City's Delta Water Treatment Plant (DWTP), supplemented by surface water from the Mokelumne River diverted and conveyed by Woodbridge Irrigation District (WID), and treated at the City's DWTP, when the City's San Joaquin River supplies are curtailed;
- Surface water from the Mokelumne River diverted and conveyed by WID, and treated at the City's DWTP;
- Potable water purchased from Stockton East Water District (SEWD); and
- Groundwater pumped from City owned and operated wells from the underlying Eastern San Joaquin Groundwater Subbasin.

The availability and reliability of these supplies are described in Section 6 of this WSA.

8.5 Verification of Sufficient Water Supply

As described in Section 7 of this WSA, the total projected water supplies determined to be available for the Proposed Project during normal, single dry, and multiple dry years during a 20-year projection will meet the projected water demand associated with the Proposed Project, in addition to existing and planned future uses, including, but not limited to, agriculture and industrial uses.

9.0 WATER SUPPLY ASSESSMENT APPROVAL PROCESS

Water Code Section 10910 (g)(1) Subject to paragraph (2), the governing body of each public water system shall submit the assessment to the city or county not later than 90 days from the date on which the request was received. The governing body of each public water system, or the city or county if either is required to comply with this act pursuant to subdivision (b), shall approve the assessment prepared pursuant to this section at a regular or special meeting.

Water Code Section 10911 (b) The city or county shall include the water supply assessment provided pursuant to Section 10910, and any information provided pursuant to subdivision (a), in any environmental document prepared for the project pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.

As the approving agency for the Proposed Project, the City must adopt this WSA at a regular or special meeting. Furthermore, the City must include this WSA in the EIR that is being prepared for the Proposed Project.

10.0 REFERENCES

City of Stockton. December 2018. *Envision Stockton 2040 General Plan.*

City of Stockton. July 2023. *Notice of Preparation – LeBaron Ranch*.

Eastern San Joaquin Groundwater Basin Authority. November 2019. *Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan*.

Stockton East Water District. Fiscal Years 2012/2013 to 2018/2019. Schedule D.

West Yost. January 2021. *City of Stockton Water Master Plan Update*.

West Yost. June 2021. *City of Stockton 2020 Urban Water Management Plan*.